6th World PARKINSON CONGRESS
Barcelona, Spain

FINAL PROGRAM
July 4–7 2023

WPC 2023

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Dear friends:

On behalf of the WPC 2023 Steering Committee and the Board of Directors of the World Parkinson Coalition®, we welcome you to the 6th World Parkinson Congress and to Barcelona, Spain.

WPC 2023 will once again unite the global Parkinson community in a unique high-level scientific Congress where we will welcome registrants from more than 70 countries including neuroscientists, neurologists, nurses, rehabilitation specialists, Parkinson and Care Advocates and many others.

The World Parkinson Congress is the only global event that, while keeping scientific and clinical research and discovery at the heart of its program, brings together the entire Parkinson community. This includes not only dedicated researchers and health professionals who study the disease and care for those who live with it, but the people and care partners who live with Parkinson's day in and day out – the real experts. We began in 2006 and since then our congresses have grown and still represent a unique opportunity for sharing and learning about this condition from all possible perspectives.

At the WPC you will have the opportunity to attend a wide variety of scientific presentations, geared to the diverse audience that makes WPC unique, given by top researchers and practitioners in the field, from Plenaries that make science accessible to non-specialists to highly technical, state of the art, presentations on the latest breakthroughs. Aligned with this is the exhibit area in which you can view the 800 plus scientific and living-with-Parkinson posters and sign up for evening poster tours where experts take you through a selection of the posters with their presenters. We encourage you also to visit our exhibitors, from around the world, representing both industry and non-profit organizations and to stop by the Clinical Research Village, where science meets advocacy and researchers and clinical trial participants will talk about clinical trials- both ongoing and coming up.

Movement is paramount to maintaining wellness in Parkinson's, so if you need a break from the science, visit the Renewal Room for a session on yoga, dance, boxing, or singing. Or visit the Mindfulness and Meditation room for a guided session to learn how this can be part of one's wellness plan. For our care partners, we invite you to visit the Care Partner Lounge to connect, learn, and relax throughout the Congress. While Wellness Way rooms are geared towards people with Parkinson's and care partners, the sessions are open to everyone including those who would not normally sample such opportunities.

Finally, be sure to check out the Art Walk and Film Room, showcasing art exhibits produced by people with Parkinson's and Films about people with Parkinson's, all of which highlight the power of creativity as part of a wellness plan and the talented community in which we live.

This is a meeting that bridges across from science to the individual with Parkinson's and which caters to both those wanting to hear the latest scientific breakthroughs to those wanting to know more about how to better live with this condition. It is also a meeting of hope – a hope for better quality of life for those touched by Parkinson's and one day a cure.

We look forward to meeting many of you during the Congress.

Sincerely,

Marie-Françoise Chesselet
MD, PhD
WPC President

Roger Barker
BA, MBBS, PhD, MRCP, FMedSci
WPC Vice President

Dear friends:

On behalf of the WPC 2023 Program Committee, we welcome you to the **6th World Parkinson Congress**.

The process of creating this program that you are now holding in your hands started almost four years ago with the selection of 54 outstanding members of the Program Committee from 15 countries. They worked extensively to build this exceptional program that covers some of the most seminal topics today in Parkinson's.

The program committee was broken into three subcommittees tasked with exploring and deciding on topics that fell under basic science, clinical science, and comprehensive care. In the committee meetings we had to decide what would and what would not make it into the program. It was not always easy making those decisions, but ultimately, we narrowed down the topics and crafted this final version in which you will find some incredible sessions.

Our goal, despite COVID delaying us one year, was to create a vibrant and comprehensive meeting that would appeal to our diverse audience. We did this by first selecting the most important and exciting topics being discussed and researched today and then by inviting experts from the global community to share their knowledge and experience on these very topics. We hope you are inspired by the research and where it will lead us, but also that you learn valuable information to take with you when you return home.

As at past Congresses, sessions are coded with icons by category (basic, clinical, care) and they each have a thermometer icon indicating the level of the talk. These icons are there to guide you in your selection of topics, so you find just what you are looking for each day.

The pre-congress day on July 4 offers six different ticketed courses followed by the opening ceremony and welcome reception. The next three days begin each morning with Hot Topics presentations at 8 AM highlighting just 12 of the more than 800 abstracts we accepted this year followed by morning plenaries which have been structured for maximum cross-fertilization of the diverse delegate body. We invite you to join us for these morning sessions to hear great talks, and to show your support for the six award recipients we'll honor who have been serving the global PD community collectively for many years.

Please share what excites you most throughout the Congress on whatever social media channels you play on. Tag us using #WPC2023 when posting so we can see which topics and which speaker are having the biggest impact and please fill out the evaluations on the mobile app so we know which sessions really stood out with our audience. Your feedback will help us as we plan other programs in the coming years. Have fun learning this week! Thank you for joining us in the beautiful city of Barcelona.

Kind regards,

Marina Romero-Ramos, PhD
Chair, Program Committee

Andrew Singleton, PhD
Co-chair, Basic Science

David Standaert, MD, PhD
Co-chair, Clinical Science Subcommittee

Michael Okun, MD
Co-chair, Clinical Science Subcommittee

Alice Nieuwboer, PhD, PT
Co-chair, Comprehensive Care Subcommittee

Emily Henderson, PhD, MRCP
Co-chair, Comprehensive Care Subcommittee

Dear friends:

It has been almost 20 years since the first World Parkinson Congress was held in 2006 in Washington, D.C., and now here we are, welcoming you to the sixth iteration of this Congress. The WPC has grown in ways that we could not have predicted and has inspired community members to launch some incredible initiatives, organizations, mobile apps and more, many of which impact the global Parkinson's community daily.

As WPC Parkinson Ambassadors and WPC Science Ambassadors, we represent a global community of people living with Parkinson's and researching Parkinson's. We were eager to fill the role of Ambassador to the WPC because we have all personally experienced the impact of the World Parkinson Congress. For those of us living with PD, the experience changed the trajectory of our lives and allowed us to find a unique community of people who inspire us daily. For those of us researching Parkinson's, attending our first WPC changed the trajectory of how we look at, plan for, and execute our research and most of all how we communicate it to and relate with the people who deserve to know. We are committed to share the power of the WPC experience and look forward to hearing your stories about how the WPC changes you.

For those of you who are attending your first congress get ready because, if you embrace the WPC experience, you will leave the WPC with incredible connections and ideas. The contacts that you are about to make along with the friendships and the knowledge will go with you when you return home. The contacts will span the Parkinson's community, so you will get to know people outside of your normal circles, which is what makes the WPC experience so rich.

At the close of the WPC you will be recognized as part of the WPC community and we invite you to share what you learn during and after the WPC. Tag us in any posts you make with #WPC2023. Also, be sure to visit the WPC Blog (www.WorldPDCongress.org) for information in the months and years between the Congresses and to stay on top of the research outcomes.

As WPC Ambassadors, we welcome you to Barcelona and the WPC 2023. We believe you will find this experience life changing and inspiring.

Sincerely,

WPC Parkinson Ambassadors

Alison Anderson (UK)
Miriam Bram (USA)
Geoff Constable (Australia)
Rui Couto (Portugal)
Richelle Flanagan, RD (Ireland)
Larry Gifford (Canada)
Christine Jeyachandran (Australia)
Heather Kennedy (USA)
Jon Pawelkop (USA)
Shanthipriya Siva, MD (India)
Omotola Thomas (UK/Nigeria)
A.C. Woolnough (USA)

WPC Science Ambassadors

Dayne Beccano-Kelly, PhD (UK)
Judith "Jude" Bek, PhD (Canada)
Xi Chen, PhD (USA)
Marie Fuzzati, PhD (France)
Richard Gordon, PhD (Australia)
Ariadna Laguna, PhD (Spain)
Ignacio "Nacho" Mata, PhD (USA)
Mattia Volta, PhD (Italy)
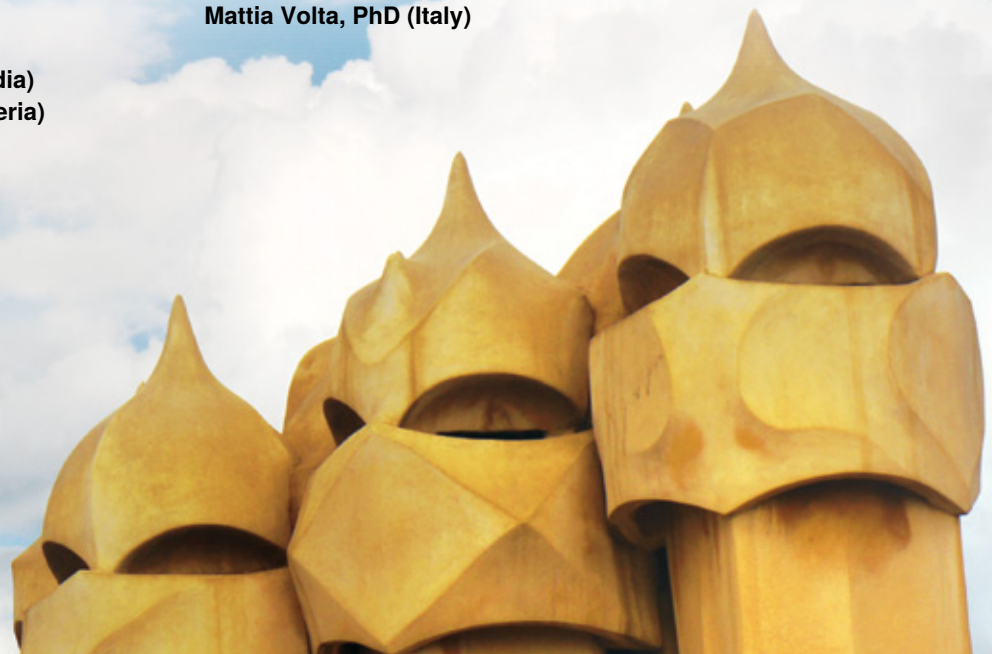
COMMITTEE MEMBERS

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Co-chair: Marie-Françoise Chesselet, MD, PhD
Co-chair: Roger Barker, BA, MBBS, PhD, MRCP, FMedSci
Fulvio Capitanio
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Emma Collin
Victor Fung, MD
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Alice Nieuwboer, PhD, PT
Linda Olson, MD, FACR
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A. Jon Stoessl, CM, MD, FRCPC
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Eduardo Tolosa, MD
Claudia Trenkwalder, MD
Miquel Vila, MD, PhD

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Amanda Woerman, PhD

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Lisa Warren, MHS
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Per Borghammer, MD, PhD
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Susan Fox, PhD
Vanessa Milanese, MD, PhD
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Daniel Martinez, MD
Joy Milne, RN
Jose Obeso, MD
Per Odin, MD, PhD
Genko Oyama, MD, PhD
Maria Cecilia Peralta, PhD
Mayela Rodriguez-Violante, MD
Susanne Schneider, MD
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Caroline Williams-Gray, MD

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Artur Amich, MA
Francesca de Bartolomeis
Maria De Leon, MD
Kat Hill, RN
Soania Mathur, MD
Joy Milne, RN
Martin Taylor
Rune Vethe
Fred Woodleif, DDS

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Co-chair: Russell Patten
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Andrew Bell
Jean Blake, MA
Fulvio Capitanio
Sohini Chowdhury
Polly Dawkins, MBA
Francesco de Renzis
Gaynor Edwards
Malcolm Irving
Rebecca Korduner
David Leventhal
Helen Mathews, MBA
Hellen Mwithiga
Jo-Anne Reeves

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Co-chair: Miquel Vila, MD, PhD
Ernest Arenas, MD, PhD
Ángel Bayes, MD
Ana Cámara, RN
Orial de Fábregas, MD
Isable Fariñas, PhD
Francisco Grandas, MD
Jaume Kulisevski, MD
Maria Jose Marti, MD
Pablo Mir, MD
Laura Morer Benages
Rose Roige
Angel Sesar, MD

PARKINSON AMBASSADORS
Alison Anderson (UK)
Alejandra Borunda (USA/Mexico)
Miriam Bram (USA)
Geoff Constable (Australia)
Rui Couto (Portugal)
Richelle Flanagan, RD (Ireland)
Larry Gifford (Canada)
Christine Jeyachandran (Australia)
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Ariadna Laguna, PhD (Spain)
Ignacio "Nacho" Mata, PhD (USA)
Mattia Volta, PhD (Italy)

WPC STAFF
Elizabeth Pollard, Executive Director
Julie Winn, Outreach & Social Media Coordinator
Alina Vogel, Communications Coordinator
Helen Heyer-Walsh, Project Coordinator
Judi Spencer, Choir Director

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Boston Scientific
Advancing science for life™

If you are living with Parkinson's disease, medication isn't your only option. To learn more about Deep Brain Stimulation (DBS) VISIT US AT BOOTH 1200.

Scan with Your Phone Camera for More Information

INFORMACIÓN GENERAL

ACERCA DE LA WORLD PARKINSON COALITION®

La World Parkinson Coalition es la organización detrás de los Congresos Mundiales trienales de Parkinson y ha sido un líder en la comunidad de Parkinson desde su lanzamiento en 2004. Desde el primer día, la WPC ha sido una organización líder reconocida por conectar a toda la comunidad de Parkinson, miembros de las comunidades científicas, clínicas y de defensoría del Parkinson que no habían interactuado previamente entre sí.

ACERCA DE LOS CONGRESOS MUNDIALES DE PARKINSON

Cada Congreso Mundial de Parkinson ofrece un foro internacional para la discusión acerca de los últimos descubrimientos científicos, prácticas médicas e iniciativas de atención y cuidado relacionadas con la enfermedad de Parkinson. Cada Congreso reúne a especialistas en trastornos del movimiento, médicos, neurocientíficos, neurólogos, enfermeras, especialistas en rehabilitación, cuidadores or aliados de cuidado, familiares y personas con Parkinson, juntos bajo un mismo techo, para llevar un diálogo interesante para ayudar a acelerar el descubrimiento de una cura e identificar las mejores prácticas de tratamiento para esta enfermedad devastadora.

¿QUIÉN DEBERÍA ASISTIR?

Cualquier persona que investigue el Parkinson, ya sea en ciencia básica o ciencia clínica, médicos que están tratando a personas que viven con la EP, promotores del Parkinson y promotores de la atención y el cuidado que están colaborando con organizaciones, empresas y profesionales para lograr avances en nuestra comprensión del Parkinson. La WPC es una reunión "incluyente de promotores". Los promotores del Parkinson y los promotores de la atención y el cuidado ayudaron a diseñar el programa y asistirán a la reunión como partes interesadas clave que están ayudando a impulsar nuestra comprensión de la enfermedad.

IDIOMA

El idioma oficial del Congreso Mundial de Parkinson es el inglés. Se ofrecerá una interpretación simultánea limitada del inglés al español y el programa también incluirá una pista especial en español todos los días. Los ciudadanos de TODOS los países son bienvenidos a participar en el WPC 2023.

SECRETARÍA DEL CONGRESO

WPC2023 Congress Secretariat
1555 Peel Street, Suite 500 | Montréal QC H3A 3L8 | Canadá
WPC_Secretariat@jpdl.com
Tel.: +001 514-287-9898 | Extensión: 335

EXPOSICIÓN

La exposición ofrece a los delegados del Congreso Mundial de Parkinson la oportunidad de aprender acerca de los últimos avances en suministros y equipos médicos, productos farmacéuticos y publicaciones médicas.

Los expositores del Congreso incluirán suministros o equipos médicos, productos farmacéuticos, equipos o instrumentos de laboratorio, software médico, kits y reactivos de biología, editores de libros y revistas médicas, sistemas de entrega alternativos (atención domiciliaria, hospicio), centros de investigación de Parkinson, asociaciones sin fines de lucro centradas en el Parkinson y otros grupos de promotores.

CARTELES

Los carteles se mostrarán a lo largo de las fechas del congreso en la exposición. Las sesiones oficiales de los carteles están programadas para el miércoles y jueves de 11:30 AM a 1:30 PM, momento en el que los presentadores de los carteles estarán ubicados junto a su cartel para hablar con los delegados. Consulte el programa de sesiones de carteles para obtener más información sobre cuándo se presentarán los carteles. La hora de colocación de carteles es el martes de 8:00 AM a 5:00 PM y el miércoles de 8:00 AM a 10:30 AM. Todos los carteles deben ser retirados antes de las 3:00 PM del viernes.

VISITAS A LOS CARTELES

Las visitas de carteles se llevarán a cabo de 5:15 a 6:30 PM la tarde del miércoles y jueves, el 5 y 6 de julio, horarios en los que se presentará un número selecto de carteles. Inscríbase para las visitas en la Sala de Exposiciones, en la mesa cerca de la primera fila de carteles en la parte posterior de la sala.

INFORMACIÓN GENERAL

SALA DE MEDITACIÓN Y ATENCIÓN PLENA

Esta sala estará abierta todos los días de 9:00 AM a 6:00 PM para ofrecer un espacio tranquilo de descanso o simplemente para sentarse tranquilamente en meditación u oración. Cada día se ofrecerá una sesión guiada durante el almuerzo.

HORARIO DE INSCRIPCIÓN

En el vestíbulo del AC Marriott Forum:

Domingo 2 de julio	10:00 AM – 8:00 PM
Lunes 3 de julio	8:00 AM – 6:00 PM

En el vestíbulo del Centro de Convenciones Internacional de Barcelona (CCIB):

Martes 4 de julio	7:00 AM – 8:00 PM
Miércoles 5 de julio	7:00 AM – 6:30 PM
Jueves 6 de julio	7:00 AM – 6:30 PM
Viernes 7 de julio	7:00 AM – 3:30 PM

REDES SOCIALES

Conéctese con otros delegados y organizadores del Congreso a través de las redes sociales:

Regálenos un Like en **Facebook @World Parkinson Congress**.

Siga a la **World Parkinson Coalition** en **LinkedIn**.

Síganos en **Twitter @WorldPDCongress** El hashtag es **#wpc2023**.

Consulte la comunidad WPC en **Instagram@worldpdcongress**. Únase a nuestro feed de fotos usando el hashtag **#wpc2023**.

El canal de **YouTube** del WPC es **WorldPDCongress**.

Mire el WPC en **Tik Tok**.

PARKY

arky El mapache "nació" en el verano de 2012, cuando Bob Kuhn, un embajador del WPC 2013, viajó por el mundo con una figura de cartón de Parky, que utilizó para iniciar conversaciones con personas con Parkinson que no hablaban inglés. Todo el mundo tenía curiosidad por este animal único, autóctono de Norteamérica, pero prácticamente desconocido para el resto del mundo. Parky es la mascota oficial del WPC 2016. Puede seguir el viaje de Parky en su sitio web aquí whereisparky.org.

ESTILO DE BIENESTAR

Ofreciendo un oasis lejos del ajetreo y el bullicio del WPC, el área de Estilo de Bienestar ofrece salas donde los delegados pueden descansar de la ciencia y observar de primera mano el poder del ejercicio y la atención plena.

SALA DE RENOVACIÓN

La Sala de Renovación contará con un amplio programa lleno de sesiones interactivas como yoga, danza, canto, tambores y otras actividades musicales. El ejercicio es fundamental para vivir bien, por lo que esta sala destacará una variedad de modalidades de ejercicio para mantener a los delegados sintiéndose bien e introducir nuevos regímenes posibles de ejercicio en sus rutinas diarias.

SALÓN PARA CUIDADORES

El Salón para Cuidadores es un espacio seguro para que los promotores de la atención y el cuidado se reúnan y conozcan entre sí y se utilizará como un espacio de grupo de apoyo y tendrá una agenda formal programada todos los días, orientada a las personas que cuidan a alguien con Parkinson.

RESUMEN DEL PROGRAMA

	MARTES 4 DE JULIO	MIÉRCOLES 5 DE JULIO		JUEVES 6 DE JULIO		VIERNES 7 DE JULIO		
8:00 AM 9:00 AM		Temas destacados 🎧		Temas destacados 🎧		Temas destacados 🎧		
9:00 AM 9:15 AM		Premio WPC 🎧		Premio WPC 🎧		Premio WPC 🎧		
9:30 AM 11:30 AM	CURSOS PRE-CONGRESO 🎟️ 🎧	Plenaria de la mañana 🎧	Sala de Renovación (9:00 AM — 5:00 PM)	Plenaria de la mañana 🎧	Sala de Renovación (9:00 AM — 5:00 PM)	Plenaria de la mañana 🎧	Exposición (11:00 AM — 2:30 PM)	Sala de Renovación (9:00 AM — 5:00 PM)
11:30 AM 1:30 PM		Sesión de cartel Conferencia James Parkinson 🎧 Almuerzo		Sesión de cartel Conferencias especiales 🎧 Almuerzo		Conferencias especiales ——— Almuerzo		
1:30 PM 3:00 PM		Sesiones y talleres paralelos	Exposición (11:00 AM — 6:45 PM)	Sesiones y talleres paralelos	Exposición (11:00 AM — 6:45 PM)	Sesiones y talleres paralelos		
		DESCANSO/REFRIGERIO		DESCANSO/REFRIGERIO		DESCANSO/REFRIGERIO		
3:30 PM 5:00 PM	Encuentro y bienvenida de Amigos (4:00 — 5:30 PM)	Sesiones y talleres paralelos		Sesiones y talleres paralelos		Sesiones y talleres paralelos		
5:15 PM 6:30 PM		Visitas a carteles, cierre diario y sorteo 🎧		Visitas a carteles, cierre diario y sorteo 🎧		Cierre diario 🎧		
	Ceremonia de inauguración 🎧 (6:00 — 7:15 PM)	Eventos de *networking*: 🎟️ enfermeras registradas, fisioterapeutas Terapeutas ocupacionales, terapeutas del lenguaje y el habla, trabajadores sociales, nutricionistas (6:30 — 8:00 PM)				Comentarios de cierre y sorteo (6:00 — 7:00 PM)		
6:30 PM 9:00 PM	Recepcion de bienvenida (7:15 — 9:00 PM)							

Idioma

🎧 Interpretación simultánea de inglés a español

🎟️ Evento con boleto

DAY 0

PROGRAMA PRE-CONGRESO
Martes 4 de julio de 2023

NOTA: *Este curso Pre-Congreso será presentado en inglés con interpretación simultánea al español.*

CURSO III – FUNDAMENTALES DEL PARKINSON: EL RECORRIDO

9:00 AM — 5:15 PM

Público objetivo: Personas con Parkinson, cuidadores, personas primerizas en el cuidado del Parkinson y primerizas en el WPC.

Objetivo: Exponer a los participantes a temas clave que se detallarán en el programa. Darles una idea de lo que está por venir y las herramientas para sacar el máximo provecho de la reunión. Introducir el papel de las personas con Parkinson en el diseño y el éxito de la reunión, así como el legado del WPC.

Hora	Tema	Ponente
9:00 AM	**Bienvenida – ¿Por qué estamos aquí?**	*Orador y maestra de ceremonias:* **Linda Olson (EE.UU.)**
9:15 AM	**¿Qué es el Parkinson y cuáles son las características clínicas que vemos?**	*Ponente:* **Nabila Dahodwala (EE.UU.)**
9:40 AM	**¿Cómo ha evolucionado el tratamiento médico y quirúrgico para la EP?**	*Ponente:* **Vanessa Milanese (Brazil)**
10:05 AM	**Preguntas y respuestas**	*Moderador:* **Linda Olson (EE.UU.)** *Panelistas:* **Nabila Dahodwala (EE.UU.) Vanessa Milanese (Brazil)**
10:25 AM	**¡Vamos a movernos!**	*Con:* **Pamela Quinn (EE.UU.)**
10:30 PM	*DESCANSO/REFRIGERIO*	
11:00 AM	**¿Qué hay de nuevo en la investigación?**	*Ponente:* **Mark Cookson (EE.UU.)**
11:25 AM	**¿Qué nuevos tratamientos hay en el horizonte?**	*Ponente:* **Roger Barker (Reino Unido)**
11:50 AM	**Preguntas y respuestas**	*Moderador:* **Linda Olson (EE.UU.)** *Panelists:* **Roger Barker (Reino Unido) Mark Cookson (EE.UU.)**
12:10 PM	**¡Vamos a movernos!**	*Con:* **Selma Perváis Peláez (España)**
12:20 PM	**Antes de almorzar: ¿Qué hay de la nutrición? ¿Realmente importa?**	*Ponente:* **Silke Appel-Cresswell (Canadá)**
1:00 PM	*ALMUERZO*	
1:45 PM	**Mantenerse resiliente como cuidador**	*Ponente:* **Connie Carpenter Phinney (EE.UU.)**
2:15 PM	**Cambios conductuales: ¿Cómo puedo hacer que los cambios se queden en mi rutina (____)?**	*Ponente:* **Terry Ellis (EE.UU.)**
2:50 PM	**Consejos y trucos para vivir con Parkinson más allá de la medicación** **1–** Habla y deglución **2–** La ansiedad y la EP **3–** La comunicación construye familias más fuertes	*Moderador:* **Terry Ellis (EE.UU.)** *Panelists:* **Darla Freeman (EE.UU.) Iracema Leroi (Irlanda) Adriana Gonzalez (EE.UU.)**
3:50 PM	*PAUSA*	
4:10 PM	**Creatividad y arte: ¿cómo impactan el cerebro y el Parkinson?**	*Ponente:* **Anjan Chatterjee (EE.UU.)**
4:40 PM	**Sacar el máximo partido al WPC 2023: Dos perspectivas**	*Ponentes:* **Christine Jeychandran (Australia) Miriam Bram (EE.UU.)**
5:10 PM	**Comentarios de cierre**	

Objetivos de aprendizaje: 1. Obtener una comprensión básica del Parkinson, incluyendo la investigación de la(s) causa(s) de la enfermedad, los síntomas y las terapias actuales; 2. Ser capaz de explicar cómo cambiar los comportamientos para maximizar el impacto de un régimen de bienestar auto-mantenido; 3. Discutir el impacto de la creatividad estética en el cerebro; 4. Explicar cómo aprovechar al máximo la experiencia WPC.

6:00 PM	CEREMONIA DE INAUGURACIÓN
7:00 – 9:00 PM	RECEPCIÓN DE BIENVENIDA

DAY 1

PROGRAMA ESPAÑOL
Miércoles 5 de julio de 2023

8:00 — 9:00 AM — TEMAS DE ACTUALIDAD

Lugar: **Salón principal de plenarias**
Moderadora: David Standaert (EE.UU.)

Charla 1: **Hallazgos genéticos del Estudio Internacional de Rostock sobre la Enfermedad de Parkinson (ROPAD)**
Ponente: Ana Westenberger (Alemania)

Charla 2: **Una pieza faltante en el rompecabezas del Parkinson: El papel fundamental del nutriólogo en el cuidado de las personas que viven con la enfermedad de Parkinson (EP)**
Ponente: Richelle Flanagan (Irlanda)

Charla 3: **Entendiendo los mecanismos de propagación y degradación de la a-sin: Papel de los nanotubos de túnel y de los lisosomas**
Ponente: Chiara Zurzolo (Francia)

Charla 4: **Caracterizando la frecuencia de variantes clínicamente reportables en los principales genes identificados en la enfermedad de Parkinson (EP) en una gran cohorte estadounidense**
Ponente: Roy Alcalay (Israel)

9:00 — 9:15 AM — CEREMONIA DE PREMIOS WPC

Lugar: **Salón principal de plenarias**

Receptores del Premio Robin A Elliott del WPC al Servicio Destacado a la Comunidad

Galardonada: Lizzie Graham, *premio entregado por* Eli Pollard
Galardonada: Vincent "Enzo" Simone, *premio póstumo entregado por* Fulvio Capitanio

9:30 — 11:30 AM — PLENARIA DE LA MAÑANA

WP1 — PLENARIA
Lugar: **Salon principal de plenarias**

¿Existen subtipos biológicos de la EP?

Moderadora: Leonidas Stefanis (Grecia)
Co-moderator: Kevin McFarthing (Reino Unido)

Charla 1: **¿Puede la genética de la EP y la DCL esporádicas ayudar en la definición del subtipo de la enfermedad? ¿Cuáles podrían ser las implicaciones terapéuticas?**
Ponente: Sonja Scholz (EE.UU.)

Charla 2: **Enfermedad de Parkinson primero en el cerebro o primero en el cuerpo**
Ponente: Per Borghammer (Dinamarca)

Charla 3: **Diferentes cepas de α-sinucleína en los cerebros de la enfermedad de Parkinson**
Ponente: Markus Zweckstetter (Alemania)

Charla 4: **¿Qué significan los subtipos para las personas con Parkinson?**
Ponente: Jonny Acheson (Reino Unido)

Objetivos de aprendizaje: 1. Resumir las similitudes y diferencias entre los pacientes con la EP a nivel genético, imagenológico y fisiopatológico; 2. Definir cómo pueden no ser unitalla en la EP; 3. Explicar cómo pueden integrarse varios aspectos de la investigación relacionada con la EP; 4. Enumere cómo los subtipos pueden afectar las elecciones de las personas con Parkinson en su plan de cuidados.

Niveles de sesión

Crosstalk – conocimiento científico mínimo o no requerido

Sesiones científicas de nivel moderado

Sesiones científicas de alto nivel

Tipo de sesión

Ciencia básica

Ciencia clínica

Atención integral

Idioma

Interpretación simultánea de inglés a español

Pista en español

11:30 AM — 1:30 PM	**ALMUERZO**

11:30 AM — 1:30 PM	**SESIÓN DE CARTEL 1**

Lugar: **Sala de exhibiciones**
Vea los carteles y conozca a los autores.

12:00 — 1:15 PM	**WSL — CONFERENCIA ESPECIAL JAMES PARKINSON**

Lugar: **POR CONFIRMAR**
Introducción: Rosario Moratalla (España)

Ponencia 1: Perspectiva histórica de la función y disfunción de los ganglios basales: Por qué importa hoy
Ponente: Jose Obeso (España)

Ponencia 2: Por qué nos preocupamos por el pródromo de la enfermedad de Parkinson: desde observaciones curiosas hasta oportunidades terapéuticas
Ponente: Eduardo Tolosa (España)

Objetivos de aprendizaje: 1. Poner en perspectiva "viejas ideas" versus una nueva comprensión de los cambios en el cerebro; 2. Reflexionar acerca de las cosas que sabemos y cuáles aún no han sido descubiertas, estudiadas e investigadas; 3. Explicar cómo los eventos iniciales en la investigación de la enfermedad de Parkinson pueden mejorar la comprensión del proceso de la enfermedad.

1:30 — 3:00 PM	**WSP1 — PISTA EN ESPAÑOL**	**WRT1 — MESAS REDONDAS**

SESIÓN 1: COMIENZO Y PROGRESIÓN DEL PARKINSON
Lugar: **Sala 115**
Moderadores: Eduardo Tolosa (España) y Isabel Fariñas (España)

Presentación #1: Rol de la sinucleina y cuerpos de Lewy
Ponente: Miquel Vila (España)

Presentación #2: Dónde y cuando empieza el Parkinson
Ponente: Francisco Grandas (España)

Objetivos de aprendizaje: 1. Qué son los cuerpos de Lewy y la sinucleína y porqué son importantes para el Parkinson; 2.Identificar los síntomas precoces (prodrómicos) y las áreas del sistema nervioso implicadas.

Lugar: **Sala 112**

Mesa 2
La ciencia detrás de las diferencias entre sexos
Ponente: Ariadna Laguna (España)

3:30 — 5:00 PM	**WSP2 — PISTA EN ESPAÑOL**

SESIÓN 2: DIAGNÓSTICO Y SEGUIMIENTO DEL PARKINSON: NUEVAS HERRAMIENTAS
Lugar: **Sala 115**
Moderadores: Àngels Bayés (España) y Esther Cubo (España)

Presentación #1: Nuevas herramientas diagnósticas: Parkinson típico y atípico
Ponente: Yaroslau Compta (España)

Presentación #2: Monitorización del Parkinson: smartphones y otros dispositivos
Ponente: Cecilia Peralta (Argentina)

Objetivos de aprendizaje:
1. Nuevas herramientas de laboratorio y radiológicas para el diagnóstico y pronóstico en el Parkinson y los parkinsonismos atípicos; 2. Utilidad de nuevos dispositivos para el diagnóstico y monitorización de los síntomas motores y no motores.

5:15 — 6:30 PM	**WEoD — PANELES DE CIERRE DIARIO**

Lugar: **Salon principal de plenarias**

Moderadora: Connie Marras (Canadá)
Co-moderator: Omotola Thomas (Reino Unido)

Panelistas: Alice Nieuwboer (Bélgica)
Claudia Trenkwalder (Alemania)
Amanda Woerman (USA)
Etienne Hirsch (Francia)

DAY 2

PROGRAMA ESPAÑOL
Jueves 6 de julio de 2023

8:00 — 9:00 AM — TEMAS DE ACTUALIDAD

Lugar: **Salón principal de plenarias**
Moderadora: Marina Romero-Ramos (Dinamarca)

Charla 1: **La asociación de todo el genoma identifica nuevas perspectivas etiológicas asociadas a la enfermedad de Parkinson en poblaciones africanas y de mezcla africana**
Ponente: Oluwadamilola Ojo (Nigeria)

Charla 2: **Abordaje del tratamiento de los problemas sexuales y de intimidad en personas con manifestaciones motoras y no motoras de la enfermedad de Parkinson**
Ponente: Gila Bronner (Israel)

Charla 3: **Exploración de la función de la flipasa lipídica lisosomal ATP10B en la vía dopaminérgica nigroestriatal en ratas**
Ponente: Maria Sanchiz Calvo (Bélgica)

Charla 4: **Evaluación del potencial biomarcador del gen LRRK2 y la glucocerebrosidasa en monocitos de la enfermedad de Parkinson**
Ponente: Laura Hughes (Australia)

9:00 — 9:15 AM — CEREMONIA DE PREMIOS WPC

Lugar: **Salón principal de plenarias**

Receptores del Premio a la Investigación Colaborativa Distinguida del WPC

Galardonada: Ignacio "Nacho" Mata, *premio entregado por* Malú Gámez Tansey
Galardonada: Marina Noordegraaf, *premio póstumo entregado por* Bastiaan Bloem

9:30 — 11:30 AM — PLENARIA DE LA MAÑANA

TP2 — PLENARIA
Lugar: **Salón principal de plenarias**

Monitoreo de la progresión de la enfermedad en el Parkinson: ¿Por qué y cómo?

Moderadora: Cecilia Peralta (Argentina)
Co-moderator: Linda Olson (EE.UU.)

Charla 1: **¿Por qué deberíamos monitorear la enfermedad de Parkinson?**
Ponente: Bastiaan R. Bloem (Países Bajos)

Charla 2: **¿Cómo puede la imagenologia monitorear la EP?**
Ponente: Thilo van Eimeren (Alemania)

Charla 3: **¿Cómo podemos monitorear la EP utilizando biomarcadores basados en sangre y tejidos?**
Ponente: David Standaert (EE.UU.)

Charla 4: **Auto-monitoreo: ¿realizar o no realizar un monitoreo?**
Ponente: Sara Riggare (Suecia)

Objetivos de aprendizaje: 1. Explicar lo que se entiende por "progresión" del Parkinson y dar dos razones por las que debemos monitorear la progresión; 2. Describir cómo la imagenología puede ser una herramienta para el monitoreo de la progresión y lo que se ha aprendido acerca de los biomarcadores basados en la imagenología; 3. Identificar biomarcadores de sangre y tejido como alfa-sinucleína y marcadores inmunitarios y explicar cómo éstos desempeñan un papel en el monitoreo de la progresión de la enfermedad; 4. Explicar cómo las personas con Parkinson pueden monitorear su propia enfermedad y recopilar datos significativos para ayudar en su propio plan de bienestar.
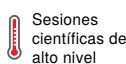

Niveles de sesión

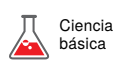Crosstalk – conocimiento científico mínimo o no requerido

Sesiones científicas de nivel moderado

Sesiones científicas de alto nivel

Tipo de sesión

Ciencia básica

Ciencia clínica

Atención integral

Idioma

Interpretación simultánea de inglés a español

Pista en español

11:30 AM – 1:30 PM	ALMUERZO

11:30 AM – 1:30 PM	SESIÓN DE CARTELES 2

Lugar: **Sala de exhibiciones**

Vea los carteles y conozca a los autores.

12:00 – 1:15 PM	TSL – CONFERENCIAS ESPECIALES

Lugar: **Salon principal de plenarias**

Vivir bien con Parkinson

Moderadora: Linda Olson (EE.UU.)

Panelistas: Shantipriya Siva (India)
Geoffrey Constable (Australia)
Sabela Avion (España)
Chinyere Rachel Agwu (Nigeria)
Richelle Flanagan (Irlanda)

1:30 – 3:00 PM	TSP1 – PISTA EN ESPAÑOL	TRT1 – MESAS REDONDAS

SESIÓN 3: FACTORES DE RIESGO EN EL PARKINSON
Lugar: **Sala 115**
Moderadores: Ernesto Arenas (Suecia) y Ariadna Laguna (España)

Presentación #1: Edad y género en el Parkinson
Ponente: Mayela Rodriguez-Violante (México)

Presentación #2: Influencia de la genética en el desarrollo del Parkinson
Ponente: Coro Paisan-Ruiz (EE.UU.)

Objetivos de aprendizaje: Influencia de la edad, el sexo y la genética en el desarrollo y la progresión del Parkinson.

Lugar: **Sala 112**

Mesa 2
Lo que toda mujer con Parkinson debería saber
Ponente: Maria De Leon (EE.UU.)

Mesa 4
Ansiedad y depresión en el Parkinson: Qué nos enseñan los modelos animales
Ponente: Rosario Moratalla (España)

3:30 – 5:00 PM	TSP2 – PISTA EN ESPAÑOL	TRT2 – MESAS REDONDAS

SESIÓN 4: SÍNTOMAS NO MOTORES
Lugar: **Sala 115**
Moderadores: Daniel Martinez-Ramirez (México) y Ana Cámara (España)

Presentación #1: Apatía y alteraciones cognitivas
Ponente: Jaime Kulisevsky (España)

Presentación #2: Disautonomía: estreñimiento y disfunción sexual
Ponente: Dolores Vilas Rolán (España)

Objetivos de aprendizaje: 1. Frecuencia e impacto de la apatía y los trastornos cognitivos en las distintas etapas del Parkinson; 2. Identificación y manejo de trastornos gastrointestinales y disfunción sexual.

Lugar: **Sala 112**

Mesa 5
Mitos y barreras en torno a la participación en la investigación
Ponente: Coro Paisan-Ruiz (EE.UU.)

5:15 – 6:30 PM	TEoD – PANELES DE CIERRE DIARIO

Lugar: **Salon principal de plenarias**

Moderadora: Vanessa Milanese (Brasil)
Co-moderator: Miquel Vila (España)

Panelistas: Serge Przedborski (EE.UU.)
Susan Fox (Canadá)
Angela Cenci (Suecia)
Marina Romero-Ramos (Dinamarca)

DAY 3

PROGRAMA ESPAÑOL
Viernes 7 de julio de 2023

8:00 – 9:00 AM — TEMAS DE ACTUALIDAD

Lugar: **Salón principal de plenarias**
Moderadora: Emily Henderson (Reino Unido)

Charla 1: **Descubriendo la interacción entre factores microbianos intestinales y mutaciones en el gen GBA1 en la patogénesis de la enfermedad de Parkinson**
Ponente: Christin Weissleder (Alemania)

Charla 2: **Amplio conjunto de datos de encuestas realizadas a mujeres con Parkinson por mujeres con Parkinson**
Ponente: Soania Mathur (Canadá)

Charla 3: **Modelo de la pigmentación del cerebro humano induce una patología similar al Parkinson y alteraciones transcriptómicas in vivo**
Ponente: Nuria Peñuelas (España)

Charla 4: **NLX-112 ofrece seguridad, tolerabilidad y eficacia favorables contra la discinesia inducida por levodopa (DIL) en un estudio Ph2A aleatorizado, doble ciego, controlado con placebo y de prueba de concepto**
Ponente: Adrian Newman-Tancredi (Francia)

9:00 – 9:15 AM — CEREMONIA DE PREMIOS WPC

Lugar: **Salón principal de plenarias**

Receptores del Premio Robin A Elliott del WPC al Servicio Destacado a la Comunidad

Galardonada: Kabugo Hannington, *premio entregado por* Omotola Thomas
Galardonada: Richelle Flanagan, *premio entregado por* Malú Gámez Tansey

9:30 – 11:30 AM — PLENARIA DE LA MAÑANA

FP3 – PLENARIA
Lugar: **Salon principal de plenarias**

Copatologías en la enfermedad de Parkinson

Moderadora: Amanda Woerman (EE.UU.)
Co-moderator: Nicolas Dzamko (Australia)

Charla 1: **Prevalencia de copatologías en la enfermedad de Parkinson**
Ponente: Lauren Walker (Reino Unido)

Charla 2: **El papel de la alfa-sinucleína y la co-patología en los síntomas cognitivos y no motores**
Ponente: Georgina Aldridge (EE.UU.)

Charla 3: **Contribuciones de las co-patologías en la activación de la respuesta inmune en pacientes con la EP**
Ponente: Ashley Harms (EE.UU.)

Charla 4: **Copatologías y Parkinson: ¿Qué significa todo esto para quienes viven con la EP?**
Ponente: Soania Mathur (Canadá)

Objetivos de aprendizaje: 1. Conocimiento actual de las copatologías en la presentación clínica; 2. Comprensión actual de cómo interactúa la a-sinucleína con otras proteinopatías; 3. Discusión sobre cómo enfocar los esfuerzos de investigación para investigar las contribuciones de las co-patologías a la presentación clínica y la progresión de la enfermedad.

Niveles de sesión
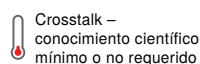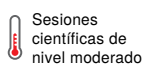
Crosstalk – conocimiento científico mínimo o no requerido

Sesiones científicas de nivel moderado
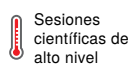
Sesiones científicas de alto nivel

Tipo de sesión

Ciencia básica

Ciencia clínica

Atención integral

Idioma

Interpretación simultánea de inglés a español

Pista en español

1:30 — 3:00 PM | **FSP1 — PISTA EN ESPAÑOL**

SESIÓN 5: ESTRATEGIAS EN EL MANEJO DEL PARKINSON (I)
Lugar: **Sala 115**
Moderadores: Martilde Calopa (España) y Sabela Avion (EE.UU.)

Presentación #1: Manejo del Parkinson inicial: medicación y estilo de vida
Ponente: Maria Jose Marti (España)

Presentación #2: Fluctuaciones clínicas y discinesias
Ponente: Oriol de Fàbregas-Boixar (España)

—

Objetivos de aprendizaje: 1. Conocer las estrategias terapéuticas en las etapas iniciales de la enfermedad; 2. Identificación y manejo de las complicaciones motoras. Descripción general de las terapias avanzadas (asistidas con dispositivos).

3:30 — 5:00 PM | **FSP2 — PISTA EN ESPAÑOL** | **FRT2 — MESAS REDONDAS**

SESIÓN 6: ESTRATEGIAS EN EL MANEJO DEL PARKINSON (II)
Lugar: **Sala 115**
Moderadores: Angel Sesar (España) y Carlos M. Guerra Galicia (México)

Presentación #1: Cirugía y otras estrategias terapéuticas complejas
Ponente: Francesc Valldeoriola (España)

Presentación #2: Ensayos clínicos en marcha: tratamientos sintomáticos y curativos
Ponente: Pablo Mir (España)

—

Objetivos de aprendizaje: 1. Reconocer la fase avanzada (compleja) del Parkinson y las estrategias terapéuticas actuales; 2. Tratamientos experimentales, líneas de investigación en intervenciones avanzadas y sus ventajas potenciales sobre los tratamientos actuales.

Lugar: **Sala 112**

Mesa 14
Apatía y fatiga en la enfermedad de Parkinson
Ponente: Mayela Rodriguez-Violante (México)

5:15 — 6:00 PM | **FEoD — PANELES DE CIERRE DIARIO**

Lugar: **Salon principal de plenarias**

Moderadora: Silke Appel-Cresswell (Canadá)
Co-moderator: Fulvio Capitanio (España)

Panelistas: Coro Paisan-Ruiz (EE.UU.)
Ryosuke Takahashi (Japón)
Darren Moore (EE.UU.)
Nabila Dahodwala (EE.UU.)

6:00 — 7:00 PM | **COMENTARIOS DE CLAUSURA Y RECEPCIÓN**

Lugar: **Salon principal de plenarias**

Anfitriones: Marina Romero-Ramos (Denmark)
Roger Barker (Reino Unido)

Niveles de sesión

Crosstalk – conocimiento científico mínimo o no requerido

Sesiones científicas de nivel moderado

Sesiones científicas de alto nivel

Tipo de sesión

Ciencia básica

Ciencia clínica

Atención integral

Idioma

Interpretación simultánea de inglés a español

Pista en español
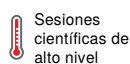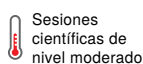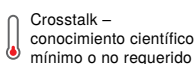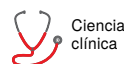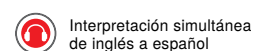
GENERAL INFORMATION

BADGES & LANYARDS

Delegates must wear their badge at all times in the Convention Center.

BLUE	Health care providers & Researchers
WHITE	Non-health care providers
ORANGE	Exhibit Hall ONLY access

MONEY, BANKS AND EXCHANGES

Bank opening hours
Banks are usually only open from Monday to Friday from 8:00/8:30 AM to 1:30/2:00 PM.

Currency exchange shops
There are different ways to exchange money safely in Barcelona. These include ATMs and banks, prepaid cards, main hotels, and currency exchange shops. The currency exchange shops (look for the shops that say "Change" or "Cambio" in Spanish) are located mostly in the tourist areas, airport, and central railway station. Always check the exchange rates as they are constantly changing.

Credit cards
National and foreign credit cards as well as MasterCard, American Express and Visa are accepted in most of the shops, restaurants, and cafeterias.

Withdraw cash at automatic cashiers (ATM)
Many banks offer a cash card that functions both as a credit card and a cash withdrawal card. Bear in mind that you probably need to advise your bank that you wish to use your credit card in Spain during the travelling period. Some banks block the card for security reasons unless you advise your bank that issued the card before your trip.

There will be a fixed commission you need to pay every time you withdraw money. Ask your bank how much this commission is. Using your credit card/cash card to withdraw money also represents an easy way to get money in the foreign currency whenever you need it. There are auto banks situated all over the town so you will have not problems finding an ATM.

Shopping and business hours
Shopping hours are Monday to Saturday from 10:00 AM to 8:00 PM. Shops are closed on Sundays. Visitors from non-EU countries can ask for VAT refunds when purchasing goods.

DISCLAIMER

All best efforts will be made to present the program as printed. However, the Congress hosts, and secretariat reserve the right to alter or cancel, without prior notice, any arrangements, timetables, plans or other items relating directly or indirectly to the Congress, for any cause beyond its reasonable control. The Congress hosts, and secretariat are not liable for any loss or inconvenience caused because of such alteration. In the event of cancellation of the Congress all pre-paid fees will be refunded in full. However, the Congress hosts, and its agents are not liable for any loss or inconvenience caused as a result of such cancellation. Delegates are advised to take out their own travel insurance and to extend their policy to cover personal possessions as the Congress does not cover individuals against cancellation of bookings or theft or damage to belongings.

DRESS CODE

You may dress informally for the congress. The dress code for the social program and special events is also informal.

ELECTRICITY

The standard voltage in Barcelona is 230V/50Hz. Plugs are the continental style with two round pins. If you are traveling from a country that has a different plug from Spain, you will need to bring a converter to charge devices.

GENERAL INFORMATION

EMERGENCY TELEPHONE NUMBERS

European SOS number: 112

The SOS number 112 can be dialled to reach emergency services, medical, fire and police from anywhere in Europe. This European emergency number, can be called from any telephone (landline, pay phone or mobile cellular phone). Calls are free and can be used for any life-threatening situation, including serious medical problems (accident, unconscious person, severe injuries, chest pain, seizure), any type of fire (house, car) or life-threatening situations (crimes).

Medical emergency……… **061**
Fire brigade……………… **080**
City police……………… **092**
City information………… **010**
Barcelona Tourist Office.. **933 689 700**

EXHIBITION

Tuesday, July 4	7:00 PM – 9:00 PM
Wednesday, July 5	11:00 AM – 6:45 PM
Thursday, July 6	11:00 AM – 6:45 PM
Friday, July 7	11:00 AM – 2:00 PM

EXHIBIT HALL PASSPORT

The WPC Passport sponsors invite you to visit their booths to discover their products and services and to get your passport stamped for the drawing. Completed passport cards will be collected as people enter the Closing Ceremony on Friday, July 7 from 6 – 7 PM. Drawing will take place with one lucky winner receiving an iPad mini. Must be present to win.

CATERING

Daily boxed lunches as well as tea and coffee during the official afternoon breaks are included in your registration fee. There will be lunch tables set up at the International Barcelona Convention Center. Light food and drinks will be served during the Opening Reception on July 4 and the Closing Remarks on July 7.

ICONS
Session Levels

Crosstalk – Minimal or no scientific background required

Moderate-level scientific sessions

High-level scientific sessions

Session Type

Basic Science

Clinical Science

Comprehensive Care

Language

Simultaneous interpretation from English to Spanish
Interpretación simultánea de inglés a español

Spanish track
Pista española

Ticketed event
Evento con boleto

INTERNET ACCESS

Free Wi-Fi is offered at the Barcelona International Conference Center during the congress.

LANGUAGE

The official language of the World Parkinson Congress is English. Limited simultaneous interpretation from English to Spanish will be offered and the program will also include a special Spanish-language track daily.

Citizens of ALL countries are welcome to participate in the WPC 2023.

GENERAL INFORMATION

MAKING BARCELONA PARKINSON READY

Did you know that we trained city members throughout Barcelona to welcome you to the city? We trained front of house staff, the convention center staff, airport staff, tour guides, police, fire brigade, and others to better understand Parkinson's. This training has been done at every WPC since 2010 and is designed to help them prepare for welcoming you, but it's also part of the WPC Legacy, leaving our mark behind well after we are gone by educating these community members to better understand Parkinson's.

MAPS AND FLOOR PLANS

See back of program, pages 131–140.

MOBILE APP

The free World Parkinson Congress 2023 mobile app allows you to carry the WPC details on your smartphone or tablet, including the program, general information, side activities and list of participants. You will need this app to:
• **Exchange messages with fellow delegates**
• **Submit questions to speakers during sessions**

Download the application named **World Parkinson Congress 2023**.

MOBILE PHONES AND DEVICES

Mobile phones must be switched off or muted in the session meeting rooms.

PHOTOGRAPHY AND VIDEOTAPING

Photography and videotaping are not permitted in any of the oral or poster sessions without the express permission of the relevant oral presenter or poster authors.

An official photographer/videographer will be on site to capture the essence of the congress. These images may be used for promotion of the World Parkinson Coalition.

POSTERS

Posters will be displayed throughout the congress dates in the exhibition. Official poster sessions are scheduled on Wednesday and Thursday from 11:30 AM to 1:30 PM, at which time poster presenters will be stationed by their poster to discuss with delegates. See the poster session program for details on when posters will be hosted.

POSTERS TOURS

Poster tours will be held from 5:15 to 6:30 PM on Wednesday and Thursday evenings, July 5 and 6, at which times a select number of posters will be hosted. Sign up for tours in the Exhibit Hall, at the table near the first row of posters at the back of the hall.

REGISTRATION HOURS

In the lobby of Hotel Marriott AC Forum

Sunday, July 2	1:00 PM – 6:00 PM
Monday, July 3	10:00 AM – 6:00 PM

In the lobby of Barcelona International Conference Center (CCIB)

Tuesday, July 4	7:30 AM – 8:00 PM
Wednesday, July 5	7:30 AM – 6:00 PM
Thursday, July 6	7:30 AM – 6:00 PM
Friday, July 7	7:30 AM – 4:00 PM

GENERAL INFORMATION

SMOKING POLICY

Please do not smoke on streets and sidewalks. Only smoke in designated outdoor areas. All indoor areas of the Convention Center are non-smoking.

SOCIAL MEDIA

Connect with other delegates and Congress organizers using social media:

Like us on **Facebook @World Parkinson Congress**.

Follow **World Parkinson Coalition** on **LinkedIn**.

Follow us on **Twitter @WorldPDCongress** The hashtag is **#wpc2023**.

See the WPC community on **Instagram@worldpdcongress**. Join our photo feed by using hashtag **#wpc2023**.

The WPC **YouTube** channel is **WorldPDCongress**.

Watch the WPC on **TikTok page @worldparkinsoncongress**.

SPEAKER READY ROOM

All invited speakers can go to the Speaker Ready Room in room VIP Lounge where computers are available to invited speakers wishing to review or modify their presentation.

Speaker Ready Room Schedule

Monday, July 3	3:00 PM – 7:00 PM
Tuesday, July 4	7:30 AM – 6:00 PM
Wednesday, July 5	7:30 AM – 6:00 PM
Thursday, July 6	7:30 AM – 6:00 PM
Friday, July 7	7:30 AM – 5:00 PM

TRANSPORTATION

The CCIB, venue of the WPC 2023, is well connected by public transport to all city areas and has taxi ranks and parking places nearby. It also has easy and quick access from the city centre. The nearest public transportation stops which will leave you just a few minutes' walk away from the CCIB are:
- **Metro: Line L4-Yellow, El Maresme-Forum station**
- **Tram: Line T4, Forum stop**
- **Bus: Routes H16 and 7**

VOLUNTEERS

The WPC leadership thanks the many volunteers for their time to help welcome the thousands of delegates who traveled from around the world to attend the WPC 2023. More than 150 volunteers from 20 countries prepared to welcome and support you. Please thank a volunteer when you see them in their purple shirts. They improve the WPC experience!

WPC STORE

The WPC Store will be teaming up with our local Partner, the Catalan Parkinson Association to sell items from both our organizations. Stop by to pick up some WPC items or items from our Catalan friends. Items sell out, so don't wait until the last day!

All items are limited. Once they are sold out, they will no longer be available for sale. Proceeds from the sale of Parky the Raccoon stuffed animals will go to the WPC 2026 Travel Grants program. Sale of all other items will go towards the WPC 2026 Planning Fund.

WELLNESS WAY

Made possible with support by Boston Scientific and Supernus Pharmaceuticals

Wellness Way is made up of the areas at the Congress that focus on taking care of oneself. Whether a Parkinson Advocate, Care Advocate or Heath Professional, we all need to engage in self-care to ensure we are living our best.

To help delegates achieve this goal, we offer spaces at the WPC where people can try a variety of exercises, networking and just resting peacefully. Be sure to make time during the WPC to visit these spaces so you are working your body as much as your mind! For more information and to view the schedule of each of these rooms visit our web-site at **https://wpc2023.org/WellnessWay**. Renewal Room sessions will be ticketed activities with tickets being given out 30 minutes before the sessions. One ticket per person.

Location: Room 211
Wednesday to Friday
7:45 AM – 5:30 PM
See page 25

RENEWAL ROOM

A place to get the blood moving, the space will offer a variety of classes to move the body, voice, and mind. Participate daily in a wide range of classes including: **Yoga, Dance, Vocal training, Boxing and more!**

Location: Room 212
Wednesday to Friday
9:00 AM – 5:00 PM
See page 27

CARE PARTNER LOUNGE

Back by popular demand, this room offers a safe space for care partners to meet and greet each other. Care partners will enjoy special talks, support group space during lunch time and have a formal round table talk each day geared to care partners.

Location: 132
Wednesday to Friday
8:00 AM – 4:45 PM
See page 28

SUPPORT GROUP LEADER LOUNGE

Made possible with support by PMD Alliance

A new space at the WPC, this lounge is designerd for support group leaders and those who want to learn about support groups and how to design and host them. A resource rich space, stop in to ask your questions, make connections, and learn about managing support groups globally.

Location: 123
Wednesday to Friday
11:00 AM – 5:00 PM
See page 29

TABLE TENNIS ROOM

Made possible with support from International Table Tennis Federation and the Catalan Table Tennis Federation

Join us in the table tennis room for some exercise, wellness, and friendship. **Table tennis** helps with balance, mobility, reflexes and is just plain. Fun to do!

Location: 125
Wednesday to Friday
7:45 AM – 5:35 PM
See page 30

MEDITATION AND MINDFULNESS ROOM

This room will be open daily to offer a place to spend time in quiet, reflection, contemplation, or prayer outside the hustle and bustle of all the other amazing activities and presentations. Guided mindfulness sessions will be provided within the space and showcase techniques you may find useful when you return home.

Location: 127
Wednesday to Friday
11:45 AM – 4:45 PM
See page 31

FILM ROOM

Open to all, the films shown in this room will cover topics of humor, resiliency, overcoming challenges and highlight the importance of social connectedness. View the films and meet the artists behind them.

RENEWAL ROOM SCHEDULE

Made possible with support by Boston Scientific and Supernus

Location: Room 211

A place to get the blood moving, the space will offer a variety of classes to move the body, voice, and mind. Participate daily in a wide range of classes including yoga, tai chi, laughter yoga, dance, vocal training, boxing and more!

SALA DE RENOVACIÓN

Hecho posible con el apoyo de Boston Scientific y Supernus

Ubicación: Habitación 211

Un lugar para poner la sangre en movimiento, el espacio ofrecerá una variedad de clases para mover el cuerpo, la voz y la mente. Participe diariamente en una amplia gama de clases que incluyen yoga, tai chi, yoga de la risa, danza, entrenamiento vocal, boxeo ¡y mucho más!

TIME	WEDNESDAY July 5	THURSDAY July 6	FRIDAY July 7
8:00 – 9:00 AM	**Yoga for Strength and Healing** *Presenter:* **Aminta St. Onge**	**Keep Moving – Balance and Relaxation with Tai Chi** *Presenter:* **Mirko Lorenz**	**Chair Yoga for PD – Relax, Release, Renew** *Presenter:* **Whitney Chapman**
9:30 – 10:30 AM	**Power for Parkinson's Brain & Body** *Presenter:* **Polly Caprio**	**Parkinson's Specific Exercise: The Neuro Heroes Way!** *Presenter:* **Laura Douglas**	**Emotions in Motion** *Presenter:* **Francesca De Bartolomeis**
11:00 – 12:30 PM	**Rock Steady Boxing** *Presenters:* **Hans** *and* **Dini Lauwerse**	**Dance for PD** *Presenter:* **David Leventhal**	**Ronnie Gardiner Method: life is rhythm and rhythm is life** *Presenter:* **Maria Rosa Gutierrez Grau**
1:00 – 2:00 PM	**Laughter Yoga for Everyone!** *Presenter:* **Brian Reedy**	**Singing with Gusto! – Singing is Fun!** *Presenters:* **Judi Spencer** *and* **Penny Stone**	**PD Warrior Play** *Presenter:* **Melissa McConelly**
2:30 – 3:30 PM	**Zumba Gold for Parkinson's** *Presenter:* **Josefa Domingos**	**PD Movement Lab** *Presenter:* **Pamela Quinn**	**Alexander Technique** *Presenter:* **Monica Gross**
4:00 – 5:00 PM	**Move & Shout with Power for Parkinson's** *Presenter:* **Nina Mosier**	**Get LOUD, Get BIG, Get Energized** *Presenter:* **Cynthia Fox**	**Beat Parkinson's with Reach Your Peak** *Presenters:* **Maria Lewis** *and* **Sally Tawhai**

CARE PARTNER LOUNGE

Made possible with support by Boston Scientific and Supernus Pharmaceuticals

Location: Room 212

This lounge is designed for Care Partners. Talks and sessions will address issues identified by care partners, giving participants support, tips, and tricks to address their needs as care partners along their journey.

SALA PARA ALIADOS DE CUIDADO

Hecho posible con el apoyo de Boston Scientific and Supernus Pharmaceuticals

Ubicación: Habitación 212

Este salón está diseñado para los Aliados de Cuidado/Care Partners. Las charlas y sesiones abordarán temas identificados por cuidadores, ofreciendo a los participantes apoyo y consejos para navegar los retos que enfrentarán a lo largo de la enfermedad de Parkinson.

TIME	WEDNESDAY July 5	THURSDAY July 6	FRIDAY July 7
9:30 – 10:30 AM	Discussion group: **New Diagnosis: Where and how to begin** *Hosts:* **Allison Allen (USA) Sheryl Hague**, **Care Partner (Canada)**	Discussion group: **YOPD: keeping life on track** *Hosts:* **Elaine Book (Canada) Rebecca Gifford**, **Care Partner (Canada)**	Discussion group: **Mid stage PD: Staying Energized for the long haul** *Host:* **Lissa Kapust (USA)**
11:00 AM – 12:00 PM	*Español* ☀ Charla: **Aspectos neuropsiquiátricos y su impacto en los cuidadores (Neuropsych issues and impact on Care Partners)** *Moderadora:* **Adriana Gonzalez (USA)** *Ponente:* **Mayela Rodriguez-Violante (Mexico)**	*Español* ☀ Charla: **No apto para cardiacos (Caregiving is not for faint of heart)** *Moderadora:* **Adriana Gonzalez (USA)** *Ponente:* **Maria DeLeon (USA)**	12:00 – 1:30 PM The Poise Project: **Partnering with Poise – Caring for Care Partners**
12:30 – 1:30 PM	Lecture: **Rewriting the care partner rule book** *Host:* **Connie Carpenter-Phinney (USA), Co-Founder, Davis Phinney Foundation**	Discussion group: **What's on your mind? Open question period – nothing is off the table!** *Host:* **Allison Allen (USA)**	**Focus Group**
2:00 – 3:00 PM	Lecture: **Communication: it's more than just about voice** *Speaker:* **Angela Roberts (Canada)**	Lecture: **Intimacy and the Care Partner experience** *Speaker:* **Gila Bronner (Israel)**	Discussion group: **Adios Barcelona ~ Going Home Hopeful** *Moderator:* **Anne Kosem**
3:30 – 4:30 PM	Workshop: **Finding your creativity** *Host:* **Sneha Mantri (USA)**	Workshop: **Writing to cope & connect** *Host:* **Rebecca Gifford (Canada)**	

SUPPORT GROUP LEADER LOUNGE

Made possible with support by PMD Alliance

Location: 132

This lounge is a gathering place for current support group and wellness leaders, and anyone interested in becoming one. Join us to network, engage in discussions, learn activities to use in your group, and hear how other leaders are supporting the community in their corner of the world. **Join us on Tuesday, 4 July 3-5:00 PM for a Meet & Greet.**

SALÓN PARA LÍDERES DE GRUPO DE APOYO

Hecho posible con el apoyo de PMD Alliance

Ubicación: 132

Este es un lugar de reunión para los líderes de clases de movimiento y grupos de apoyo, y cualquier persona interesada en iniciar un grupo. Visítenos para relacionarse, conversar, aprender actividades grupales y escuchar cómo otros líderes están apoyando a su comunidad en su rincón del mundo. **Martes 4 de julio, de 3 a 5:00 PM será la reunión de bienvenida.**

TIME	WEDNESDAY July 5	THURSDAY July 6	FRIDAY July 7
8:00 – 8:50 AM	Lounge Open: **Support Group/ Grupo de apoyo** *Host:* **Con P de Parkinson**	Lounge Open: **Support Group/ Grupo de apoyo** *Host:* **Con P de Parkinson**	Lounge Open: **Support Group/ Grupo de apoyo** *Host:* **Con P de Parkinson**
9:00 – 9:30 AM	Coffee Connection: **Networking (coffee in room)**	Coffee Connection: **Networking (coffee in room)**	Activity: **How movement builds comradery in Support Groups** *Host:* **David Leventhal (USA)**
9:30 – 10:15 AM	*Español* – Actividad: **Tranquilidad de espíritu** *Anfitriona:* **Julie Worden (USA)**	Taller: **El Sintomario: una herramienta de comunicación** *Anfitriona:* **Laura Crawford (USA)**	Workshop: **Support has many shapes and forms** *Host:* **Larry Gifford (Canada)**
10:30 – 11:15 AM	Workshop: **Building support groups around activities that foster connection** *Hosts:* **Clara Kluge** and **Lori DePorter (USA)**	Activity: **Creating Support Group Leader Meeting Makers** *Hosts:* **PMD Alliance Staff** and **Ambassadors**	Discussion group: **Support Groups with Global Impact** *Host:* **Natasha Fothergill-Misbah (UK)**
11:30 AM – 12:15 PM	Lecture: **Social Prescribing and Support Groups** *Speaker:* **Indu Subramanian (USA)**	Discussion Group: **Addressing Stigma as a Barrier to Support** *Host:* **Maria Barretto (India)**	Coffee Connection: **Networking (coffee in room)** *Host:* **PMD Alliance Global Ambassador Team**
12:30 – 1:15 PM	Support Group: **YOPD Women** *Facilitator:* **Kristi LaMonica (USA)**	Workshop: **Reaching Underserved Communities in Latin America** *Host:* **Christine Jeya (Australia)**	Support Group: **YOPD Men** *Facilitator:* **Eric Aquino (USA)**
2:00 – 2:45 PM	Workshop: **Responding to Emotional Aspects of Care Partner Support Group** *Host:* **Greg Pontone (USA)**	Round Table: **Support Groups from around the World** *Hosts:* **Leaders from Kenya, Ghana, Nigeria, India, Spain** and **Norway**	*Español* Taller: **Somos la Familia Parkinson** *Anfitriona:* **Maria De Leon (USA)**
3:00 – 3:45 PM	Round Table: **Impact of Social connection on Brain Health** *Speaker:* **Darbe Schlosser (USA)**	Activity: **Launch of the Global Edition of the Support Group Leader Guide** *Hosts:* **PMD Alliance** and **PD Avengers	Global Alliance to End Parkinson's Disease Assn**	Activity: **Drumming Ice breaker** *Host:* **Lori DePorter (USA)** **FAREWELL**
4:00 – 4:45 PM	Discussion group: **Wellness-based Support Groups** *Hosts:* **David Leventhal (USA)** and **Maria Portman Kelly (USA)**	Lounge open: **Support Group/ Grupo de apoyo** *Host:* **Con P de Parkinson**	

TABLE TENNIS ROOM (PING PONG)

Made possible with support from International Table Tennis Federation and the Catalan Table Tennis Federation

Location: 123

Experience the benefits of table tennis for Parkinson's disease and overall health. Exercise, assess yourself, meet the stars, improve your memory, challenge a robot! Table tennis enhances balance, coordination, calmness, movement, and social connections. Playing for 15-20 minutes reduces stiffness, improves timing, and reduces frustration. Results of one session last up to 2 days! **Come join us!**

SALA DE TENIS DE MESA (PING PONG)

Hecho posible con el apoyo de International Table Tennis Federation and the Catalan Table Tennis Federation

Ubicación: 123

Experimente los beneficios del tenis de mesa para la enfermedad de Parkinson y la salud en general. ¡Haz ejercicio, evalúate, conoce a las estrellas, mejora tu memoria, desafía a un robot! El tenis de mesa mejora el equilibrio, la coordinación, la calma, el movimiento y las conexiones sociales. Jugar durante 15 a 20 minutos reduce la rigidez, mejora la sincronización y reduce la frustración. ¡Los resultados de una sesión duran hasta 2 días! ¡Ven y únete a nosotros!

TIME	WEDNESDAY July 5
11:00 – 11:30 AM	Warm up – Preparation
11:30 AM – 1:00 PM	Self-assessment to understand your level
1:00 – 1:30 PM	Meet the stars!
1:30 – 3:00 PM	Compete against other players
3:00 – 4:30 PM	Different exercises for health benefits
4:30 – 6:00 PM	Research on benefits of table tennis for PD

TIME	THURSDAY July 6
11:00 – 11:30 AM	Warm up – Preparation
11:30 AM – 1:00 PM	Different exercises for health benefits
1:00 – 2:30 PM	Self-assessment to understand your level
2:30 – 3:00 PM	Meet the stars!
3:00 – 4:30 PM	Compete against other players
4:30 – 6:00 PM	Research on benefits of table tennis for PD

TIME	FRIDAY July 7
11:00 – 11:30 AM	Warm up – Preparation
11:30 AM – 12:00 PM	Presenting the results of the research
12:00 – 1:30 PM	Compete against other players
1:30 – 2:00 PM	Meet the stars!
2:00 – 3:30 PM	Self-assessment to understand your level
3:30 – 5:00 PM	Different exercises for health benefits

Table Tennis teachers are all trilingual so come and join us in Spanish, Catalan, or English!

MINDFULNESS & MEDITATION ROOM
Made possible by Boston Scientific and Supernus Pharmaceuticals

Location: 125

A place to spend time in quiet, reflection, contemplation, or prayer outside the hustle and bustle of all the other amazing activities and presentations. A few **20-minute guided mindfulness sessions** will be provided within the keeping of the ambiance of this room to enhance refreshment and provide techniques you may choose to utilize in your daily lives.

SALA DE MEDITACIÓN Y ATENCIÓN PLENA
Hecho posible por Boston Scientific and Supernus Pharmaceuticals

Ubicación: 125

Un lugar para pasar tiempo en silencio, reflexión, contemplación u oración fuera del ajetreo de todas las demás actividades y presentaciones increíbles. Se ofrecerán algunas **sesiones guiadas de atención plena de 20 minutos** en el ambiente de esta sala para aumentar el descanso y proporcionar técnicas que puedan utilizar en su vida diaria.

TIME	WEDNESDAY July 5	THURSDAY July 6	FRIDAY July 7
7:45 – 8:05 AM	**Guided Imagery – Getting ready for the day** *Presenter:* **James Brasic**	**Guided Imagery – Getting ready for the day** *Presenter:* **James Brasic**	**Guided Imagery – Getting ready for the day** *Presenter:* **James Brasic** *or* **Warren Spencer**
12:30 – 12:50 PM	**Meditation – Refresh for the afternoon** *Presenter:* **Warren Spencer**	**Meditation – Refresh for the afternoon** *Presenter:* **Warren Spencer**	**Moving Mindfully – Let your breath be the guide** *Presenter:* **Julia Wood**
5:15 – 5:35 PM	**Meditation – Calming the mind and body** *Presenter:* **Warren Spencer**	**Meditation – Calming the mind and body** *Presenter:* **Warren Spencer**	

JULIA WOOD, MOT, OTR/L

Join occupational therapist Julia Wood for her gentle, seated movement session. Utilizing the breath to move the body in a fluid and relaxing manner.

Julia is on the faculty of the Parkinson's Foundation Team Training for Parkinson's program, LSVT BIG certified and Training Faculty, and a member of the WPC 2023 Comprehensive Care Subcommittee.

JAMES BRASIC, MD, MPH

Join neurologist and child and adolescent psychiatrist, James Brasic, in guided imagery as you get ready for your day.

James has been practicing meditation, mindfulness, and yoga for decades, with specific practice and training in transcendental meditation and the Mindfulness Based Stress Reduction approach. He has utilized guided imagery for his patient's experiencing anxiety.

WARREN SPENCER, JD, LLM

Join iRest meditation instructor and Unified Mindfulness meditation coach Warren Spencer, in guided mindfulness meditation techniques that provide time to refresh and calm the mind and body.

Warren has been practicing meditation over 20 years, beginning with the Vipassana tradition, later incorporating Yoga Nidra and the science of meditation. Warren is a Yoga Alliance certified yoga teacher, with specialized training in yoga for Parkinson's Disease and has been a practicing attorney for more than 30 years.

WPC FILM ROOM
Location: 127

This space is for the showing of films that were created by members of the Parkinson's community or someone wishing to showcase someone in the community. Open to all, the films cover topics of humor, resiliency, overcoming challenges and the importance of social connectedness. **View the films and meet the artists behind them.**

SALA DE CINE DEL WPC
Ubicación: 127

Este espacio está destinado a la proyección de películas creadas por miembros de la comunidad de Parkinson o por alguien que desee destacar a alguien de la comunidad. Abiertas a todos, las películas tratan temas como el humor, la resiliencia, la superación de retos y la importancia de la conexión social. **Vea las películas y conozca a los artistas que las crearon.**

TIME	WEDNESDAY July 5	THURSDAY July 6	FRIDAY July 7
11:45 AM	*Me to Play* – 71 min *Director:* **Jim Bernfield (USA)**	*Kinetics* – 47 min *What a Load of Balls* – 12 min *Director:* **Sue Wylie (UK)**	*Shaking hands with the devil* – 15 min *Director:* **Natasha Fothergill-Misbah (UK)**
1:45 PM	*Hoje NÃO (Not Today)* – 50 min *(Portuguese without subtitles)* *Producer:* **Joao Augusto Pedreira (Brazil)**	*Hal and Minter* – 30 min *Actor:* **Minter Krotzer (USA)**	*Boys of Summer* – 53 min *Director & Actor:* **Robert Cochrane (USA)**
3:30 PM	*Wear a light: The Future with Juvenile Parkinson's Disease* – 39 min *(Japanese with English subtitles)* *Producer:* **Shun Coney (Japan)**	*Que Nos Traspase El Aire* – 53 min *(Spanish with English subtitles)* *Director:* **César Casares (Spain)**	*Would you sell your house to save your mother?* – 12 min *Director:* **Christine Jeyachandran (Australia)**
4:30 PM	*Todo Cambia – Everything Changes* – 30 min *(Japanese with English subtitles)* *Producer:* **Aki Kono (Japan)**		

World Parkinson Coalition®

WPC Research Spotlight
Bringing the PD community together to increase understanding of, and support for Parkinson's research.

WPC ART WALK

Four art installations will grace the halls, walls, and floor space of WPC 2023 showcasing creativity in Parkinson's. We invite you to explore each exhibit and make time to meet two of the artists at designated "Meet & Greet" sessions to hear more about their artistic process and how creativity impacts them and their wellness.

PARKINSON'S TULIP GARDEN
Made possible with support from Supernus Pharmaceuticals
Location: Exhibit Hall

The **Parkinson's Tulip Garden** is the culmination of the Parkinson's Tulip Project, where thousands of images of people in the Parkinson's community with tulips are brought together in one exhibit, paying homage to local Barcelona architect Antonin Gaudi, showcasing the diversity, creativity and strength of the Parkinson's community, reminder us all we are connected from one part of the globe to another.

'Forget Oz I need some Oil.'

PARKINSON'S SYMPTOMS ART
Made possible with support from World Parkinson Coalition
Location: Foyer, near registration
Artist: Jonny Acheson, MD (UK)
Meet & Greet: Wednesday, July 5 from 12:00 – 1:00 PM

This collection of Parkinson's artwork depicts Parkinson's symptoms by drawing the letters that spell the symptom name. The surrounding cartoon and text portray what it may feel like for someone with PD. Powerful in their simplicity, each image draws the viewer in with humor and education around many of the most misunderstood symptoms that people with PD experience, sometimes many of them in one day.

I AM DANCE ~ PD DANCE PROJECT
Made possible with support from Supernus Pharmaceuticals
Location: Exhibit Hall, alongside The Tulip Garden
Coordinating Artist: Clara Kluge (USA)

I Am Dance ~ PD Dance Project was created by and for the Parkinson's community-at-large. In association with the Mark Morris Dance Group, Dance for PD® Program, this project invited the global community to partake in a worldwide celebration and collaboration of dance. All dance artists were invited to express themselves by showing their own creative and unique dance piece(s). This project allows viewers to witness the dynamic values that exist for people who have Parkinson's through choreography and dance. Research has shown that movement such as dance is vital to the well-being of a person living with PD.

PARKYLIFE
Made possible with support from Havas Media Group
Location: Foyer, near registration
Artist: Matt Eagles (UK) & Havas Media Group
Meet & Greet: Friday, July 7 from 12:00 – 1:00 PM

ParkyLife brings you **The Art Wobble**, the first art exhibition that both aids and inspires you, the Parkinson's community. Each piece of artwork features a real Parkinson's role model, positively brimming with attitude and life.

But instead of adorning the walls, our 'Art Wobble' can be found on the foyer floor, perfectly positioned to give you a wobbly walk through the exhibition, all at your own pace. So, please, do step on the art and enjoy.

WPC AWARDS

WPC AWARD FOR DISTINGUISHED CONTRIBUTION TO THE PARKINSON COMMUNITY
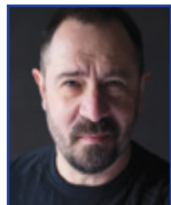
The Prize was created to honor those whose efforts best embody the goals of the World Parkinson Congress. While those being honored with this award each served the Parkinson's community differently, they have all made great impact beyond their corner of the globe. Whether it was: to expand collaboration on basic and clinical research that engaged patients; to create new and innovative treatment options; to inspire community building and engagement by people with Parkinson's and care partners; or to engage in specific advocacy efforts to impact the Parkinson community.

WPC ROBIN A. ELLIOTT AWARD FOR OUTSTANDING COMMUNITY SERVICE

The Prize was created to honor the service of Robin A. Elliott who helped launch the World Parkinson Congresses in 2004. Robin's 20 years of service to the community, as the head of the recently renamed Parkinson's Foundation, and his commitment to supporting young researchers, clinicians, and people with Parkinson's was evident in every decision he made. This award honors the work of individuals who aim to better the lives of people with PD with their daily service and support that impacted their region of the world and profoundly improved, and continues to improve, the lives of the individuals they serve.

LIZZIE GRAHAM (UK)

In 1989, Lizzie joined the UK Parkinson's Disease Society (now Parkinson's UK) where she worked full time as she helped to establish the European Parkinson's Disease Association from 1990 to 2001. From 2001 onwards, Lizzie worked exclusively with the EPDA in various roles, most prominently as Secretary General and then as Executive Director from 2006 to 2018. Lizzie's impact on Parkinson's care continues today in the form of the Parkinson's Disease Nurse Specialists program in the UK, a program that ensures thousands of people with PD in UK get access to trained Parkinson's clinicians.

RICHELLE FLANAGAN (Ireland)

Diagnosed with YOPD in 2017, Richelle wasted no time in becoming a Parkinson's advocate. At the time of her diagnosis, she was working full-time as a dietitian, while raising two children with her husband. She attended the WPC 2019, and was inspired on her return home to: help educate others about the importance of diet and nutrition; raise money for PD causes; co-found My Moves Matter, a digital health app to the meet the specific needs of women living with PD and also co-found the Women and Parkinson's Project to raise awareness of the research and care needs of women living with PD.

KABUGO HANNINGTON TAMALE (Uganda)

In a country with limited resources and very few Parkinson's trained clinicians, Hannington has created a community clinic, brought Parkinson's identification and diagnostic training to health clinics and hospital staff members across Uganda and has elevated awareness of Parkinson's in Uganda via the organization he runs, Parkinson Si Buko, (Parkinson's is not witchcraft). Hannington works tirelessly to inform and educate Ugandans on the realities of Parkinson's while working to eliminate the stigma around this condition.

VINCENT "ENZO" SIMONE (USA)
Posthumous

Enzo made it his life's mission to raise awareness and funds to find a cure for PD and Alzheimer's, when his mother was diagnosed with Alzheimer's in 2002 and in short succession his father-in-law found out he had Parkinson's. He formed a group called 'the regulars' and climbed 10 mountains in 10 years leading to the creation of an award-winning film "10 mountains, 10 years" which has been screened globally. His passion and energy was infectious, his legacy continues to touch people today.

IGNACIO "NACHO" MATA (USA/Spain)

Ignacio helped launch an international effort to bring the Hispanic community to the forefront of genetic research in Parkinson's disease (PD). He created a consortium comprised of doctors, researchers, patients and family members from more than 40 institutions in 14 countries across the Americas and the Caribbean that provides education about PD genetics/research and genetic testing for Latinos who have PD. His work has helped drive up the inclusion of under-represented Latino populations in research.

MARINA NOORDEGRAAF (Netherlands)
Posthumous

Marina was a patient researcher and accomplished visual artist living with Parkinson's. Diagnosed with YOPD, her gift to the community and the world was her ability to improve and expand on the communication between people with PD and researchers, as she had an exceptional ability of translating between the lived expertise of PD and the learned expertise of PD that clinicians and researchers have.

WPC CLINICAL RESEARCH VILLAGE

Made possible by Michael J. Fox Foundation and Parkinson's Foundation

Location: Exhibit Hall – Clinical Research Village booth

TIME	WEDNESDAY July 5	THURSDAY July 6	FRIDAY July 7
11:40 AM	**Critical Path for Parkinson's Working Session: A worldwide partnership to enable patient engagement in new and innovative ways** • Worldwide partnerships and innovative patient engagement strategies • Connect globally with partners to engage in meaningful change • Empowering Parkinson's patients through global partnerships and innovative engagement strategies	**Critical Path for Parkinson's Working Session: How to enable personalized medicine with the "right drug, right person, right time"** • Impactful approaches to personalized medicine using the "right drug, right person, right time" • Unlocking personalized Parkinson's medicine with "right drug, right person, right time"	**Critical Path for Parkinson's Working Session: Bringing data from around the world to inform clinical trials for the future** • Strategic data collaboration to inform globally relevant clinical trials for the future • Transforming the future of clinical trials using global data and transnational collaboration • Critical Path for Parkinson's global collaboration and future innovations for data-driven Parkinson's trials
11:45 AM **Exhibit Hall Stage**	Panel Discussion: **Patient Involvement and Engagement: The who, what, where, how and why**	Panel Discussion: **Involving Women in Parkinson's Research**	
12:15 PM **Exhibit Hall Stage**	Panel Discussion: **Clinical Research Across the Parkinson's Disease Continuum: Engaging and involving people with Parkinson's at all disease stages**	Panel Discussion: **Creating Opportunities for Research Engagement and Involvement for All: Experiences and strategies focused on people with Parkinson's and care partners**	Panel Discussion: **Challenges, Considerations & Opportunities of Undertaking Research in Africa**
12:40 PM	Presentation: **Focused Patient and Public Involvement and Engagement (PPIE)** Listening to the experience of participants on neurosurgical trials: Outcomes of the LEARN-GDNF and LEARN-Transeuro studies	Roundtable: **Involving Young Onset Parkinson's Disease (YOPD) Individuals in Research**	Roundtable: **WHO Technical Briefing: What it is and why it matters**
1:15 PM	**1:00 PM** – Presentation: **Focused Patient and Public Involvement and Engagement (PPIE)** Towards a preliminary protocol for a multi-arm multi-stage trial of disease modify therapies in Parkinson's disease: the EJS ACT-PD initiative	Presentation: **Focused PPIE** Building a coalition to advance engagement of black and African American communities in Parkinson's disease (PD) research using best practices in diversity, equity and inclusion (DEI), and patient engagement: A multidisciplinary approach	Open Hours: **Meet the Clinical Research Village Organizers – Share Feedback and Ideas**
1:30 PM	UCB Roundtable: **Patient Engagement Council for Parkinson's Research: Demonstration of how the patient community is driving early involvement in research and development**	**1:40 PM** – Industry Roundtable: **Patient Insights: What tools exist and what would be useful**	
	5:15 PM – **PPIE Posters Tour**	**6:00 PM** – **CRV Reception**	

CONTINUING EDUCATION

The 6th World Parkinson Congress will offer continuing education credits to medical doctors and nurses.

Certificates for continuing education credits will be emailed to delegates who pre-paid during registration. A survey link will be emailed out at the close of the WPC, this survey must be completed to collect credits. If you are using a travel agency to book your registration for the congress, be sure that they include your email address on the registration form. This avoids the confusion of having the certificate being sent to the travel agency.

If you wish to receive continuing education credits, and missed this application during registration, you may pay this fee at the registration desk during the WPC to ensure you will receive the survey post WPC. The fee for credits is $50 USD. If you miss this during the Congress and wish to collect the credits after the close of the WPC, the fee will be $100 USD for processing and handling after July 7.

This activity has been planned and implemented in accordance with the accreditation requirements and policies of the Accreditation Council for Continuing Medical Education (ACCME) through the joint providership of Oakstone Publishing and World Parkinson Coalition Inc. Oakstone Publishing is accredited by the ACCME to provide continuing medical education for physicians.

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CERTIFICATE OF ATTENDANCE

Each delegate, regardless of registration category, will receive a Certificate of Attendance via email post WPC. This is NOT the same as receiving continuing education credits.

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Plus many anonymous donations from congress delegates.

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PROGRAM-AT-A-GLANCE

	TUESDAY JULY 4	WEDNESDAY JULY 5
8:00 AM – 9:00 AM		Hot Topics 🎧
9:00 AM – 9:15 AM		WPC Award 🎧
9:30 AM – 11:30 AM	PRE-CONGRESS COURSES 🎫 🎧	Morning Plenary 🎧
11:30 AM – 1:30 PM		Poster Session / James Parkinson Lecture 🎧 / Lunch
1:30 PM – 3:00 PM		Parallel Sessions & Workshops
3:30 PM – 5:00 PM	Buddies Meet & Greet (4:00 — 5:30 PM)	Coffee Break / Parallel Sessions & Workshops
5:15 PM – 6:30 PM		Poster Tours, Daily Wrap-Up & Raffle 🎧
6:30 PM – 9:00 PM	Opening Ceremony 🎧 (6:00 — 7:15 PM) / Welcome Reception (7:15 — 9:00 PM)	Networking Events: RNs, PTs. OTs, SLPs, SWs, RD (6:30 — 8:00 PM) 🎫

Exhibition (11:00 AM — 6:45 PM)

Renewal Room (7:45 AM — 5:30 PM)

Care Partner Lounge (9:30 AM — 4:45 PM)

THURSDAY JULY 6

Time	Session
8:00 AM – 9:00 AM	Hot Topics 🎧
9:00 AM – 9:15 AM	WPC Award 🎧
9:30 AM – 11:30 AM	Morning Plenary 🎧
11:30 AM – 1:30 PM	Poster Session / Special Panel 🎧 / Lunch
1:30 PM – 3:00 PM	Parallel Sessions & Workshops
	Coffee Break
3:30 PM – 5:00 PM	Parallel Sessions & Workshops
5:15 PM – 6:30 PM	Poster Tours, Daily Wrap-Up & Raffle 🎧
6:30 PM – 9:00 PM	

Exhibition (11:00 AM — 6:45 PM)

Renewal Room (7:45 AM — 5:30 PM)

Care Partner Lounge (9:30 AM — 4:45 PM)

FRIDAY JULY 7

Time	Session
8:00 AM – 9:00 AM	Hot Topics 🎧
9:00 AM – 9:15 AM	WPC Award 🎧
9:30 AM – 11:30 AM	Morning Plenary 🎧
11:30 AM – 1:30 PM	Special Presentations / Lunch
1:30 PM – 3:00 PM	Parallel Sessions & Workshops
	Coffee Break
3:30 PM – 5:00 PM	Parallel Sessions & Workshops
5:15 PM – 6:30 PM	Daily Wrap-Up 🎧
	Closing Remarks & Raffle (6:00 — 7:00 PM)

Exhibition (11:00 AM — 2:30 PM)

Renewal Room (7:45 AM — 5:30 PM)

Care Partner Lounge (9:30 AM — 3:00 PM)

🎧 Simultaneous interpretation from English to Spanish

🎟️ Ticketed event

SESSION DESCRIPTIONS

All sessions are open to all delegates. Some sessions require tickets **at an additional fee.**

PRE-CONGRESS COURSES
Tuesday
(Ticket required)

To take place on Tuesday, July 4, these day-long courses focusing on specific areas of Parkinson's disease will allow unique access to some of the leaders in the community and will help introduce many topics to be covered in the main program giving participants a taste of what's to come. They will require registration and a nominal fee to participate.

HOT TOPICS
Wednesday/Thursday/Friday
8:00 – 9:00 AM

Each morning, just before the opening plenary, four of the hottest topics from the poster abstracts will be selected for presentation to the broader audience. Oral presentations will be given on some of the most exciting, cutting-edge works happening today.

PLENARY SESSIONS
Wednesday/Thursday/Friday
9:30 – 11:30 AM

Designed to bring together all Congress attendees each morning, these will be held in a large auditorium each morning. Plenaries will offer very limited question and answer periods, but experts will be available in workshops or roundtables later each day to continue discussing the topics in more detail.

PARALLEL SESSIONS
Wednesday/Thursday/Friday
1:30 – 3:00 PM
and 3:30 – 5:00 PM

Designed to offer in-depth sessions focused on specific research in the field of Parkinson's. These sessions will appeal to those who want to understand the basic and clinical science underlying the research conducted to better understand the many facets of Parkinson's disease. These will be set in larger lecture halls will offer question and answer periods.

WORKSHOPS
Wednesday/Thursday/Friday
1:30 – 3:00 PM
and 3:30 – 5:00 PM

Designed for smaller groups of attendees of up to 150 people. Speakers will give an overview of the assigned topics then open to the audience to allow for more discourse and longer question and answer periods.

ROUNDTABLES
Wednesday/Thursday/Friday
1:30 – 3:00 PM
and 3:30 – 5:00 PM

These popular and specially designed roundtable sessions will allow for delegates to sit down with an expert on a wide range of fields in a very small, intimate group, to get to the nitty-gritty with questions about the topics. Experts will give short talks and will then take questions.
(Limited seating. First come, first seated with 12 per table for 90-minute session.)

SPECIAL SESSIONS
Wednesday/Thursday/Friday
12:15 – 1:15 PM

Special Lectures will be held during the WPC. Learn more about our special guests for these lectures by viewing the program in the following pages.

DAILY WRAP-UP PANELS
Wednesday/Thursday/Friday
5:15 – 6:30 PM

The wrap-up sessions are designed to bring together delegates at the end of each day to discuss the highlights of the day. Panelists will be leaders in the field who will have the tough task of preparing these talks each day. This is a great way to catch some key topics you may have missed.

POSTER TOURS
Wednesday/Thursday
5:15 – 6:30 PM

Tours to meet and greet young researchers and clinicians and hear about their work will be held on Wednesday and Thursday evenings from 5:15 – 6:30 PM. Be sure to stick around to meet these researchers and to thank them for their service to the Parkinson's community.
(Limited place. Sign-up required.)

PRE-CONGRESS PROGRAM
Tuesday, July 4, 2023

DAY 0

COURSE I — ADVANCES IN RESEARCH, SCIENCE & TREATMENT

8:00 AM – 5:30 PM | **Room 117**

Target: Clinicians, researchers, neurologists, Parkinson's advocates and care advocates.

Goal: To expose participants to cutting-edge research and innovative and new treatments being implemented for Parkinson's.

8:00 – 9:30 AM	**Past, current and future of infusion therapies for PD**	*Moderator:*	**Raj Pahwa (USA)**
		Co-moderator:	**Michael Okun (USA)**
	1 – Continuous Enteral Levodopa and Parkinson's	*Speakers:*	**David Standaert (USA)**
	2 – Apomorphine and Parkinson's		**Cecilia Peralta (Argentina)**
	3 – Levodopa Subcutaneous Infusion		**Victor Fung (Australia)**

Learning objectives: 1. Explain how continuous enteral levodopa infusion has changed the treatment options for people with PD and how it is expected to change further in the future; 2. Summarize current understanding of apomorphine in treating Parkinson's and how this may change in the future; 3. Outline two subcutaneous treatment options and how these are expected to evolve in the coming years.

9:45 – 11:15 AM	**Neuroprotection: Are we closer to slowing disease progression?**	*Moderator:*	**Malú Tansey (USA)**
		Co-moderator:	**A. Jon Stoessl (Canada)**
	1 – Role of anti-synuclein therapies	*Speakers:*	**Miquel Vila (Spain)**
	2 – Emerging anti-LRRK2 therapies		**Eduardo Tolosa (Spain)**
	3 – Update on immunomodulatory approaches		**Etienne Hirsch (France)**

Learning objectives: 1. Explain how anti-synuclein therapies are getting us closer to slowing disease progression; 2. Summarize the role of LRRK2 inhibitors in slowing disease progression; 3. Outline the role of immunomodulatory approahes in slowing disease progression.

11:30 AM – 1:00 PM	**Approaches to early diagnosis of Parkinson's: How can we diagnose PD earlier**	*Moderator:*	**Victor Fung (Australia)**
	1 – Pre-symptomatic genetic testing in predicting PD	*Speakers:*	**John Hardy (UK)**
	2 – Imaging approaches to early diagnosis of PD		**A. Jon Stoessl (Canada)**
	3 – Update on synuclein-based biomarkers: Current status and potential applications		**Andrew Siderowf (USA)**

Learning objectives: 1. Explain how geneticists can use pre-symptomatic genetic testing to diagnose or predict a PD diagnosis; 2. Summarize how imaging is being used in early diagnosis of PD; 3. Outline the current state research looking at abnormal synucleins to predict a PD diagnosis.

1:00 – 2:00 PM	*LUNCH – Grab a lunch box*

2:00 – 3:30 PM	**Advances in Surgical therapies**	*Moderator:*	**Roger Barker (UK)**
		Co-moderator:	**Binit Shah (USA)**
	1 – DBS	*Speakers:*	**Vanessa Milanese (Brazil)**
	2 – Focused Ultrasound		**Raul Martinez Fernandez (Spain)**
	3 – Clinical developments in dopamine cell transplantation for PD		**Agnete Kirkeby (Denmark)**

Learning objectives: 1. Explain two advances that have been made in DBS over the last few years and how this impacts the patient; 2. Summarize the impact of focused ultrasound on Parkinson's and barriers to bringing this option to everyone one; 3. Outline the current state of cell transplantation and what researchers are hopeful to see in the coming years with this technology.

3:30 – 4:00 PM	*COFFEE BREAK*

4:00 – 5:30 PM	**Treatment of Non-Motor Symptoms**	*Moderator:*	**Ryosuke Takahashi (Japan)**
		Co-moderator:	**Alison Anderson (UK)**
	1 – Management of psychosis symptoms in Parkinson's disease	*Speakers:*	**Daniel Weintraub (USA)**
	2 – Autonomic Dysfunction		**Patricio Millar Vernetti (USA)**
	3 – Cognition		**Ira Leroi (Ireland)**

Learning objectives: 1. Explain the cause of psychosis in PD and list one method of treatment when this symptom occurs; 2. Summarize how autonomic dysfunction impairs people with PD; 3. Detail the difference between depression and apathy and explain how the HCP can best address these symptoms.

5:30 PM	**Closing Remarks**

OPENING CEREMONY > 6:00 – 7:15 PM

WELCOME RECEPTION > 7:15 – 9:00 PM

PRE-CONGRESS PROGRAM
Tuesday, July 4, 2023

Supported by AbbVie with an unrestricted educational grant

DAY 0

COURSE II — INTERPROFESSIONAL CARE & PARKINSON'S

9:30 AM — 4:15 PM

Target Audience: Neurologists, physicians, nurses, rehab specialists, social workers, clinic coordinators, students.
Goal: To provide a forum for discussion of the evidence surrounding the impact of interdisciplinary care model and the realities of delivering care.

Time	Session	Speaker(s)
9:30 AM	**Welcome Remarks and Introduction to the program**	*Speaker:* **Suketu Khandhar (USA)**
10:00 AM	**Overcoming Cultural Barriers in Mexico to deliver Interdisciplinary Care**	*Speakers:* **Carlos Guerro (Mexico)** **Adriana Gonzalez-Aguinaga (Mexico)**
10:45 AM	**Q&A**	
11:00 AM	**Creating something out of nothing: A case from Cameroon**	*Speakers:* **Esther Cubo (Spain)** **Jacques Doumbe (Cameroon)**
11:45 AM	**Q&A**	
12:00 PM	**New kids on the block**	*Speaker:* **Suketu Khandhar (USA)**
12:30 PM	*LUNCH*	
1:30 PM	**CASE STUDIES: YOPD vs Later life onset**	*Moderator:* **Bastiaan Bloem (Netherlands)**
1:30 PM	**Case Presentation #1 – Medical Management: YOPD vs Later life onset**	*Speakers:* **Nabila Dahodwala (USA)** **Emily Henderson (UK)**
2:15 PM	**Case Presentation #2 – Improving Quality of Life: Rehabilitation and Beyond**	*Speakers:* **Angela Roberts (Canada)** **Natalie Allen (Australia)**
3:00 PM	*COFFEE BREAK*	
3:30 PM	**Case Presentation #3 – Communication/Cognition/ Psychiatric Management: YOPD vs Later life onset**	*Speakers:* **Kathy Dujardin (France)** **Elaine Book (Canada)**
4:15 PM	**Closing Remarks**	

Learning objectives: 1. Give three examples of approaches for maintaining quality of life across the continuum of ages of onset of PD; 2. Explain how self-efficacy and self-management can lead to self empowerment and explain how these play a role in the overall health of their patients; 3. Identify one way that they can empower their HCP colleagues on their team to make decisions in care of their patients that does not rotate solely around the physician on the team.

OPENING CEREMONY > 6:00 – 7:15 PM

WELCOME RECEPTION > 7:15 – 9:00 PM

PRE-CONGRESS PROGRAM
Tuesday, July 4, 2023

NOTE: *Course will be taught in English with simultaneous interpretation into Spanish*

COURSE III — FUNDAMENTAL OF PARKINSON'S: THE JOURNEY

9:00 AM — 5:10 PM | Room 112

Target Audience: People with Parkinson's, caregivers, people new to Parkinson's care and new to the WPC.

Goal: Expose participants to key topics that will be elaborated on in the program. Give them a glimpse of what is to come and tools to get the most out of the meeting.

9:00 AM	**Welcome – Why are we here?**	*Speaker & Emcee:*	**Linda Olson (USA)**
9:15 AM	**What is Parkinson's and what are the clinical features we see?**	*Speaker:*	**Nabila Dahodwala (USA)**
9:40 AM	**How Has Medical & Surgical Treatment Evolved for PD?**	*Speaker:*	**Vanessa Milanese (Brazil)**
10:05 AM	**Q&A**	*Moderator:* *Panelists:*	**Linda Olson (USA)** **Nabila Dahodwala (USA)** **Vanessa Milanese (Brazil)**
10:25 AM	**Let's Get Moving!**	*With:*	**Pamela Quinn (USA)**
10:30 PM	*COFFEE BREAK*		
11:00 AM	**What's New in Research?**	*Speaker:*	**Mark Cookson (USA)**
11:25 AM	**What new treatments are on the horizon?**	*Speaker:*	**Roger Barker (UK)**
11:50 AM	**Q&A**	*Moderator:* *Panelists:*	**Linda Olson (USA)** **Roger Barker (UK)** **Mark Cookson (USA)**
12:10 PM	**Let's Get Moving!**	*With:*	**Selma Pelaez Hervas (Spain)**
12:20 PM	**Before we eat lunch: what about nutrition? Does it really matter?**	*Speaker:*	**Silke Appel-Cresswell (Canada)**
1:00 PM	*LUNCH*		
1:45 PM	**Staying resilient as a care partner**	*Speaker:*	**Connie Carpenter Phinney (USA)**
2:15 PM	**Behavior Change: How can I make the changes "stick" in my (_____) routine?**	*Speaker:*	**Terry Ellis (USA)**
2:50 PM	**Tips & Tricks for Living with Parkinson's that Go Beyond Medication** **1–** Speech and Swallowing **2–** Anxiety and PD **3–** Communication Builds Stronger Families	*Moderator:* *Panelists:*	**Terry Ellis (USA)** **Darla Freeman (USA)** **Iracema Leroi (Ireland)** **Adriana Gonzalez (USA)**
3:50 PM	*BREAK*		
4:10 PM	**Creativity and Art: How does it impact the brain and Parkinson**	*Speaker:*	**Anjan Chatterjee (USA)**
4:40 PM	**Getting The Most Out of the WPC 2023: Two perspectives**	*Speakers:*	**Christine Jeychandran (Australia)** **Miriam Bram (USA)**
5:10 PM	**Closing Remarks**		

Learning objectives: 1. Gain a basic understanding of Parkinson's, including the research into the cause(s) of the disease, symptoms, and current therapies; 2. Be able to explain how to change behaviors to better maximize the impact of a self-maintained wellness regimen; 3. To discuss the impact of aesthetic creativity on the brain; 4. Explain how to get the most out of the WPC experience.

OPENING CEREMONY > 6:00 – 7:15 PM

WELCOME RECEPTION > 7:15 – 9:00 PM

PRE-CONGRESS PROGRAM
Tuesday, July 4, 2023

DAY 0

COURSE IV — ADVOCACY AND ACTIVISM IN PD

9:00 AM — 12:10 PM

Target Audience: Parkinson and Care Advocates who are looking to elevate their level of engagement.

Goal: After attending, participants will: 1. Have a better understanding of the field of advocacy and activism in PD and other disease areas; 2. be better acquainted with other Parkinson advocates from all over the world; 3. develop a deeper understanding for the different advocacy roles that exist and determine what role they might want to play in Parkinson advocacy space; 4. have details of concrete models of advocacy in action and clearer understanding of what it would take to design and launch an initiative on their own.

9:00 – 9:05 AM	**Welcome** **Fulvio Capitanio (Spain)**
9:05 – 9:30 AM	**Patient advocacy and activism:** *Speaker:* **Sara Riggare (Sweden)** **How we got here and where we need to go**
9:30 – 10:15 AM	**Breakout I** (20 min presentation + 25 min Q&A) CHOOSE ONE room

	Room 113 **Activism and Advocacy as the Self-care Expert, mentor, Communicator** *Speakers:* **Sharon Krischer, mentor (USA)** *and* **Tim Hague, self-care expert (Canada)**	**Room 114** **Activism and Advocacy as the Academic, Patient researcher, Hacker, Activist, Tracker** *Speakers:* **Richelle Flanagan, academic (Ireland)** *and* **Larry Gifford, activist (Canada)**	**Room 115** **Activism and Advocacy as the Healthcare Coordinator, the Healthcare Partner, the Innnovator, the Entrepreneur** *Speakers:* **Maria De Leon, healthcare coordinator (USA)** *and* **Omotola Thomas, entrepreneur (UK)**

10:15 – 10:30 AM	*COFFEE BREAK*
10:30 – 11:15 AM	**Breakout II** (20 min presentation + 25 min Q&A) CHOOSE ONE room

	Room 113 **Activism and Advocacy as the Self-care Expert, mentor, Communicator** *Speakers:* **Sharon Krischer, mentor (USA)** *and* **Tim Hague, self-care expert (Canada)**	**Room 114** **Activism and Advocacy as the Academic, Patient researcher, Hacker, Activist, Tracker** *Speakers:* **Richelle Flanagan, academic (Ireland)** *and* **Larry Gifford, activist (Canada)**	**Room 115** **Activism and Advocacy as the Healthcare Coordinator, the Healthcare Partner, the Innnovator, the Entrepreneur** *Speakers:* **Maria De Leon, healthcare coordinator (USA)** *and* **Omotola Thomas, entrepreneur (UK)**

11:15 AM – 12:00 PM	**Panel Discussion: How to be leaders,** *Moderator:* **Sara Riggare (Sweden)**
	how to overcome challenges and barriers, *Panelists:* **Tim Hague (Canada)**
	how to advance the cause – Offering tips **Sharon Krischer (USA)**
	and lessons learned **Richelle Flanagan (Ireland)**
	                                                                             Larry Gifford (Canada)
	                                                                             Maria De Leon (USA)
	                                                                             Omotola Thomas (UK)

12:00 – 12:10 PM	**Closing Remarks –** *WPC Parkinson Advocate Committee Co-chairs:* **Wrap-up and next steps** **Sara Riggare (Sweden)** *and* **Fulvio Capitanio (Spain)**
12:10 – 1:00 PM	*LUNCH*

OPENING CEREMONY > 6:00 – 7:15 PM

WELCOME RECEPTION > 7:15 – 9:00 PM

PRE-CONGRESS PROGRAM
Tuesday, July 4, 2023

DAY 0

COURSE V — YOUNG ONSET PARKINSON'S DISEASE

1:00 – 4:30 PM

Target Audience: People living with, or interested in learning about Young Onset Parkinson's Disease.

Goal: To understand and explore topics that are directed towards living with YOPD, recognizing that the concerns and disease experience is different for those diagnosed early in life whether looking at the individual's role in managing their PD, their relationships with others, and their medical care.

	Room 113 *Talks in this room focus on the Individual living with Parkinson's.*	Room 114 *Talks in this room focus on the importance of relationships since the impact of PD is broad.*	Room 115 *Talks in this room focus on managing the medical management of PD.*
1:00 – 1:15 PM	**Welcome Remarks**		*Speakers:* **Soania Mathur (Canada) Rune Vethe (Norway)**
1:15 – 2:00 PM	**Break out, presentation and Q&A. Choose ONE room**		
	INDIVIDUAL Exercise & Wellness *Moderator:* **Tim Hague (Canada)** *Speaker:* **Miriam Rafferty (USA)**	**IN RELATION Parenting: How to Talk to Children** *Moderator:* **Rebecca Gifford (Canada)** *Speaker:* **Soania Mathur (Canada)**	**MEDICAL Psychiatric and cognitive medication side effects in Parkinson's disease** *Moderator:* **Becca Miller (USA)** *Speaker:* **Dan Weintraub (USA)**
2:00 – 2:15 PM	*BREAK*		
2:15 – 3:00 PM	**Break out, presentation and Q&A. Choose ONE room**		
	INDIVIDUAL Nutrition: Eat Well to Live Well with YOPD *Moderator:* **Sabela Avion (USA)** *Speaker:* **Richelle Flanagan (Ireland)**	**IN RELATION Maintaining Personal Relationships: Partner & Social Circle** *Moderator:* **Alison Anderson (UK)** *Speaker:* **Rune Vethe (Norway)**	**MEDICAL Medical Challenges Specific to YOPD** *Moderator:* **Soania Mathur (Canada)** *Speaker:* **MJ Martí Domenech (Spain)**
3:00 – 3:30 PM	*COFFEE BREAK*		
3:30 – 4:15 PM	**Break out, presentation and Q&A. Choose ONE room**		
	INDIVIDUAL Coping wtih PD: Two perspectives *Moderator:* **Geoff Constable (Australia)** *Speakers:* **Matt Eagles (UK)** *and* **Sree Sripathy (USA)**	**IN RELATION Planning for the Future & Disclosure of your diagnosis** *Moderator:* **A.C. Woolnough (USA)** *Speaker:* **Sue Thomas (UK)**	**MEDICAL Cognition & Mental Health** *Moderator:* **Becca Miller (USA)** *Speaker:* **Greg Pontone (USA)**
4:15 – 4:30 PM	**Closing Remarks**		*Speakers:* **Soania Mathur (Canada) Rune Vethe (Norway)**

OPENING CEREMONY > 6:00 – 7:15 PM

WELCOME RECEPTION > 7:15 – 9:00 PM

No ticket is necessary! OPEN TO ALL

PRE-CONGRESS PROGRAM
Tuesday, July 4, 2023

DAY 0

COURSE VI — WPC WORKING GROUPS

9:00 AM – 4:45 PM

Target Audience: Community members, Industry members, and others who are interested in key issues impacting people with Parkinson's and the Parkinson's community.

Goal: Expose participants to key issues that WPC Working Groups have been learning about and working on since 2019.

Time	Session
9:00 – 10:00 AM	**Working Group: Young Onset Parkinson's** *Moderator:* **Gaynor Edwards (UK)** **Description:** As Young Onset PD comes of age - we look at how it differs and potentially offers answers globally. The problem of misdiagnosis - and non-diagnosis and a hidden population. Divide and conquer - subgroups, rare types and genetics. Multi-disciplinary care - including the Netherlands model. The missing elements - moving from anecdotal to academic - epigenetics and beyond… just open your mind.
10:15 – 11:15 AM	**Working Group: YOPD Women** *Moderator:* **Polly Dawkins (USA)** **Description:** Is it all in my head? Why do my Parkinson's medications not work during one week of the month? Is it possible to get pregnant and breastfeed with Parkinson's? Join us for a moderated panel discussion with YOPD women who have taken charge of their own diagnoses and want to teach, support, learn and share. Welcome to the supportive community of the YOPD sisterhood!
11:30 AM – 12:30 PM	**Working Group: Anti-Stigma and Parkinson's** *Moderators:* **Jean Blake (Canada)** **Francesco de Renzis (Italy)** **Description:** Stigma is a challenge people living with Parkinson's face, to different degrees, all over the world, and among the top factors preventing people from seeking help from Parkinson's organizations. We will present examples of communication/awareness initiatives on stigma developed by Parkinson's organizations in different countries and propose a possible way forward for a world-wide campaign on the topic.
12:30 PM	*LUNCH*
1:30 – 2:30 PM	**Working Group: Building Global Alliances** *Moderators:* **Angela Halpern (USA)** **Hellen Mwithiga (Kenya)** **Description:** Are you interested in global relationships designed to enable more equitable access to information and resources for people with Parkinson's and their families? If yes, please come to the presentation by the Building Global Alliance group. Learn about our pilot mentor/mentee program, other ongoing initiatives, and how you can participate.
2:45 – 3:30 PM	**Case Presentation – Kenya and India** *Presenters:* **Maria Barretto (India)** **Hellen Mwithiga (Kenya)** **Description: Reaching beyond boundaries – India to Kenya.** Low- and middle-income countries (LMICs) across the world face similar challenges. We present findings from a pilot project to replicate a multidisciplinary model of care developed in India by PDMDS to the Kenyan context. In demonstrating the transferability and adaptability of the model, we look at lessons learned and explore further possibilities for collaboration.
3:45 – 4:45 PM	**Working Group: Technology and Parkinson's** *Moderator:* **Fulvio Capitanio (Spain)** **Malcolm Iriving (Australia)** **Description:** Providing a Parkinson's Technology Community resource platform to centralize information on what is available, how it works and where you can find solutions to improve quality of life for people with PwP through technology. Available for ALL stakeholders in the Parkinson's community: PwP, industry, physicians, allied health, PD organizations, and caregivers.

Note: The **Clinical Research Engagement Working Group** will be meeting and discussing their work in the Clinical Research Village (CRV) from Tuesday at 7:30 PM through Friday at 2:30 PM in the exhibit hall. Visit the CRV booth for more info.

OPENING CEREMONY > 6:00 – 7:15 PM

WELCOME RECEPTION > 7:15 – 9:00 PM

DAY

1

SCIENTIFIC PROGRAM
Wednesday, July 5, 2023

DAY 1

HOT TOPICS > 8:00 – 9:00 AM

Location: **Main Plenary Hall**
Moderator: **David Standaert (USA)**

Talk 1: **Genetic findings of the Rostock International Parkinson's Disease (ROPAD) Study**
Speaker: Ana Westenberger (Germany)

Talk 2: **A missing piece of the Parkinson's puzzle: The critical role of the dietitian in the care of people living with Parkinson's disease (PD)**
Speaker: Richelle Flanagan (Ireland)

Talk 3: **Understanding the mechanisms of a-syn spreading and degradation: Role of tunneling nanotubes and lysosomes**
Speaker: Chiara Zurzolo (France)

Talk 4: **Characterizing the frequency of clinically reportable variants in major genes established in Parkinson's disease (PD) in a large American cohort**
Speaker: Roy Alcalay (Israel)

WPC AWARD CEREMONY > 9:00 – 9:15 AM

Location: **Main Plenary Hall**

Recipients for the WPC Robin A Elliott Award for Outstanding Community Service
Honoree: Lizzie Graham*, award presented by* Eli Pollard
Honoree: Vincent "Enzo" Simone*, posthumous award presented by* Fulvio Capitanio

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MORNING PLENARY > 9:30 – 11:30 AM

WP1 – PLENARY
Location: **Main Plenary Hall**

Do biological subtypes of PD exist?

Moderator: Leonidas Stefanis (Greece)
Co-moderator: Kevin McFarthing (UK)

Talk 1: **Can the genetics of sporadic PD and DLB help in disease subtyping? What could be the therapeutic implications?**
Speaker: Sonja Scholz (USA)

Talk 2: **Brain-first or body-first Parkinson's disease**
Speaker: Per Borghammer (Denmark)

Talk 3: **Different α-synuclein strains in Parkinson's disease brains**
Speaker: Markus Zweckstetter (Germany)

Talk 4: **What do subtypes mean for people with Parkinson's?**
Speaker: Jonny Acheson (UK)

Learning Objectives: 1. Summarize the commonalities and differences between PD patients at the genetic, imaging and pathophysiological level; 2. Define how one size may not fit all in PD; 3. Explain how various aspects of PD-related research can be integrated; 4. List how subtypes can impact choices made by PwPs in their care plan.

SCIENTIFIC PROGRAM
Wednesday, July 5, 2023

LUNCH > 11:30 AM – 1:30 PM

CARE PARTNER LOUNGE

12:30 – 1:30 PM
Location: **212**

Lecture: Rewriting the care partner rule book
Speaker: Connie Carpenter-Phinney (USA), Co-Founder, Davis Phinney Foundation

CLINICAL RESEARCH VILLAGE

Location: **Exhibit Hall – WPC Theater Stage**

11:45 AM – 12:15 PM	**12:15 – 12:45 PM**
Panel Discussion: **Patient Involvement and Engagement: The who, what, where, how and why**	Panel Discussion: **Clinical Research Across the Parkinson's Disease Continuum: Engaging and involving people with Parkinson's at all disease stages**

POSTER SESSION 1

11:30 AM – 1:30 PM
Location: **Exhibit Hall**

View posters and meet authors.

BOOK NOOK

Location: **Exhibit Hall – Book Nook booth**

11:45 AM – 12:15 PM	**12:30 – 1:00 PM**
Ending Parkinson's Disease *Meet the Authors:* Ray Dorsey (USA) *and* Michael Okun (USA)	**Gone: A Memoir of Love, Body, and Taking Back My Life** *Meet the Author:* Linda Olson (USA)

WSL – JAMES PARKINSON SPECIAL LECTURE

12:00 – 1:15 PM
Location: **Main Plenary Hall**
Introduction: Rosario Moratalla (Spain)

Lecture 1: Historical Perspective of the Function and dysfunction of the basal ganglia: Why it matters today *Speaker:* Jose Obeso (Spain)	**Lecture 2: Why we care about the Parkinson's disease prodrome: From curious observations to therapeutic opportunities** *Speaker:* Eduardo Tolosa (Spain)

Learning Objectives: 1. Put in perspective "old ideas" versus new understanding of the changes in the brain; 2. Reflect upon the things we know and which ones are yet to be discovered, studied and researched; 3. Explain how early events in Parkinson's disease research can improve understanding of the disease process.

FILM ROOM

11:45 AM – 1:15 PM
Location: **127**

Film: *Me to Play* **– 71 min**
Director Q&A: Jim Bernfield (USA)

See **page 28** for complete schedule.

ART WALK

12:00 – 12:40 PM
Location: **Front Lobby – Art Walk Exhibit**

Meet Jonny Acheson, artist, advocate, physician and more. Hear about his artistic process and how art impacts his PD, and how his PD impacts his art.

SCIENTIFIC PROGRAM
Wednesday, July 5, 2023

DAY 1

PARALLEL SESSIONS > 1:30 – 3:00 PM

SPANISH TRACK 1:30 – 3:00 PM

WBP1 – SYNUCLEIN STRAIN AND SPREADING

Location: **Room 111**

Moderator: Veerle Baekelandt (Belgium)
Co-moderator: Amanda Woerman (USA)

Talk 1: Pathogenic conformations of α-synuclein
Speaker: Hilal Lashuel (Switzerland)

Talk 2: α-synuclein strain biology
Speaker: Anke Van der Perren (Belgium)

Talk 3: The cellular environment in the α-syn aggregation
Speaker: Amanda Woerman (USA)

—

Learning Objectives: 1. Obtain new insights in the prion-like behavior of alpha-synuclein; 2. Identify the similarities and differences between each alpha-synuclein strain; 3. Define the structural source of biological differences between strains in vitro and in vivo; 4. Explain the implications of strains on the heterogeneity of disease in synucleinopathy patients, and how different strains spread.

WCP1 – ENVIRON-MENTAL CONTRIBUTIONS TO PD

Location: **Room 113**

Moderator: Michael Okun (USA)
Co-moderator: Per Odin (Sweden)

Talk 1: Contributions of pesticides to human PD
Speaker: Beate Ritz (USA)

Talk 2: Chemical toxicant contribution to human PD
Speaker: Briana De Miranda (USA)

Talk 3: Ending PD: Prevention in an industrialized world
Speaker: Ray Dorsey (USA)

—

Learning Objectives: 1. Outline the current understanding of role pesticides in PD; 2. Update the current understanding of chemicals in PD; 3. Discuss prevention of PD in the context of environmental exposure.

WCCP1 – THE DIGITAL HORIZON FROM A PATIENT PERSPECTIVE: PROMISE AND PITFALLS

Location: **Room 114**

Moderator: Anat Mirelman (Israel)
Co-moderator: Serene Paul (Australia)

Talk 1: Digital monitoring of mobility – why, where and how?
Speaker: Lynn Rochester (UK)

Talk 2: Digital intervention
Speaker: Esther Cubo (Spain)

Talk 3: Digital Evidence
Speaker: Jochen Klucken (Germany)

—

Learning Objectives: 1. Describe digital approaches to monitor mobility with a focus on what the future of mobility assessment could look like; 2. Interventions, with a focus on telemedicine/e-health; 3. Explain new patient centric evidence criteria for digital tools and medical devices.

WSP1 – SESIÓN 1: COMIENZO Y PROGRESIÓN DEL PARKINSON

Location: **Room 115**

Moderadores: Esteban Muñoz (España) & Isabel Fariñas (España)

Presentación #1: Rol de la sinucleina y cuerpos de Lewy
Ponente: Miquel Vila (España)

Presentación #2: Dónde y cuando empieza el Parkinson
Ponente: Francisco Grandas (España)

—

Objetivos generales de aprendizaje:
1. Qué son los cuerpos de Lewy y la sinucleína y porqué son importantes para el Parkinson; 2.Identificar los síntomas precoces (prodrómicos) y las áreas del sistema nervioso implicadas

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Session Levels

Crosstalk – Minimal or no scientific background required | Moderate-level scientific sessions | High-level scientific sessions

Session Type

Basic Science | Clinical Science | Comprehensive Care

Language

Simultaneous interpretation from English to Spanish Interpretación simultánea de inglés a español | Spanish track Pista española

SCIENTIFIC PROGRAM
Wednesday, July 5, 2023

DAY 1

WORKSHOPS > 1:30 – 3:00 PM

WWSB1 –
NOVEL TECHNOLOGIES IN PARKINSON'S DISEASE RESEARCH
Location: **Room 117**

Moderator:
Serge Przedborski (USA)
Co-moderator:
Etienne Hirsch (France)

Talk 1: Using iPSC to address non-neuronal cells in PD
Speaker: Mark Cookson (USA)

Talk 2: CRISPR genetic screenings to target converging mechanisms in neurodegeneration
Speaker: Aguzzi Adriano (Switzerland)

Talk 3: Using organoid culture systems to study Parkinson's disease
Speaker:
Hyunsoo Shawn Je (Singapore)

—

Learning Objectives: 1. Explain about novel stem cell-based models in the -OMIC era; 2. List two advantages and limitations of brain organoids for PD modeling; 3. Outline the current status and future development of regenerative medicine for PD based on in vivo cell reprogramming.

WWSC1 –
EMERGING THERAPIES FOR PARKINSON'S DISEASE
Location: **Plenary Hall**

Moderator:
Susan Fox (Canada)
Co-moderator:
Markus Zweckstetter (Germany)

Talk 1: Drug repurposing for PD therapies
Speaker: Lorraine Kalia (Canada)

Talk 2: Development of PD drugs for genetic targets: α-synuclein, GBA, LRRK2 and beyond
Speaker: Jesse Cedarbaum (USA)

Talk 3: Emerging therapies targeting the immune system in PD
Speaker: Caroline Williams-Gray (UK)

—

Learning Objectives: 1. Explain the principles of Drug Repurposing; 2. Describe genetic targeting approaches to treat PD; 3. Name two neuroimmune or anti-inflammatory approaches to treat PD.

WWSCC1 –
SPARKING CREATIVITY: MAXIMIZING YOUR WELLBEING
Location: **Room 116**

Moderator:
Julia Wood (USA)
Co-moderator:
Alison Anderson (UK)

Talk 1: Aesthetics, creativity, the brain, and Parkinson's
Speaker: Anjan Chatterjee (USA)

Panel: How creativity impacts wellness

• **Art and wellness**
Panelist: Jonny Acheson (UK)

• **Writing and wellness**
Panelist: Rebecca Gifford (Canada)

• **Dancing and wellness**
Panelist: Pamela Quinn (USA)

• **Music and wellness**
Panelist: Tomas Gisby (UK)

—

Learning Objectives: 1. Explain the relevance of the connection between creativity and the brain for People with PD; 2. List three ways in which People with PD can engage in creative expression; 3. Describe a starting point to bring creative wellness into your community.

ROUNDTABLES 1:30 – 3:00 PM

WRT1 –
Location: **Room 112**

Table 1: Aerobic exercise and PD
Host: Nienke de Vries (Netherlands)

Table 2 *(Español)*: La ciencia detrás de las diferencias entre sexos
Host: Ariadna Laguna (España)

Table 3: Parkinson's and writing to maintain wellness
Host: Kat Hill (USA)

Table 4: Subtyping in Parkinson's: What are the therapeutic implications?
Host: Sonja Scholz (USA)

Table 5: Independent patient research – valuable contribution or uncontrolled data?
Host: Kevin McFarthing (UK)

Table 6: Understanding peripheral immune cells in the immune response in Parkinson's
Host: Diana Matheoud (Canada)

Table 7: Treatment for PD apathy and/or fatigue: Where should we be looking?
Host: Kathy Dujardin (France)

Table 8: Does non-invasive brain stimulation work for PD?
Host: Michael Simpson (Hong Kong)

Table 9: The role of microglia in PD pathology
Host: Zhenyu Yue (USA)

Table 10: Digital and/or wearable technology for monitoring of motor and non-motor function in PD
Host: Christopher Hess (USA)

Table 11: Reaching PD communities across Africa
Host: Omotola Thomas (UK)

Table 12: Occupational therapists can help people with PD live their best life
Host: Lisa Warren (USA)

Table 13: The role of the physical therapist in addressing non-motor symptoms
Host: Daniel Peterson (USA)

Table 14: Communicating well in person and virtually
Host: Walter Maetzler (Germany)

COFFEE BREAK > 3:00 – 3:30 PM

SCIENTIFIC PROGRAM
Wednesday, July 5, 2023

DAY 1

PARALLEL SESSIONS > 3:30 – 5:00 PM

SPANISH TRACK 3:30 – 5:00 PM

WBSP2 – EMERGING CONCEPTS AND PLAYERS OF IMMUNITY IN PARKINSON'S

Location: **Room 111**

Moderator: Ashley Harms (USA)
Co-moderator: Timothy Sampson (USA)

Talk 1: Bringing the immune system to Parkinson's disease
Speaker: Malú Tansey (USA)

Talk 2: Peripheral immune cells in the immune response during Parkinson's disease: T-cells
Speaker: Diana Matheoud (Canada)

Talk 3: Monocytes – The other peripheral immune cell in PD
Speaker: Caroline Williams-Gray (UK)

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Learning Objectives: 1. Explain the role of the immune system as an early trigger of PD; 2. List common mechanisms between infectious/inflammatory diseases and PD; 3. Outline "neglected" immune cells in PD: T-cells, dendritic cells, and peripheral myeloid cells.

WCSP2 – APATHY AND FATIGUE: UNDERRECOGNIZED NON-MOTOR SYMPTOMS AND THEIR RELATION TO QUALITY OF LIFE IN PARKINSON'S

Location: **Room 117**

Moderator: Mayela Rodriguez-Violante (Mexico)
Co-moderator: Daniel Weintraub (USA)

Talk 1: Parkinson's apathy: Why do we care?
Speaker: Dawn Bowers (USA)

Talk 2: Parkinson's fatigue
Speaker: Graham Alec Glass (USA)

Talk 3: Treatment for PD apathy and fatigue: Where should we be looking?
Speaker: Kathy Dujardin (France)

—

Learning Objectives: 1. Identify and differentiate apathy and fatigue in persons with PD; 2. Appraise the association between apathy and fatigue and other PD non-motor symptoms; 3. Describe current and emerging treatment options for the management of apathy and fatigue.

WCCP2 – NOVEL INSIGHTS IN THE THERAPEUTIC BENEFITS OF EXERCISE-RELATED INTERVENTIONS

Location: **Main Plenary Hall**

Moderator: Nienke de Vries (Netherlands)
Co-moderator: Elisa Pelosin (Italy)

Talk 1: Exercise and physical therapy: Two sides of the same coin?
Speaker: Terry Ellis (USA)

Talk 2: Non-invasive brain stimulation and physiotherapy in PD
Speaker: Michael Simpson (Hong Kong)

Talk 3: Action observation and motor imagery: From neurophysiology to clinical practice
Speaker: Laura Avanzino (Italy)

—

Learning Objectives: 1. Explain the differences and overlap between the concepts exercise and physical activity based on the literature, and what this means for clinical practice; 2. Explain the underlying neurophysiological techniques and their potential use in the clinical practice; 3. Identify the gaps between research and clinical practice for non-pharmacological treatment targets.

WSP2 – SESIÓN 2: DIAGNÓSTICO Y SEGUIMIENTO DEL PARKINSON: NUEVAS HERRAMIENTAS

Location: **Room 115**

Moderadores: Àngels Bayés (España) & Esther Cubo (España)

Presentación #1: Nuevas herramientas diagnósticas: Parkinson típico y atípico
Ponente: Yaroslau Compta (España)

Presentación #2: Monitorización del Parkinson: smartphones y otros dispositivos
Ponente: Cecilia Peralta (Argentina)

—

Objetivos generales de aprendizaje:
1. Nuevas herramientas de laboratorio y radiológicas para el diagnóstico y pronóstico en el Parkinson y los parkinsonismos atípicos; 2. Utilidad de nuevos dispositivos para el diagnóstico y monitorización de los síntomas motores y no motores.

Session Levels

Crosstalk – Minimal or no scientific background required

Moderate-level scientific sessions

High-level scientific sessions

Session Type

Basic Science

Clinical Science

Comprehensive Care

Language

Simultaneous interpretation from English to Spanish
Interpretación simultánea de inglés a español

Spanish track
Pista española

SCIENTIFIC PROGRAM
Wednesday, July 5, 2023

WORKSHOPS > 3:30 – 5:00 PM

WWSB2 – THE MULTIPLE FACETS OF MICROGLIA – FRIENDS OR FOES?

Location: **Room 113**

Moderator:
Marina Romero-Ramos (Denmark)
Co-moderator:
Joseph Mazzulli (USA)

Talk 1: Mitochondria at the interface between neurodegeneration and inflammation
Speaker: Anne Grünewald (Luxembourg)

Talk 2: The emerging role of mitochondrial dynamics in neuroinflammation
Speaker: Kim Tieu (USA)

Talk 3: Protective role of microglia in pathology
Speaker: Zhenyu Yue (USA)

—

Learning Objectives: 1. Explain the molecular signature of microglia and monocytes in PD; 2. Explain detrimental and protective microglia stated in PD; 3. Define single cell -omics for understanding of myeloid function and dysfunction in PD.

WWSC2 – CUTTING-EDGE TECHNOLOGY DRIVING AN ERA OF DIGITAL HEALTH FOR PD

Location: **Room 114**

Moderator:
Genko Oyama (Japan)
Co-moderator:
Alberto Espay (USA)

Talk 1: Digital and/or wearable technology for monitoring of motor and non-motor function in PD
Speaker: Christopher Hess (USA)

Talk 2: Should we be moving toward remote approaches to clinical trials?
Speaker: Ray Dorsey (USA)

Talk 3: Artificial intelligence meets Parkinson's disease: How can AI help?
Speaker: Dina Katabi (USA)

—

Learning Objectives: 1. Describe the current technology of wearable and non-wearable devices for monitoring motor and non-motor aspects of PD; 2. Discuss the advantages and limitations of digital health technologies for assessing PD; 3. Give insight into the potential of artificial intelligence when used to analyze these data.

WWSCC2 – REWRITING YOUR FUTURE – TAKING YOU ON A JOURNEY ALONG THE CONTINUUM OF CARE, FROM DIAGNOSIS TO END OF LIFE AND BEYOND

Location: **Room 116**

Moderator: Suketu Khandhar (USA)
Co-moderator:
Lisa Warren (USA)

Talk 1: Palliative care begins at diagnosis
Speaker: Benzi Kluger (USA)

Talk 2: The palliative care team
Speaker: Ed Richfield (UK)

Talk 3: Rewriting your future – Together with your loved one(s)
Speakers: Larry Gifford & Rebecca Gifford (Canada)

—

Learning Objectives: 1. Explain the meaning of palliative care and the importance of implementing it early in the disease process; 2. Explain how people with PD and care partner can rewrite their future through integration of decision making with the healthcare team; 3. Outline the role of the palliative care physician and the team members necessary to facilitate the optimal quality of life for those living with PD.

ROUNDTABLES 3:30 – 5:00 PM

WRT2 –

Location: **Room 112**

Table 1: e-Health and PT
Host: Serene Paul (Australia)

Table 2: Engaging women in clinical research
Hosts: Richelle Flanagan (Ireland) & Indu Subramanian (USA)

Table 3: The many faces of PD – Prodromal and clinical subtypes
Host: Per Borghammer (Denmark)

Table 4: Enabling people with PD to exercise
Host: Natalie Allen (Australia)

Table 5: Which imaging biomarkers are useful to track disease progression in PD?
Host: Thilo van Eimeren (Germany)

Table 6: How PwPs can participate as consumer advisors in PD research programs
Host: Richard Gordon (Australia)

Table 7: The role of LRRK2 in gut inflammation/inflammatory bowel disease and PD
Host: Veerle Baekelandt (Belgium)

Table 8: Pesticides and Parkinson's
Host: Beate Ritz (USA)

Table 9: Drug-repurposing: What are we really learning?
Host: Lorraine Kalia (Canada)

Table 10: Digital monitoring: Challenges we face and how to make it work for PD
Host: Lynn Rochester (UK)

Table 11: Clinical Trials: What is the evidence for the benefit of exercise in PD?
Host: Erwin van Wegen (Netherlands)

Table 12: Creativity, the brain, and Parkinson's
Host: Anjan Chatterjee (USA)

Table 13: Constipation in Parkinson's and how to address it
Host: Louise Ebenezer (UK)

Table 14: Better communication: Let us get started
Host: Angela Roberts (Canada)

SCIENTIFIC PROGRAM
Wednesday, July 5, 2023

DAY 1

DAILY > 5:15 – 6:30 PM

WPT – POSTER TOUR

5:15 – 6:30 PM
Location: **Exhibit Hall** – See pages 120 to 125 for the list of posters included in each tour. Sign-up required.

Poster Tour 1: **Etiology, genetic and epidemiology**
Host: Mike Nalls (USA)

Poster Tour 2: **Electrophysiology, brain physiology, dopamine receptors**
Host: Nathalie Van Den Berge (Denmark)

Poster Tour 3: **Neuroprotection, cell death and protein misfolding**
Host: Mark Cookson (USA)

Poster Tour 4: **Mitochondria, oxidative stress, inflammation, pathogenesis**
Host: Kim Tieu (USA)

Poster Tour 5: **Self-management, empowerment and Inter professional teams**
Host: Anjan Chatterjee (USA)

Poster Tour 6: **Rehabilitation sciences**
Host: Indu Subramanian (USA)

Poster Tour 7: **Surgical therapy and Neuroimaging**
Host: Daniel Martinez (Mexico)

Poster Tour 8: **Clinical trials: Design, outcomes**
Host: Richard Gordon (Australia)

Poster Tour 9: **E-health, Progression, Cognition, and Sleep disorders**
Host: Dawn Bowers (USA)

Poster Tour 10: **Advancing Research via collaboration and capacity building**
Host: Dayne Beccano-Kelly (UK)

WEoD – DAILY WRAP-UP PANELS

5:15 – 6:30 PM
Location: **Main Plenary Hall**

Moderator: Connie Marras (Canada)
Co-moderator: Omotola Thomas (UK)

Panelists: Alice Nieuwboer (Belgium)
Claudia Trenkwalder (Germany)
Veerle Baeklandt (Belgium)
Etienne Hirsch (France)

BOOK NOOK

5:15 – 6:30 PM
Location: **Exhibit Hall Stage**

Moderator: Joy Milne (UK)
Topic: Creativity and PD

Panelists: Torrance York (USA) – ***Semaphore***

Dianne Bramble (Canada)
Genes: The Continuing Adventures of the Accidental Superhero

Claudine Naganuma (USA)
Peace About Life: Dancing with Parkinson's

Chantal Wolf (Canada)
Painted words, poetry art and Parkinson's

NETWORKING RECEPTION > 6:30 PM – 8:30 PM

Location: **TBC** *Made possible with support from American Parkinson Disease Association and Supernus Pharmaceuticals*

Networking Reception for non-MD clinicians (RN, PT, OT, SLP, SW, RD)

Session Levels

Crosstalk – Minimal or no scientific background required

Moderate-level scientific sessions

High-level scientific sessions

Session Type

Basic Science

Clinical Science

Comprehensive Care

Language

Simultaneous interpretation from English to Spanish
Interpretación simultánea de inglés a español

Spanish track
Pista española

DAY

2

SCIENTIFIC PROGRAM
Thursday, July 6, 2023

DAY 2

HOT TOPICS > 8:00 – 9:00 AM

Location: **Main Plenary Hall**
Moderator: **Marina Romero-Ramos (Denmark)**

Talk 1: **Genome-wide association identifies novel etiological insights associated with Parkinson's disease in African and African admixed populations**
Speaker: Oluwadamilola Ojo (Nigeria)

Talk 2: **Approach to the management of sexual and intimacy problems in people with motor and non-motor manifestations of Parkinson's disease**
Speaker: Gila Bronner (Israel)

Talk 3: **Exploring the role of the lysosomal lipid flippase ATP10B in the nigrostriatal dopaminergic pathway of rats**
Speaker: Maria Sanchiz Calvo (Belgium)

Talk 4: **Assessing the biomarker potential of LRRK2 and GCase in Parkinson's disease monocytes**
Speaker: Laura Hughes (Australia)

WPC AWARD CEREMONY > 9:00 – 9:15 AM

Location: **Main Plenary Hall**

Recipients for the WPC Distinguished Collaborative Research Award
Honoree: Ignacio "Nacho" Mata, *award presented by* Malú Gámez Tansey
Honoree: Marina Noordegraaf, *posthumous award presented by* Bastiaan Bloem

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MORNING PLENARY > 9:30 – 11:30 AM

TP2 – PLENARY

Location: **Main Plenary Hall**

Tracking Disease Progression in Parkinson's: Why and How?

Moderator: Cecilia Peralta (Argentina)
Co-moderator: Linda Olson (USA)

Talk 1: **Why should we track Parkinson's disease?**
Speaker: Bastiaan R. Bloem (Netherlands)

Talk 2: **How can imaging track PD?**
Speaker: Thilo van Eimeren (Germany)

Talk 3: **How can we track PD using blood and tissue-based biomarkers?**
Speaker: David Standaert (USA)

Talk 4: **Self-tracking: To track or not to track?**
Speaker: Sara Riggare (Sweden)

Learning Objectives: 1. Explain what is meant by 'progression' of Parkinson's and give two reasons why we should track progression; 2. Describe how imaging can be a tool in tracking progression and what have been learned about biomarkers based on imaging; 3. Identify blood and tissue biomarkers such as alpha-synuclein and immune markers, and explain how these play a role in tracking disease progression; 4. Explain how people with Parkinson's can track their own disease and collect meaningful data to help in their own wellness plan.

SCIENTIFIC PROGRAM
Thursday, July 6, 2023

LUNCH > 11:30 AM – 1:30 PM

CLINICAL RESEARCH VILLAGE

Location: **Exhibit Hall – WPC Theater Stage**

11:45 AM
Panel Discussion: **Involving Women in Parkinson's Research**

12:15 PM
Panel Discussion: **Creating Opportunities for Research Engagement and Involvement for All: Experiences and strategies focused on people with Parkinson's and care partners**

POSTER SESSION 2

11:30 AM – 1:30 PM
Location: **Exhibit Hall**

View posters and meet authors.

BOOK NOOK

Location: **Exhibit Hall – Book Nook booth**

11:45 AM – 12:15 PM
Unraveling Parkinson's Disease
Meet the Author:
Janette Melo Franco (Brazil)

12:30 – 1:00 PM
Starve the Disease
Meet the Author:
Vanessa Leschak (USA)

TSL – SPECIAL SPECIAL PANEL

Made possible with support from American Parkinson Disease Association

12:00 – 1:15 PM
Location: **Main Plenary Hall**

Living well with Parkinson's

Moderator: Linda Olson (USA)

Panelists: Shantipriya Siva (India)
Geoffrey Constable (Australia)
Sabela Avion (Spain)
Chinyere Rachel Agwu (Nigeria)
Richelle Flanagan (Ireland)

CARE PARTNER LOUNGE

12:30 – 1:30 PM
Location: **212**

Discussion Group: **What's on your mind? Open question period – nothing is off the table!**
Host: Allison Allen (USA)

FILM ROOM

11:45 AM – 1:00 PM
Location: **127**
Director: Sue Wylie (UK)

Films: *Kinetics* – 47 min
What a Load of Balls – 12 min

See **page 28** for complete schedule.

Session Levels

Crosstalk – Minimal or no scientific background required

Moderate-level scientific sessions

High-level scientific sessions

Session Type

Basic Science

Clinical Science

Comprehensive Care

Language

Simultaneous interpretation from English to Spanish
Interpretación simultánea de inglés a español

Spanish track
Pista española

SCIENTIFIC PROGRAM
Thursday, July 6, 2023

DAY 2

PARALLEL SESSIONS > 1:30 – 3:00 PM

SPANISH TRACK 1:30 – 3:00 PM

TBP1 – GLUCOCERE-BROSIDASE, DISRUPTIONS IN LIPID META-BOLISM, AND PARKINSON'S

Location: **Room 113**

Moderator: Celine Galvagnion (Denmark)
Co-moderator: Ayse Ulusoy (Germany)

Talk 1: Changes in lipid profiles in patients with Parkinson's disease
Speaker: Nicolas Dzamko (Australia)

Talk 2: Mechanisms of glycolipid-induced α-synuclein aggregation
Speaker: Joseph Mazzulli (USA)

Talk 3: Molecular mechanisms linking GCase to α-synuclein and therapeutic strategies targeting the GBA1 pathway
Speaker: Pablo Sardi (USA)

—

Learning Objectives: 1. Describe changes in lipid metabolism associated with PD pathology and potential molecular mechanism behind this relationship; 2. Provide an understanding of the molecular mechanisms linking GBA1 mutations, lipid accumulation, αS and PD pathology; 3. List strategies to prevent/revert the phenotype associated with GBA1 mutations.

TCP1 – PROTEIN MISFOLDING: NEXT GENERATION TESTS FOR DIAGNOSING PD

Location: **Room 114**

Moderator: David Standaert (USA)
Co-moderator: Vivek Unni (USA)

Talk 1: Detection and classification of synuclein strains by a seed amplification assay (SAA)
Speaker: Claudio Soto (USA)

Talk 2: Assaying misfolded synuclein in fluid and tissue biopsies for the diagnosis of PD
Speaker: Brit Mollenhauer (Germany)

Talk 3: Are we ready for detecting α-synuclein prone to aggregation in patients?
Speaker: Jon B. Toledo (USA)

—

Learning Objectives: 1. Be able to explain the current status of seed amplification assays to detect with high sensitivity and specificity misfolded alpha-synuclein aggregates in biological fluids; 2. Describe the evidence supporting the use of PMCA and other similar methods in the diagnosis of Parkinson disease and other synucleinopathies; 3. Discuss the potential use of PMCA and related methods in the clinical practice of movement disorders.

TCCP1 – PROACTIVITY ACROSS THE PARKINSON'S DISEASE CONTINUUM

Location: **Room 116**

Moderator: Alison Yarnall (UK)
Co-moderator: Kat Hill (USA)

Talk 1: Building resilience and capacity to live well with Parkinson's
Speaker: Shantipriya Siva (India)

Talk 2: Pre-habilitation: Preventing complications
Speaker: Ryan Duncan (USA)

Talk 3: Optimizing care provided in hospital for people with Parkinson's
Speaker: Richard Genever (UK)

—

Learning Objectives: 1. Attendees will be able to describe behaviors that can enhance resilience in patients; 2. Attendees will be able to define pre-rehabilitation (proactivity as opposed reactivity) and give examples of prevention of complications; 3. Attendees will be able to understand the specific difficulties that patients experience when admitted to a hospital setting and the care strategies needed to avoid hospitalization.

TSP1 – SESIÓN 3: FACTORES DE RIESGO EN EL PARKINSON

Location: **Room 115**

Moderadores: Ernesto Arenas (Suecia) & Ariadna Laguna (España)

Presentación #1: Edad y género en el Parkinson
Ponente: Mayela Rodriguez-Violante (México)

Presentación #2: Influencia de la genética en el desarrollo del Parkinson
Ponente: Coro Paisan-Ruiz (Estados Unidos)

—

Objetivos generales de aprendizaje: Influencia de la edad, el sexo y la genética en el desarrollo y progresión del Parkinson.

Session Levels

Crosstalk – Minimal or no scientific background required

Moderate-level scientific sessions

High-level scientific sessions

Session Type

Basic Science

Clinical Science

Comprehensive Care

Language

Simultaneous interpretation from English to Spanish Interpretación simultánea de inglés a español

Spanish track Pista española

SCIENTIFIC PROGRAM
Thursday, July 6, 2023

WORKSHOPS > 1:30 – 3:00 PM

TBWS1 – NON-DOPAMINERGIC PLAYERS IN THE PROGRESSION AND PATHO-PHYSIOLOGY OF PD

Location: **Room 111**

Moderator: Angela Cenci (Sweden)
Co-moderator: Miquel Vila (Spain)

Talk 1: The multiple facets of locus coeruleus involvement in neurodegeneration
Speaker: Cristina Miguelez (Spain)

Talk 2: Role of the pedun-culopontine nucleus in the pathophysiology of PD
Speaker: Juan Mena-Segovia (USA)

Talk 3: Targeting the vaso-intestinal peptidergic system to decrease anxiety in Parkinson's disease
Speaker: François George (France)

Learning Objectives: 1. Appraise that the locus coeruleus is a site of neurode-generation in PD and that the ensuing deficits noradrenergic neurotransmis-sion contribute to both disease progres-sion and development of several types of symptoms; 2. Describe the amygdala and its anatomically interconnected brain regions, their neurodegenerative changes in PD, and their involvement in neuropsychiatric and emotional dysfunctions such as, apathy, anxiety, and psychotic symptoms; 3. Describe the functions and anatomical connec-tions of the pedunculopontine nucleus, as well as its involvement at different stages of PD (including its possible role in both motor and non-motor dis-turbances).

TCWS1 – PRODROMAL PARKINSON'S DISEASE – CAN WE DEFINE IT AND ARE WE READY TO INTERVENE?

Location: **Room 117**

Moderator: Eduardo Tolosa (Spain)
Co-moderator: Catherine Price (USA)

Talk 1: Preclinical vs prodromal PD – How can we define them?
Speaker: Lana Chahine (USA)

Talk 2: Screening for PD risk – Are we ready for population-based approaches?
Speaker: Alastair Noyce (UK)

Talk 3: Disease-modification trials in prodromal PD – Hopes and barriers
Speaker: Michele Hu (UK)

—

Learning Objectives: 1. Explain the concepts of 'Prodromal' and 'Preclinical' PD; 2. List current approaches to screen for and to define prodromal PD; 3. Outline one challenge and one opportu-nity for 'disease-prevention' trials.

TCCWS1 – FOOD AND NUTRITION: THE INS AND OUTS

Location: **Main Plenary Hall**

Moderator: Hanneke Kalf (Netherlands)
Co-moderator: Richelle Flanagan (Ireland)

Talk 1: Swallowing and Parkinson's
Speaker: Yael Manor (Israel)

Talk 2: Best options for nutrition in Parkinson's
Speaker: Silke Appel-Cresswell (Canada)

Talk 3: Constipation in Parkinson's and how to address it
Speaker: Louise Ebenezer (UK)

—

Learning Objectives: 1. Explain how chewing and swallowing of food and liquids changes through the course of PD and which treatment, medical and beha-vioural options, are available; 2. Describe why, how and when People with Parkinson's Disease can take care of healthy nutrition; 3. Describe bowel problems in PD and new insights of adequate management.

ROUNDTABLES 1:30 – 3:00 PM

TRT1 –
Location: **Room 112**

Table 1: Tips for building a Parkinson's movement
Host: Larry Gifford (Canada)

Table 2 (Español): Lo que toda mujer con Parkinsons debería saber
Host: Maria De Leon (Estados Unidos)

Table 3: What are the most promising cell transplantation approaches for PD?
Host: Jun Takahashi (Japan)

Table 4 (Español): Ansiedad y depresión en el Parkinson: que nos enseñan los modelos animales
Host: Rosario Moratalla (España)

Table 5: Speech therapy should be started right after diagnosis
Host: Darla Freeman (USA)

Table 6: Toxins and Parkinson's
Host: Briana De Miranda (USA)

Table 7: Can PD drugs be designed for specific genetic targets: How close are we?
Host: Jesse Cedarbaum (USA)

Table 8: All this talk about data: How do we ensure it is secure?
Host: Jochen Klucken (Germany)

Table 9: Understanding the gut brain axis the spreading alpha-synuclein pathology
Host: Michela Deleidi (France)

Table 10: Freezing of gait in Parkinson's: What do we really know?
Host: Elisa Pelosin (Italy)

Table 11: DBS and Parkinson's
Host: Genko Oyama (Japan)

Table 12: The role of genetics in the pathophysiology of PD
Host: John Hardy (UK)

Table 13: Steps to build a more patient-centered approach to care
Host: Neil Archibald (UK)

COFFEE BREAK > 3:00 – 3:30 PM

SCIENTIFIC PROGRAM
Thursday, July 6, 2023

DAY 2

PARALLEL SESSIONS > 3:30 – 5:00 PM			SPANISH TRACK 3:30 – 5:00 PM

TBP2 –
DO KNOWN CAUSES OF PD CONVERGE TO A SHARED MECHANISM?
Location: **Room 114**

Moderator: Darren Moore (USA)
Co-moderator: Anne Grünewald (Luxembourg)

Talk 1: VPS35 and LRRK2
Speaker: Dario Alessi (UK)

Talk 2: LRRK2 and SNCA
Speaker: Laura Volpicelli-Daley (USA)

Talk 3: GBA1 and LRRK2
Speaker: Matt LaVoie (USA)

—

Learning Objectives: 1. Describe the state-of-the-art research investigating molecular mechanisms downstream of etiologic insult; 2.Understand the broad evidence highlighting a particular network/pathway as disease related; 3. Make a case for and against convergence into a single or multiple pathogenic pathways.

TCP2 –
THE ROLE OF GENETICS AND GENETIC TESTING IN PD
Location: **Room 116**

Moderator: Andrew Singleton (USA)
Co-moderator: A.C. Woolnough (USA)

Talk 1: The role of genetics in the pathophysiology of PD
Speaker: John Hardy (UK)

Talk 2: Genetic testing in PD – What is currently possible? What is useful? Where are the challenges, and what is the future?
Speaker: Christine Klein (Germany)

Talk 3: How does genetic information impact clinical trial designs?
Speaker: Roy Alcalay (Israel)

—

Learning Objectives: 1. Explain the genetic underpinnings of PD and to enhance the understanding of the role of genetics in the pathophysiology of PD, missing heritability, and new methods to disentangle more complex mechanisms; 2. Inform about genetic testing in PD, including current technological challenges. 3. Explain how clinical trials stratify by genetic subtype of PD and to discuss the strengths and limitations of these trials.

TCCP2 –
ADDRESSING NON-MOTOR SYMPTOMS: DEBILITATING AND OVERLOOKED
Location: **Room 117**

Moderator: Daniel Peterson (USA)
Co-moderator: Sue Thomas (UK)

Talk 1: Autonomic Symptoms: Dizziness, urinary urgency, erectile dysfunction, and constipation
Speaker: Patricio Millar Vernetti (USA)

Talk 2: Emotional and Motivational disorders: Depression, apathy, and anxiety
Speaker: Iracema Leroi (Ireland)

Talk 3: Fatigue and sleep
Speaker: Graham Alec Glass (USA)

—

Learning Objectives: 1. Explain what dysautonomia is and it's impact on Parkinson's; 2. Describe the impact depression and apathy have on an person with PD and preferred treatments for these symptoms; 3. Detail the impact of fatigue on sleep in Parkinson's and offer two solutions to address this symptom.

TSP2 –
SESIÓN 4: SÍNTOMAS NO MOTORES
Location: **Room 115**

Moderadores: Daniel Martinez-Ramirez (México) & Ana Cámara (España)

Presentación #1: Apatía y alteraciones cognitivas
Ponente: Jaime Kulisevsky (España)

Presentación #2: Disautonomía: estreñimiento y disfunción sexual
Ponente: Dolores Vilas Rolán (España)

—

Objetivos generales de aprendizaje:
1. Frecuencia e impacto de la apatía y los trastornos cognitivos e en las distintas etapas del Parkinson; 2. Identificación y manejo de trastornos gastrointestinales y disfunción sexual.

Session Levels

Crosstalk – Minimal or no scientific background required

Moderate-level scientific sessions

High-level scientific sessions

Session Type

Basic Science

Clinical Science

Comprehensive Care

Language

Simultaneous interpretation from English to Spanish Interpretación simultánea de inglés a español

Spanish track Pista española

SCIENTIFIC PROGRAM
Thursday, July 6, 2023

WORKSHOPS > 3:30 – 5:00 PM	ROUNDTABLES 3:30 – 5:00 PM

TBSWS2 – LEARNING FROM THE COMPLEX NATURE OF LEWY BODIES
Location: **Room 113**

Moderator:
Isabel Fariñas (Spain)

Debate Side 1 –
Lewy bodies: **It's not just about α-synuclein**
Debater: Wilma Van de Berg (Netherlands)

Debate Side 2 –
Lewy bodies:
A major driver of neurodegeneration
Debater: Hilal Lashuel (Switzerland)

—

Learning Objectives: 1. Clarify whether LB are protective or harmful; 2. Describe how interactions between alpha-synuclein and fragmented organelles affect aggregation and toxicity; 3. List consequences of LB-associated disrupted lysosomes in neuronal fate; 4. Explain consequences of LB-associated disrupted mitochondria in neuronal fate.

TCWS2 – CELL AND GENE THERAPIES FOR PARKINSON'S DISEASE
Location: **Room 111**

Moderator:
Roger Barker (UK)
Co-moderator:
Jeffrey Kordower (USA)

Talk 1: What are the most promising cell transplantation approaches for PD?
Speaker: Jun Takahashi (Japan)

Talk 2: What are the gene therapy and growth factor approaches for PD?
Speaker: Krzysztof Bankiewicz (USA)

Talk 3: Reprogramming of cells for neurorestoration
Speaker: Malin Parmar (Sweden)

—

Learning Objectives: 1. Explain the current research on cell transplantation as a treatment for Parkinson's disease; 2. Discuss the different gene therapy and growth factor approaches that have been tested in PD, and what strategies seem most promising in the future; 3. Discuss the potential for reprogramming cells existing brain cell to achieve neurorestoration in PD and the challenges of this approach.

TCCWS2 – WHICH EXERCISE IS THE BEST TIME INVESTMENT?
Location: **Main Plenary Hall**

Moderator:
Terry Ellis (USA)
Co-moderator:
Alice Nieuwboer (Belgium)

Talk 1: Exercise for life
Speaker: Miriam Rafferty (USA)

Talk 2: Enabling people with PD to exercise
Speaker: Natalie Allen (Australia)

Talk 3: Exercise delivery in an online world
Speaker: Josefa Domingos (Portugal)

—

Learning Objectives: 1. Give insight into considerations for prescribing exercise to maintain motivation and adherence; 2. Discuss how the range of health professional and community exercise providers can provide/support for safe and appropriate physical activities for People with Parkinson's along the continuum; 3. Identify safety considerations needed to deliver online exercise activity for People with Parkinson's.

TRT2 –
Location: **Room 112**

Table 1: PD-related psychosis
Host: Ross Dunne (UK)

Table 2: Women and Parkinson's
Hosts: Soania Mathur (Canada) *and* Indu Subramanian (USA)

Table 3: Swallowing and Parkinson's
Host: Yael Manor (Israel)

Table 4: Mobility challenges in PD: Causes and connections
Host: Kaylena Ehgoetz Martens (Canada)

Table 5 *(Español)*: Mitos y barreras en torno a la participación en la investigación
Host: Coro Paisan-Ruiz (Estados Unidos)

Table 6: Familial PD: Tips for treating a family vs a single patient
Host: Leonidas Stefanis (Greece)

Table 7: Parkinson's Apathy: Why do we care?
Host: Dawn Bowers (USA)

Table 8: Action observation and motor imagery: From neurophysiology to clinical practice
Host: Laura Avanzino (Italy)

Table 9: Every person with PD needs a palliative care team
Host: Ed Richfield (UK)

Table 10: Biological brain changes observed following exercise in Parkinson's: What do they tell us?
Host: Mark Hirsch (USA)

Table 11: Assaying misfolded synuclein in tissue biopsies for the diagnosis of PD
Host: Brit Mollenhauer (Germany)

Table 12: Pre-habilitation: Preventing complications
Host: Ryan Duncan (USA)

Table 13: Optimizing care provided in hospital for people with Parkinson's
Host: Richard Genever (UK)

Table 14: What are the major advances in basic research in PD?
Host: Tiago Outeiro (Germany)

SCIENTIFIC PROGRAM
Thursday, July 6, 2023

DAY 2

DAILY > 5:15 – 6:30 PM

TPT – POSTER TOUR

5:15 – 6:30 PM
Location: **Exhibit Hall**
See pages 120 to 125 for the list of posters included in each tour. Sign-up required.

Poster Tour 11: **Pathology**
   Host: Michela Deleidi (France)

Poster Tour 12: **Animal and Cellular models #1**
   Host: Yvette Wong (USA)

Poster Tour 13: **Animal and Cellular models #2**
   Host: Cristina Miguelez (Spain)

Poster Tour 14: **Exercise, Nutrition and Quality of Life**
   Host: Alfonso Fasano (Canada)

Poster Tour 15: **Palliative Care and Advanced Planning**
   Host: Dan Weintraub (USA)

Poster Tour 16: **Health Accessibilty, Intimacy, and Non-motor manifestations**
   Host: Julia Wood (USA)

Poster Tour 17: **Biomarkers, neuroimaging and pharmcological therapy**
   Host: Jon B Toledo (USA)

Poster Tour 18: **Public Education & Campaigns**
   Host: Laura Volpicelli-Daley (USA)

Poster Tour 19: **Living well with Parkinson's**
   Host: Hanneke Kalf (Netherlands)

Poster Tour 20: **Public education & awareness**
   Host: Marie Fuzzati (France)

TEoD – DAILY WRAP-UP PANELS

5:15 – 6:30 PM
Location: **Main Plenary Hall**

Moderator: Vanessa Milanese (Brazil)
Co-moderator: Miquel Vila (Spain)

Panelists: Serge Przedborski (USA)
      Susan Fox (Canada)
      Angela Cenci (Sweden)
      Marina Romero-Ramos (Denmark)

BOOK NOOK

5:15 – 6:30 PM
Location: **Exhibit Hall Stage**

Moderator: Linda Olson (USA)
Topic: Self-efficacy and Empowerment

Panelists: Kat Hill *and* Nancy Peate (USA)
   Being Well with Chronic Illness

   Ingrid Sturkenboom (Netherlands)
   Detours through the Parkinson's Brain

   Larry Linton (Canada) – ***Shaken Not Stirred***

   Hiral Shah (USA) – ***PD Movers: We Keep Moving***

Session Levels

Crosstalk – Minimal or no scientific background required

Moderate-level scientific sessions

High-level scientific sessions

Session Type

Basic Science

Clinical Science

Comprehensive Care

Language

Simultaneous interpretation from English to Spanish
Interpretación simultánea de inglés a español

Spanish track
Pista española

DAY

3

SCIENTIFIC PROGRAM
Friday, July 7, 2023

DAY 3

HOT TOPICS > 8:00 – 9:00 AM

Location: **Main Plenary Hall**
Moderator: Emily Henderson (UK)

Talk 1: **Uncovering the interaction between gut microbial factors and GBA1 mutations in the pathogenesis of Parkinson's disease**
Speaker: Christin Weissleder (Germany)

Talk 2: **Comprehensive survey data set of women with Parkinson's by women with Parkinson's**
Speaker: Soania Mathur (Canada)

Talk 3: **Modelling human brain-wide pigmentation induces Parkinson-like pathology and transcriptomic alterations in vivo**
Speaker: Nuria Peñuelas (Spain)

Talk 4: **NLX-112 has favorable safety, tolerability and efficacy against levodopa-induced dyskinesia (LID) in a randomized, double-blind, placebo-controlled, proof-of-concept Ph2A study**
Speaker: Adrian Newman-Tancredi (France)

WPC AWARD CEREMONY > 9:00 – 9:15 AM

Location: **Main Plenary Hall**

Recipients for the WPC Robin A Elliott Award for Outstanding Community Service
Honoree: Kabugo Hannington, *award presented by* Omotola Thomas
Honoree: Richelle Flanagan, *award presented by* Malú Gámez Tansey

MORNING PLENARY > 9:30 – 11:30 AM

FP3 – PLENARY
Location: **Main Plenary Hall**

Co-pathologies in Parkinson's disease

Moderator: Amanda Woerman (USA)
Co-moderator: Nicolas Dzamko (Australia)

Talk 1: **Prevalence of co-pathologies in Parkinson's disease**
Speaker: Lauren Walker (UK)

Talk 2: **The role of alpha-synuclein and co-pathology in cognitive and non-motor symptoms**
Speaker: Georgina Aldridge (USA)

Talk 3: **Contributions of co-pathologies in activating the immune response in PD patients**
Speaker: Ashley Harms (USA)

Talk 4: **Co-pathologies and Parkinson's: What's it all mean to those living with PD?**
Speaker: Soania Mathur (Canada)

Learning Objectives: 1. Current understanding of co-pathologies in clinical presentation; 2. Current understanding of how a-synuclein interacts with other proteinopathies; 3. Discussion of how to focus research efforts to investigate the contributions of co-pathologies to clinical presentation and disease progression.

Session Levels

Crosstalk – Minimal or no scientific background required

Moderate-level scientific sessions

High-level scientific sessions

Session Type

Basic Science

Clinical Science

Comprehensive Care

Language

Simultaneous interpretation from English to Spanish
Interpretación simultánea de inglés a español

Spanish track
Pista española

SCIENTIFIC PROGRAM
Friday, July 7, 2023

DAY 3

LUNCH > 11:30 AM – 1:30 PM

CARE PARTNER LOUNGE

12:00 – 1:30 PM
Location: **212**

Activity: The Poise Project: Partnering with Poise – Caring for Care Partners
Speaker: Monica Gross (USA)

CLINICAL RESEARCH VILLAGE

12:15 – 12:45 PM
Location: **Exhibit Hall – WPC Theater**

Panel: Challenges, Considerations & Opportunities of Undertaking Research in Africa

BOOK NOOK

Location: **Exhibit Hall – Book Nook booth**

11:45 AM – 12:15 PM
Mi Parkinson

Meet the Author: Manuel Rojas (Spain)

12:30 – 1:00 PM
Tiembla

Meet the Author: Ramon Ricart (Spain)

SPECIAL PRESENTATIONS

FSL1 – 12:00 – 1:00 PM
Location: **113**

Talk: Parkinson's: The funny side
In 2010 comedy writer Mayhew-Archer was told he had PD and decided to find it funny. If you're worried or in need of a laugh, come along. This might be just the session you need.

Host: **Roger Barker (UK)**
Presenter: **Paul Mayhew-Archer (UK)**

FSL2 – 12:00 – 1:00 PM
Location: **114**

Panel Discussion: Seed amplification assay – What is it? What does it mean for research? How will it impact people with PD?

Host: **A. Jon Stoessl (Canada)**
Panelists: **Leonidas Stefanis (Greece)**
Lana Chahine (USA)
David Standaert (USA)

ART WALK

12:00 – 12:40 PM
Location: **Front Lobby – Art Walk Exhibit**

Meet Matt Eagles, artist, advocate, and more. Hear about his artistic process and the birth of Parky Life.

FILM ROOM

11:45 AM – 12:30 PM
Location: **127**

Q&A: Natasha Fothergill-Misbah (UK), *director* and others

Film: *Shaking hands with the devil* – 15 min

See **page 28** for complete schedule.

Session Levels
Crosstalk – Minimal or no scientific background required
Moderate-level scientific sessions
High-level scientific sessions

Session Type
Basic Science
Clinical Science
Comprehensive Care

Language
Simultaneous interpretation from English to Spanish
Interpretación simultánea de inglés a español
Spanish track
Pista española

SCIENTIFIC PROGRAM
Friday, July 7, 2023

DAY 3

PARALLEL SESSIONS > 1:30 – 3:00 PM			SPANISH TRACK 1:30 – 3:00 PM

FBP1 – IMPORTANCE OF THE GUT BRAIN AXIS IN SPREADING ALPHA-SYNUCLEIN PATHOLOGY

Location: **Room 117**

Moderator:
Per Borghammer (Denmark)
Co-moderator:
Michela Deleidi (France)

Talk 1: Body-first and brain-first PD animal models mimic human PD subtypes
Speaker: Nathalie Van Den Berge (Denmark)

Talk 2: Bidirectionality: Gut-to-brain and brain-to-gut propagation of synucleinopathy
Speaker: Ayse Ulusoy (Germany)

Talk 3: The role of microbiota in α-synuclein mediated gut and brain pathology
Speaker: Timothy Sampson (USA)

—

Learning Objectives: 1. To dissect main mechanisms associated to alpha-synuclein aggregation in the ENS paying special attention to the peripheral immune system; 2. Does transport from gut to brain solely in- volve the vagus nerve? Or are we missing other ways of reaching the brain?; 3. How gut bacteria may trig- ger alpha-synuclein aggregation; 4. Importance of aging in a potential gut-to-brain spreading of alpha-synuclein pathology.

FCP1 – THE SCIENCE OF EXERCISE IN PD

Location: **Main Plenary Hall**

Moderator: Benzi Kluger (USA)
Co-moderator: Josefa Domingos (Portugal)

Talk 1: Biological brain changes observed following exercise in Parkinson's: What do they tell us?
Speaker: Mark Hirsch (USA)

Talk 2: Clinical trials: What is the evidence for the benefit of exercise in PD?
Speaker: Erwin van Wegen (Netherlands)

Talk 3: How can we design better exercise trials in PD?
Speaker: Daniel Corcos (USA)

—

Learning Objectives: 1. Outline the clinical effects of exercise in PD; 2. Explain the physiological effects of exercise in PD; what are the non-clinical correlates which may improve the pathophysiology of PD; 3. Discuss the challenges for future clinical trials to explore the effects of the types of exercise for PD and the correlates.

FCCP1 – CARING FOR PD ACROSS THE AGE AND COGNITIVE SPECTRUM

Location: **Room 116**

Moderator: Victor McConvey (Australia)
Co-moderator: Nabila Dahodwala (USA)

Talk 1: Aging well with Parkinson
Speaker: Alison Yarnall (UK)

Talk 2: Cognitive impairment and dementia
Speaker: Greg Pontone (USA)

Talk 3: PD-related psychosis
Speaker: Ross Dunne (UK)

—

Learning Objectives: 1. High-light the impact of the normal ageing and specific issues that may arise in Parkinson's; 2. Provide insight from a clinical perspective on identification, treatment and management; 3. Explain how a proactive approach can support under-standing and living with cognitive change.

FSP1 – SESIÓN 5: ESTRATEGIAS EN EL MANEJO DEL PARKINSON (I)

Location: **Room 115**

Moderadores: Martilde Calopa (España) & Sabela Avion (Estados Unidos)

Presentación #1: Manejo del Parkinson inicial: medicación y estilo de vida
Ponente: Maria Jose Marti (España)

Presentación #2: Fluctuaciones clínicas y discinesias
Ponente: Oriol de Fàbregas-Boixar (España)

—

Objetivos generales de aprendizaje:
1. Conocer las estrategias ter- apéuticas en las etapas iniciales de la enfermedad; 2. Identificación y manejo de las complicaciones motoras. Descripción general de las terapias avanzadas (asistidas con dispositivos).

Session Levels

Crosstalk – Minimal or no scientific background required

Moderate- level scientific sessions

High-level scientific sessions

Session Type

Basic Science

Clinical Science

Comprehensive Care

Language

Simultaneous interpretation from English to Spanish Interpretación simultánea de inglés a español

Spanish track Pista española

SCIENTIFIC PROGRAM
Friday, July 7, 2023

WORKSHOPS > 1:30 – 3:00 PM

ROUNDTABLES 1:30 – 3:00 PM

FBWS1 – MITOCHONDRIA AND LYSOSOME DYSFUNCTION IN PD AS THERAPEUTIC TARGETS
Location: **Room 111**

Moderator:
Malú Tansey (USA)
Co-moderator:
Claudio Soto (USA)

Talk 1: Mitochondrial abnormalities underlying PD – What's on the horizon?
Speaker: Edward Fon (Canada)

Talk 2: Lysosomal abnormalities underlying PD – Beyond genetic data to potential interventions
Speaker: Roy Alcalay (Israel)

Talk 3: Mitochondria-lysosome contact site dynamics in disease
Speaker: Yvette Wong (USA)

—

Learning Objectives: 1. Discuss the evidence of abnormalities in mitochondrial metabolism underlying PD and treatment which are based on this; 2. Explain the evidence of abnormalities in lysosomal metabolism underlying PD and treatment which are based on this; 3. Outline the evidence of abnormalities in other pathways underlying PD and what treatment compounds may arise from these.

FCWS1 – INFECTIONS AND PARKINSON'S DISEASE
Location: **Room 113**

Moderator: Wilma Van de Berg (Netherlands)
Co-moderator:
A. Jon Stoessl (Canada)

Talk 1: Infectious agents as a trigger for Parkinson's
Speaker: Elena Kozina (USA)

Talk 2: Infections and associated medical complications on neuropsychological functions in Parkinson's
Speaker: Catherine Price (USA)

Talk 3: COVID-19 and Parkinson's disease
Speaker: Alfonso Fasano (Canada)

—

Learning Objectives: 1. Explain how infections may contribute to the development of Parkinson's disease; 2. List how systemic infections can exacerbate cognitive and behavioral problems in Parkinson's disease; 3. Elaborate on impact of COVID-19 in the Parkinson's population.

FCCWS1 – ESSENTIAL COMMUNICATION TOOLS FOR FAMILY, HEALTHCARE TEAM, AND RESEARCHER
Location: **Room 114**

Moderator:
Emily Henderson (UK)
Co-moderator:
Daniel Martinez-Ramirez (Mexico)

Talk 1: Communicating within the family system
Speaker: Angela Roberts (Canada)

Talk 2: Communicating within the care system
Speaker: Neil Archibald (UK)

Talk 3: Communicating within the scientific and research systems
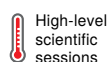*Speaker:* Walter Maetzler (Germany)

—

Learning Objectives: 1. Describe effective communication tools for when working within family networks; 2. Describe key communication tools and tips for working in the care system, particularly around interprofessional care; 3. Explain communication tools for researchers and PwPs to use when communicating around research, technology, and clinical trial engagement.

FRT1 –
Location: **Room 112**

Table 1: Freezing, falling and postural decline: What can be done?
Host: Anat Mirelman (Israel)

Table 2: Role of mindfulness practice in quality of life
Host: Indu Subramanian (USA)

Table 3: The role of breathing exercises in managing Parkinson's
Host: Michelle Troche (USA)

Table 4: Subcutaneous L-dopa infusion vs other device-aided therapies – Who shall have what?
Host: Per Odin (Sweden)

Table 5: Alpha-synuclein strain competition
Host: Amanda Woerman (USA)

Table 6: Speak your truth
Host: Miet De Letter (Belgium)

Table 7: Prodromal Parkinson's: What do we need to do in order to use this?
Host: Lana Chahine (USA)

Table 8: Screening for PD risk – Are we ready for population-based approaches?
Host: Alastair Noyce (UK)

Table 9: LRRK2 and Parkinson's
Host: Matt LaVoie (USA)

Table 10: The state of genetics in Parkinson's
Host: Andrew Singleton (USA)

Table 11: Genetic testing in PD – What is currently possible?
Host: Christine Klein (Germany)

Table 12: Dysautonomia: What is it and how is it related to Parkinson's?
Host: Patricio Millar Vernetti (USA)

Table 13: Depression, apathy & PD: What do we know and what can we do about these symptoms?
Host: Iracema Leroi (Ireland)

Table 14: Synaptic function of α-synuclein
Host: Dragomir Milovanovic (Germany)

COFFEE BREAK > 3:00 – 3:30 PM

SCIENTIFIC PROGRAM
Friday, July 7, 2023

DAY 3

PARALLEL SESSIONS > 3:30 – 5:00 PM

SPANISH TRACK 3:30 – 5:00 PM

FBP2 – WHAT IS THE FUNCTION OF α-SYNUCLEIN?

Location: **Room 117**

Moderator: Tiago Outiero (Germany)
Co-moderator: Rosario Moratalla (Spain)

Talk 1: Synaptic function of α-synuclein
Speaker: Dragomir Milovanovic (Germany)

Talk 2: The role of α-synuclein in the nucleus
Speaker: Vivek Unni (USA)

Talk 3: The role of the synuclein in the mitochondria
Speaker: Gabriele Kaminski Schierle (UK)

—

Learning Objectives: 1. Explain the role of a-synuclein in different cell types and compartments with focus on novel concepts in the presynaptic terminal; 2. Identify how loss of a-synuclein function could contribute to disease; 3. List implications for current therapeutic strategies, and potential novel targets.

FCP2 – THE MANY FACES OF PD – PRODROMAL AND CLINICAL SUBTYPES

Location: **Room 111**

Moderator: Per Borghammer (Denmark)
Co-moderator: Alastair Noyce (UK)

Talk 1: Evolution of phenotypic PD subtypes during the premotor and motor stage
Speaker: Connie Marras (Canada)

Talk 2: Evolution of genetic PD subtypes during the premotor and motor stage
Speaker: Susanne Schneider (Germany)

Talk 3: Tailored treatment and prevention of different PD subtypes
Speaker: Alberto Espay (USA)

—

Learning Objectives: 1. Define PD subtypes which can be identified during the prodromal stage with respect to etiology, risk factors, pathology, symptomatology and prognosis; 2. List PD subtypes identified during the clinical PD stages; 3. Outline challenges underlying the development of tailored treatment approaches for different PD subtypes.

FCCP2 – FREEZING AND MOBILITY CHANGES: NOVEL APPROACHES TO THE MAJOR CHALLENGE

Location: **Main Plenary Hall**

Moderator: Alice Nieuwboer (Belgium)
Co-moderator: Serene Paul (Australia)

Talk 1: Mobility challenges in PD: Causes and connections
Speaker: Kaylena Ehgoetz Martens (Canada)

Talk 2: Freezing: Assessment, early detection and rehabilitation options
Speaker: Nicholas D'Cruz (Belgium)

Talk 3: Treatments for freezing and other gross mobility challenges: Medication and surgical interventions
Speaker: Alfonso Fasano (Canada)

—

Learning Objectives: 1. Explain distinctions between freezing and other mobility challenges; 2. Explain hypothesized underlying causes of these symptoms; 3. Detail the risks and early detection of these symptoms and their development over time; 4. Explain available treatments and future developments for alleviating freezing.

FSP2 – SESIÓN 6: ESTRATEGIAS EN EL MANEJO DEL PARKINSON (II)

Location: **Room 115**

Moderadores: Angel Sesar (España) & Carlos M. Guerra Galicia (México)

Presentación #1: Cirugia y otras estrategias terapéuticas complejas
Ponente: Francesc Valldeoriola (España)

Presentación #2: Ensayos clínicos en marcha: tratamientos sintomáticos y curativos
Ponente: Pablo Mir (España)

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Objetivos generales de aprendizaje:
1. Reconocer la fase avanzada (compleja) del Parkinson y las estrategias terapéuticas actuales; 2. Tratamientos experimentales, líneas de investigación en intervenciones avanzadas y sus ventajas potenciales sobre los tratamientos actuales.

Session Levels

Crosstalk – Minimal or no scientific background required

Moderate-level scientific sessions

High-level scientific sessions

Session Type

Basic Science

Clinical Science

Comprehensive Care

Language

Simultaneous interpretation from English to Spanish Interpretación simultánea de inglés a español

Spanish track Pista española

SCIENTIFIC PROGRAM
Friday, July 7, 2023

DAY 3

WORKSHOPS > 3:30 – 5:00 PM

FBWS2 – TRANSLATING GENETICS TO MECHANISTIC UNDERSTANDING OF DISEASE
Location: **Room 113**

Moderator:
Coro Paisan-Ruiz (USA)
Co-moderator:
Dario Alessi (UK)

Talk 1: Global approaches to functional characterization of GWAS data and causal variation: From association to function
Speaker: Cynthia Sandor (UK)

Talk 2: Promoter-enhancer interactome and the risk for PD/disease
Speaker: Gerhard (Gerry) Coetzee (USA)

Talk 3: Building genomic predictive models through machine learning (ML) algorithms
Speaker: Mike Nalls (USA)

—

Learning Objectives: 1. Better understanding of all disease-associated processes and mechanisms by meaningful interpretation of genomic data (-omics data), and causal variations; 2. Understanding disease-associated biology through validated gene targets (including all implicated gene targets); 3. Determine accurate analyses/approaches to integrate large amounts of omics data to achieve meaningful connections and accurate interpretations between genomic variations and human health and disease.

FCWS2 – NEUROMODULATION AND FUNCTIONAL NEUROSURGERY FOR PARKINSON'S
Location: **Room 114**

Moderator: Michael Okun (USA)

Talk 1: Deep brain stimulation for Parkinson's – Personalized targeting
Speaker: Vanessa Milanese (Brazil)

Talk 2: Stereotactic lesioning for Parkinson's disease: New uses, new approaches
Speaker: Binit Shah (USA)

Talk 3: Emerging neuromodulatory and neurotechnology-based approaches for PD
Speaker: Jill Ostrem (USA)

—

Learning Objectives: 1. Review approaches for identifying brain targets for DBS in PD; 2. Review lesion-based procedures and targets for PD; 3. Review emerging neuromodulatory and neurotechnology approaches to PD.

FCCWS2 – TAKE A DEEP BREATH
Location: **Room 116**

Moderator:
Darla Freeman (USA)
Co-moderator:
Rune Vethe (Norway)

Talk 1: Harnessing your breath to improve swallowing and cough function
Speaker: Michelle Troche (USA)

Talk 2: Speak your truth
Speaker: Miet De Letter (Belgium)

Talk 3: Breath and mind-body practices
Speaker:
Indu Subramanian (USA)

—

Learning Objectives: 1. Define how the use of breathing can support speech and communication and help support stress management to support quality of life for people with PD and their care partners; 2. Recognize the importance of speech and communication and demonstrate strategies to improve quality of speech; 3. Describe how the practice of mindfulness could support symptom management and quality of life for people with PD and their care partners.

ROUNDTABLES 3:30 – 5:00 PM

FRT2 –
Location: **Room 112**

Table 1: Cognitive impairment and dementia
Host: Greg Pontone (USA)

Table 2: Disease modification trials in prodromal PD – Hopes and barriers
Host: Michele Hu (UK)

Table 3: Reprogramming of cells for neurorestoration
Host: Roger Barker (UK)

Table 4: What are the gene therapy and growth factor approaches for PD?
Host: Krzysztof Bankiewicz (USA)

Table 5: Exercise for life
Host: Miriam Rafferty (USA)

Table 6: Myths and barriers around participating in research
Host: Ignacio Mata (USA)

Table 7: Discussing the need and impact of diversity in scientific research
Host: Dayne Beccano-Kelly (UK)

Table 8: Prevalence of co-pathologies in Parkinson's disease
Host: Lauren Walker (UK)

Table 9: Consequences of co-pathologies on the clinical presentation and progression of Parkinson's disease
Host: Georgina Aldridge (USA)

Table 10: The mechanism of protein aggregation: What it all means for Parkinson's
Host: Celine Galvagnion (Denmark)

Table 11: How can we design better exercise trials in PD?
Host: Daniel Corcos (USA)

Table 12: Mitochondrial abnormalities underlying PD – From bench to bedside
Host: Edward Fon (Canada)

Table 13: Infectious agents as a trigger for Parkinson's
Host: Elena Kozina (USA)

Table 14 *(Español)*: Apatía y fatiga en enfermedad de Parkinson
Host: Mayela Rodriguez-Violante (México)

SCIENTIFIC PROGRAM
Friday, July 7, 2023

DAY 3

DAILY > 5:15 – 6:00 PM

FEoD – DAILY WRAP-UP PANELS

5:15 – 6:00 PM
Location: **Main Plenary Hall**

Moderator: Silke Appel-Cresswell (Canada)
Co-moderator: Fulvio Capitanio (Spain)

Panelists: Coro Paisan-Ruiz (USA)
Ryosuke Takahashi (Japan)
Darren Moore (USA)
Nabila Dahodwala (USA)

CLOSING REMARKS & RECEPTION > 6:00 – 7:00 PM

Location: **Main Plenary Hall**

Hosts: Marina Romero-Ramos (Denmark)
Roger Barker (UK)

Session Levels

Crosstalk – Minimal or no scientific background required

Moderate-level scientific sessions

High-level scientific sessions

Session Type

Basic Science

Clinical Science

Comprehensive Care

Language

Simultaneous interpretation from English to Spanish Interpretación simultánea de inglés a español

Spanish track Pista española

POSTERS – Session 1
Wednesday, July 5, 2023

11:30 AM – 1:30 PM | **Exhibit Hall**

Presenters of featured posters listed below will be present over lunch to discuss their work.

Basic Science: Etiology, genetics, epidemiology, and toxicants

P01.01 **SARS-CoV-2 and the brain: implications for Parkinson's disease**
Eduardo A. Albornoz, Julio Aguado, Alberto Amarilla, Daniel Watterson, Ernst J. Wolvetang, Trent M. Woodruff

P01.02 **PROPARK study: Is there an association between PROfessional occupation and PARKinson´s disease?**
Elena Natera Villalba, Victoria Ros Castelló, Arantxa Sánchez Sánchez, Ana Gómez López, Paula Pérez Torre, Carlos Estévez Fraga, Isabel Pareés Moreno, Juan Carlos, Martínez Castrillo, **Araceli Alonso-Canovas**

P01.03 **Pathogenic or likely pathogenic GRN variants are present in ~0.2% of patients with Parkinsonism**
Christian Ganoza, Ruslan Al-Ali, Ana Westenberger, Tatjana Usnich, Jörg Rennecke, Volha Skrahina, Ilona Csoti, Christine Klein, Arndt Rolfs, Peter Bauer, Christian Beetz

P01.04 **Cytochromes P450 are new potential players in Parkinson's disease**
Rita Bernhardt, Philip Hartz, Tobias Fehlmann, Gudrun Wagenpfeil, Marcus Unger

P01.05 **Indentification of suspected familial monogenic cases of Parkinson's disease in the Australian Parkinson's genetics study**
Svetlana Bivol, Nicholas G. Martin, Kishore R. Kumar, Miguel E.Renteria

P01.06 **Larger intracranial and subcortical brain volumes influence a higher Parkinson's disease risk**
Zuriel Ceja, Santiago Diaz-Torres, Luis M. García-Marín, Miguel E. Rentería

P01.07 **Contribution of whole exome sequencing in Parkinson's disease: A review of WES in 929 patients by Guillaume Cogan, France**
Guillaume Cogan, Alexis Brice, Thomas Courtin

P01.08 **Population fraction of Parkinson's disease attributed to avoidable risk factors: A case-control study in the Deep South United States**
Gwendolyn Cohen, David Standaert, **Haydeh Payami**

P01.10 **Retinal ganglion cell integrity measurements as biomarkers of Parkinson's disease risk in young adults**
Santiago Diaz Torres, Samantha Lee, David A Mackey, Stuart MacGregor, Puya Gharahkhani, Miguel E Renteria

P01.11 **Dry cleaning chemicals and a possible cluster of Parkinson's disease**
Maryam Zafar, Meghan Pawlik, Samantha Lettenberger, Madeleine Coffey, Aayush Sarkar, Peggy Auinger, Caroline Tanner, Samuel Goldman, Briana De Miranda, Karl Kieburtz, Heidi Schwarz, Melanie Braun, Richard Barbano, Jamie Adams, Daniel Kinel, **Ray Dorsey**

P01.15 **Towards a molecular definition of human midbrain dopaminergic neuron subtypes at the single cell level**
Ka Wai Lee, Kimberly Siletti, Emelie Braun, Miri Danan-Gotthold, Rebecca Hodge, Alejandro Mossi Albiach, Lars E. Borm, Elin Vinsland, Lijuan Hu, Peter Lönnerberg, Trygve Bakken, Song-Lin Ding, Xiaofei Li, Xiaoling He, Žaneta Andrusivová, Michael Clark, Tamara Casper, Nick Dee, Jessica Gloe, C. Dirk Keene, Julie Nyhus, Herman Tung, Anna Marie Yanny, Joakim Lundeberg, Roger A. Barker, Erik Sundström, Ed S. Lein, Sten Linnarsson, Ernest Arenas

P01.19 **Update on PD GUT metagenome**
Haydeh Payami, Gwendolyn Cohen, Stewart Factor, Eric Molho, Timothy Sampson, David Standaert, Zachary Wallen, Cyrus Zabetian

P01.31 **Genetic findings of the Rostock International Parkinson's Disease (ROPAD) Study**
Ana Westenberger, Volha Skrahina, Tatiana Usnich, Christian Beetz, Eva-Juliane Vollstedt, Jefri J. Paul, Filipa Curado, Snezana Skobalj, Hanaa Gaber, Maria Olmedillas, Xenia Bogdanovic, Björn-Hergen Laabs, Najim Ameziane, Nathalie Schell, Krishna K. Kandaswamy, Inke König, Alexander Balck, Henrike Hanssen, Max Borsche, Ilona Csoti, Katja Lohmann, Meike Kasten, Norbert Brüggemann, Arndt Rolfs, Christine Klein, Peter Bauer

Basic Science: Cell death, neuroprotection and trophic factors

P02.01 **Apoptosis-related markers from peripheral blood mononuclear cells as potential biomarkers of Parkinson's disease**
Mária Brodňanová, Michal Cibulka, Milan Grofik, Natália Huňarová, Andrea Ižarik Verešpejová, Egon Kurča, Martin Kolísek

P02.02 **The repositioning of pomalidomide as a novel disease-modifying drug: Evidence from the alpha synuclein based rodent model of Parkinson's disease**
Anna R Carta, Maria Francesca Palmas, Michela Etzi, Augusta Pisanu, Chiara Burgaletto, Maria Antonietta Casu, Alfonso De Simone, Giuseppina Cantarella, Nigel Greig

P02.04 **Male sex bias in Parkinson's disease is linked to an accelerated age-dependent neuromelanin accumulation**
Camille Guillard Sirieix, Jordi Romero-Giménez, Thais Cuadros, Annabelle Parent, Ariadna Laguna, Miquel Vila

P02.07 **Function and neuroprotective potential of Flcn knockout in Parkinson's disease**
Julia Obergasteiger, Owen Fergusen, Cyril Bolduc, Anthony Bilodeau, Thomas Durcan, Flavie Lavoie-Cardinal, Emmanouil Metzakopian, Martin Levesque

Basic Science: Protein misfolding and handling

P03.01 **Copper supplementation rescues impaired motor phenotype in a novel mouse model of SOD1 proteinopathy**
Amr Abdeen, Benjamin Rowlands, Connor Karozis, Veronica Cottam, Joel Siciliano, Fabian Kreilaus, Richard Harwood, Julia Forkgen, Sarah Rosolen, Sara Nikseresht, Benjamin G. Trist, Kai Kysenius, Michael Gotsbacher, David Bishop, Rachel Codd, Peter J. Crouch, Kay L. Double

P03.02 **Lysosomal function and its role in oligodendrocytes in Synucleinopathies**
Denise Balta, Ida Pirkl, Kristina Battis, Philipp Arnold, Jürgen Winkler, Friederike Zunke

P03.03 **Proteomic analysis of Parkinson's patient midbrain neurons reveals a sub-proteome of metastable proteins that are susceptible to aggregation**
Nandkishore Belur, Joseph Mazzulli

P03.04 **Assessment of phosphorylated α-synuclein deposits in the skin and GI tract in prodromal Parkinson's disease**
Martin Ingelsson, Paul de Roos, Vincenzo Donadio, Alex Incensi, Anish Behere, Rocco Liguori, Joakim Bergström, Lars Lannfelt, Per Hellström, Dag Nyholm

P03.05 **Discovery of new E3 ligases for alpha-synuclein clearance**
Nur Kocaturk, Zhiyuan Li, Ian Ganley, Gopal P. Sapkota

P03.06 **Super-resolution microscopy informs on the molecular architecture of alpha-synuclein inclusions in model systems and in the human brain**
Diana Lazaro, Patrick Weish, Luís Palmares, Patrícia Santos, Christine Stadelmann, Virginia M-Y. Lee, John Q. Trojanowski, Günter U. Höglinger, Silvio O. Rizzoli

P03.07 **Lysosomal lipid alterations caused by glucocerebrosidase deficiency promote lysosomal dysfunction, chaperone mediated-autophagy deficiency, and alpha-synuclein pathology**
Marta Martinez-Vicente, **Eddie Pradas-Gracia**, Alba Navarro-Romero, Irene Fernandez-Gonzalez, Marta Montpeyo, Jordi Riera, Mercedes Arrue-Gonzalo, Clara Carnicer-Caceres, Laura Castillo-Ribelles, Jose Antonio Arranz-Amos

Basic Science: Mitochondria, oxidative stress, inflammation, pathogenesis

P04.01 **Characterizing immune alterations in a rat model of Parkinson's disease through single-cell RNA sequencing**
Sara A. Ferreira, Ankita Singh, Johanne Lauritsen, Ida H. Klæstrup, Tulieca Jeyaseelan, Sara K. Nissen, Poul H. Jensen, Jørgen Kjems, Lin Lin, Marina Romero-Ramos

P04.02 **Monocyte mitochondrial function in Parkinson's disease**
Fatima Afaar

P04.03 **Alpha-synuclein alters the neuronal lipidome and regulates phosphatidylserine synthesis at the Mitochondria-Associated ER Membranes (MAM) in patient-derived neurons modeling Parkinson's disease**
Peter Barbuti, Cristina Guardia-Laguarta, Taekyung Yun, Gérald Cruciani, François Massart, Bruno Santos, Simone Larson, Claire Dording, Nobutaka Hattori, Estela Area-Gomez, Rejko Krüger, Serge Przedborski

P04.04 **Impact of chronic stress in Parkinson's disease pathogenesis: Role of microglial glucocorticoid receptors in the regulation of innate immunity-associated supramolecular organizing centres (SMOCs)**
Pierre Besnault, Sharmilee Antoine, Sheela Vyas, Stephane Hunot

POSTERS – Session 1
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P04.05   **Stratifying people with sporadic Parkinson's disease by pathological mechanism in patient-derived fibroblasts**
Toby Burgess, Thomas Payne, Stephen Bradley, Sarah Roscoe, Oliver Bandmann, Heather Mortiboys

P04.06   **Parkin deficiency impairs mtDNA dynamics and propagates inflammation**
Sandro Lino Cardoso Pereira, Kobi Wasner, Semra Smajic, Jenny Ghelfi, Sylvie Delcambre, Cesar A. Prada-Medina, Evelyn Knappe, Giuseppe Arena, Patrycja Mulica, Gideon Agyeah, Aleksandar Rakovic, Ibrahim Boussaad, Katja Badanjak, Jochen Ohnmacht, Jean-Jacques Gérardy, Masashi Takanashi, Joanne Trinh, Michel Mittelbronn, Nobutaka Hattori, Christine Klein, Paul Antony, Philip Seibler, Malte Spielmann, Anne Grünewald

P04.07   **Gut-brain axis: Could ureases from gut bacteria play a role in the development of neurodegenerative diseases?**
Matheus V.C. Grahl, Brenda S. Andrade, Ana Paula A. Perin, Gilda A. Neves, Cristian Follmer, Kelvin S. Hohl, Augusto F. Uberti, Celia R Carlini

P04.08   **Investigating the role of alpha-synuclein in neuronal innate immunity and its role in the interferon response pathway**
Andrew Chai, Tilo Kunath, Matthieu Vermeren, Brendan Monogue, David Beckham

P04.09   **Phosphoproteome profile variability in peripheral blood mononuclear cells of Parkinson's disease patients: A pilot study**
Michal Cibulka, Mária Brodňanová, Milan Grofik, Andrea Ižarik Verešpejová, Natália Huňarová, Egon Kurča, Martin Kolísek

P04.10   **Reduction of age-dependent neuromelanin accumulation by cerium oxide as a potential therapy for Parkinson's disease**
Joana Margalida Cladera Sastre, Thais Cuadros, Marta Gonzalez-Sepulveda, Lena Montaña, Victor Puntes, Miquel Vila

P04.11   **Consequences of neuronal abnormal fat storage in human cellular and Drosophila Parkinson's disease models**
Nathalie Davoust, Victor Girard, Florence Jollivet, Marie-Helène Canron, Marion Celle, Jean-Noël Arsac, Thierry Baron, Benjamin Dehay, Ronald Kühnlein, Bertrand Mollereau

P04.14   **Bruton's Tyrosine Kinase (BTK) is a druggable therapeutic target for neuroprotection in Parkinson's disease**
Nanthini Jayabalan, Natalia Birch, Natalie Groves, Katerina Hanton, Sara Jose, Robert Adam, John O' Sullivan, Nellwyn Hagan, Dimitry Offengeim, Richard Gordon

P04.15   **β-Glucocerebrosidase-1 (GBA1) signalling in immune cells inhibits inflammasome activation in Parkinson's disease**
Nanthini Jayabalan, Madison Young, Katerina Hanton, Kerry Roper, Sara Jose, Robert Adam, John O'sullivan, Peter Lansbury, Richard Gordon

P04.17   **Microvascular changes and blood-brain barrier alterations in a progressive mouse model of synucleinopathy**
Kristina Lau, Lisa Porschen, Franziska Richter, Birthe Gericke

P04.20   **Immune signaling through the gut-brain axis in a Drosophila model of PD**
Alfonso Martin-Peña, Joshua Lopez-Sccarim, Beatriz Gomes, Malu Gámez Tansey

P04.33   **Uncovering the interaction between gut microbial factors and GBA1 mutations in the pathogenesis of Parkinson's disease**
Christin Weissleder, Insa Hirschberg, Michela Deleidi

P04.35   **Understanding the mechanisms of a-syn spreading and degradation: Role of tunneling nanotubes and lysosomes**
Chiara Zurzolo

Basic Science: Pathology

P05.04   **Quantification of neurons in the rodent dorsal motor nucleus of the vagus using unbiased stereology**
Eugenia Harbachova, Pietro La Vitola, Angela Rollar, Helia Aboutalebi, Ayse Ulusoy, Donato A. Di Monte

P05.05   **Blood markers predictive of molecular changes in the brain and clinical outcome in Parkinson's disease**
Krithi Irmady, Caryn Hale, Rizwana Qadri, Sitsandziwe Simelane, John Fak, Thomas Carroll, Serge Przedborski, Robert Darnell

P05.08   **Ultrasensitive determination of Ecto-GPR37 in plasma as a potential biomarker for Parkinson's disease**
Marc López Cano, Josep Argerich, Per Svenningsson, Francisco Ciruela

P05.10   **Post-mortem quantification of cortical glia cells in patients with Parkinson's Disease**
Mikkel Vestergaard Olesen

POSTERS – Session 1
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P05.11 **Post-mortem analysis of Parkinson's disease brains after long-term deep brain stimulation of the subthalamic nucleus**
Jonathan Munro, Francis Desmeules, Sylvine Cottin, Angela Noecker, Marie-Ève Tremblay, Peter V. Gould, Stephan Saikali, Mélanie Langlois, Cameron C. McIntyre, Michel Prud'homme, Léo Cantin, **Martin Parent**

Basic Science: Animal and cellular models of Parkinson's and Parkinsonisms

P06.03 **The assessment of VILIP-1 in crosstalk with FAM19A3 as an early biological biomarker in LPS-induced inflammatory model of Parkinson's disease in rats**
Mai M. Anwar, Mohamed H. Fathi

P06.07 N**MR-based metabolomic analysis of gut-brain interactions in Parkinson's disease modeled in Drosophila**
Marylène Bertrand, Xiaojing Yue, Céline Landon, **Serge Birman**

P06.09 **G2019S LRRK2 exacerbates inflammation and neurodegeneration in models of PD and colitis**
Diego Cabezudo, George Tsafaras, Eva Van Acker, Chris Van den Haute, Veerle Baekelandt

P06.10 **Glycated alpha-synuclein modulates the novel receptor for advanced glycation endproducts signaling pathway: A detailed molecular mechanism and it exacerbates on early onset of Parkinson's disease-like phenotypes**
Sayan Chatterjee, Harsh Thakkar, Amit Khairnar, Ravi Shah

P06.12 **Delineating neurodegenerative interactions of VPS35 and LRRK2 in rodent models of Parkinson's disease**
Xi Chen, Lindsey Cunningham, Nathan Levine, An Phu Tran Nguyen, Darren Moore

P06.13 **Selective manipulation of parvalbumin-expressing neurons in the substantia nigra pars reticulata restores motor behaviors in experimental parkinsonism**
Lorena Delgado Zabalza, Nicolas Mallet, Maurice Garret, Christelle Glangetas, Cristina Miguelez Palomo, Jérôme Baufreton

P06.14 **Characterizing patterns of neural activity in midbrain organoids as a model for studying Parkinson's disease**
Ghislaine Deyab, Nguyen-Vi Mohamed, Rhalena Thomas, Jiarui Ao, Xue Er Ding, Julien Sirois, Carol X-Q Chen, Lenore Beitel, Thomas Durcan, Edward Fon

P06.15 **Point of care microfluidic testing of platelets and coagulation using whole blood under hemodynamic conditions**
Scott Diamond

P06.16 **Non-invasive monitoring of midbrain dopaminergic progenitor cell differentiation**
Nicola Drummond, Daniel Tikhomirov, David McNay, Yixi Chen, Maurice Canham, Mio Iwasaki, Mariah Lelos, Asuka Morizane, Tilo Kunath

P06.18 **DNAJC12 deficiency in Parkisonism**
Jesse Fox

P06.19 **DNAJC13 p.N855S in Parkinson's disease**
Jesse Fox

P06.20 **Utilising preclinical murine models to investigate sleep and circadian system dysfunction in Parkinson's disease**
Nicholas Garner, Pu Reum Kim, Marco Weiergraeber, Richard Gordon, Katerina Hanton, Henrik Oster, Oliver Rawashdeh

P06.21 **Impact of α-Synuclein inclusions on glutamatergic synapses in the amygdala in a PFF mouse model of PD**
Nolwazi Gcwensa, Dreson L Russell, Khaliah Long, Charlotte F Brzozowski, Laura Volpicelli-Daley

P06.23 **Involvement of serotonergic descending pathways on pain in a mouse model of parkinsonism**
Zoé Grivet, Franck Aby, Rabia Bouali-Benazzouz, Frédéric Naudet, Aude Verboven, Abdelhamid Benazzouz, Pascal Fossat

P06.25 **Fluorescence lifetime imaging and immunohistochemical analysis of neuropathological changes related to Parkinson's disease in murine duodenal tissues**
Jana Harsanyiova, Alzbeta Kralova Trancikova, Martin Kolisek

P06.26 **Focused ultrasound as a novel therapeutic for depression in Parkinson's disease**
Rachael Herlihy, Francisco Alicandri, Hudy Berger, Huda Rehman, Yifan Kao, Kainat Akhtar, Emily Mahoney-Rafferty, Angela Tawfik, Rachel Skumurski, Damian Shin

P06.27 **Reduction in alpha-synuclein levels after antisense oligonucleotides treatment in patient derived midbrain organoids**
Javier Jarazo, Isabel Rosety, Mario Richter, Jan Stoehr, Michael Schulz, Peter Reinhardt, Jens Schwamborn

P06.29 **Experimental colitis accelerates intragastric rotenone-induced alpha-synuclein pathology and its progression from the gut to the brain**
Nishant Sharma, Monika Sharma, Disha Thakkar, Hemant Kumar, Sona Smetanova, Lucie Buresova, Petr Andrla, Amit Khairnar

P06.30 **Human α-synuclein-holding familial Parkinson's disease-linked Ala-53 to Thr mutation causes sleep and circadian dysfunction in transgenic mice**
Pureum Kim, Nicholas Garner, Henrik Oster, Oliver Rawashdeh

P06.32 **Sub-acute MPTP treatment increases α-synuclein levels and its aggregation in mice**
Lucía Lage Pita, Ana Isabel Rodríguez Pérez, José Luis Labandeira García, Antonio Domínguez Meijide

P06.33 **Anatomo-radiological correlations in a Parkinson's disease animal model**
Chirine Katrib, Hector Hladky, Régis Bordet, David Devos, Charlotte Laloux, Nacim Betrouni

P06.34 **Characterization of retinal structure and function in the tau knockout mouse model of Parkinson's disease**
Pei Ying Lee, Yolanda Tan, Vickie Wong, Da Zhao, Katie Tran, David Finkelstein, Bang Bui, Christine Nguyen

P06.37 **Characterization of a seeding-based model of REM-sleep behavioral disorder in mice**
Hansoo Yoo, Russell Luke, Brittany Dugan, Jimmy Fraigne, Jonah Lourie, Jefferson Steltz, Yuling Liang, Lauren Torres, John Peever, Kelvin Luk

P06.38 **Using patient-derived hiPSC microglia to characterize LRRK2 signaling in Parkinson's disease**
Emma MacDougall, Eric Deneault, Sophie Luo, Edward Fon

P06.39 **Heterozygosity of the GBA1 L444P mutation impairs hippocampal-dependent memory tasks, synapse biology, and lysosomal function**
Casey Mahoney-Crane, Sumedha Bobba, Eli Berry, Laura Volpicelli-Daley

P06.40 **Crosstalk between alpha-synuclein and neuromelanin exacerbates Parkinson's disease pathology in melanized tyrosinase-expressing rodents**
Alba Nicolau-Vera, Thais Cuadros, Joana M Cladera-Sastre, Jordi Romero-Giménez, Annabelle Parent, Ariadna Laguna, Miquel Vila

P06.44 **Interneuronal transfer and brain spreading of synaptic proteins: specific effects of synuclein proteins**
Rita Pinto-Costa, Michael Klinkenberg, Michael Helwig, Angela Rollar, Raffaella Rusconi, Donato A Di Monte, Ayse Ulusoy

P06.45 **Immunosuppressive tocilizumab prevents astrocyte-induced neurotoxicity in hiPSC-LRRK2 PD by targeting receptor IL-6**
Meritxell Pons Espinal, Lucas Blasco-Agell, Valentina Baruffi, Irene Fernandez-Carasa, Pol Andrés-Benito, Angelique di Domenico, Yvonne Richaud, Laura Marruecos, Lluis Espinosa, Alicia Garrido, Eduardo Tolosa, Michael J. Edel, Manel Juan Otero, José Luis Mosquera, Isidre Ferrer, Angel Raya, Antonella Consiglio

Basic Science: Brain physiology and circuitry

P07.01 **Impact of α-synuclein pathology on corticostriatal synapses in Parkinson's disease**
Charlotte Brzozowski, Harshita Challa, Douglas Nabert, Preston Wagner, Nolwazi Gcwensa, Laura Volpicelli-Daley, Mark Moehle

P07.02 **Cortical compensatory mechanisms for adaptive split-belt walking in people with Parkinson's disease**
Femke Hulzinga, Paulo Pelicioni, Nicholas D'Cruz, Veerle de Rond, Pieter Ginis, Moran Gilat, Alice Nieuwboer

Basic Science: Dopamine, receptors and other neurotransmitters

P08.02 **The mGluR5-A2AR-D2R heteromeric complex: Considerations for Parkinson's disease treatment**
Francisco Ciruela, Wilber Romero-Fernández, Jaume Taura, Rene Crans, Marc López-Cano, Ramón Fores-Pons, Manuel Narváez, Jens Carlsson, Kjell Fuxe, Dasiel Borroto-Escuela

P08.03 **Spatio-temporal dynamic of DA in the execution of goal-directed movements in rats**
Sophie Gauthier, Ana Dorison, Manon Leclerc, Alison McDonald, Nicolas Mallet

P08.04 **Physiological functions of aldehyde dehydrogenase 1A1-positive midbrain dopaminergic neuron**
Ahsan Habib, Lupeng Wang, Lisa Chang, Lixin Sun, Huaibin Cai

P08.07   **Functional assessment of dopaminergic neurons derived from human lineage-restricted undifferentiated stem cells in a rat Parkinsonian model**
Muyesier Maimaitili, Muwan Chen, Fabia Febbraro, Ekin Ücüncü, Johanne Lauritsen, Ida Hyllen Klæstrup, **Rachel Kelly**, Marina Romero-Ramos, Mark Denham

Basic Science: Neuropharmacology

P09.01   **Therapeutic targeting of synaptic vesicle glycoprotein 2C (SV2C) in Parkinson's disease**
Meghan Bucher, Joshua Bradner, Gary Miller

P09.02   **Golexanolone, a GABAA receptor-modulating steroid antagonist, improves fatigue, anxiety, depression, and some cognitive and motor alterations in a rat model of Parkinson's disease**
Paula Izquierdo-Altarejos, Yaiza M Arenas, Mar Martínez-García, Gergana Mincheva, Magnus Doverskog, Thomas P Blackburn, Lars Öhman, Marta Llansola, Vicente Felipo

P09.03   **Validating a novel therapeutic approach co-targeting immune activation and dopaminergic neuron loss in Parkinson's disease**
Aishwarya Johnson, Sara Jose, Hariharan Saminathan, Richard Gordon

P09.05   **Identification of new RXR-Nr4a (Nur) nuclear receptor complex selective compounds for Parkinson's disease**
David Cotnoir-White, Catherine Levesque, Maxime Tremblay, Anne Marinier, Sylvie Mader, **Daniel Levesque**

Basic Science: Electrophysiology & functional imaging, optogenetics

P10.02   **Alpha-synuclein-induced nigrostriatal degeneration and pramipexole treatment lead to compulsive behaviours and abnormal frontostriatal plasticity**
Mélina Decourt, Eric Balado, Maureen Francheteau, Anaïs Balbous-Gauthier, Pierre-Olivier Fernagut, Marianne Benoit-Marand

P10.05   **Globus pallidus contribution to motor behaviour in normal and Parkinson's disease states: Optogenetic studies in murine models**
Abdel-Mouttalib Ouagazzal, Sonia Di Bisceglie Caballero, Aurelia Ces, Martine Liberg, Frederic Ambroggi, Marianne Amalric

P10.07   **Impact of alpha-synuclein overexpression on electrophysiological properties of the locus coeruleus neurons**
Jone Razquin, Laura De las Heras-García, José Angel Ruiz-Ortega, Lorena Delgado, Jérôme Baufreton, Gloria González-Aseguinolaza, Harkaitz Bengoetxea, Cristina Miguelez

Basic Science: Prevention, neuroprotection neuroplasticity

P11.01   **Exercise-based rescue strategies in early-stage of PD: From preclinical to clinical studies**
Federica Campanelli, **Serena Fragapane**, **Gloria Modica**, Gioia Marino, Giuseppina Natale, Elena Marcello, Fabrizio Gardoni, Maria De Carluccio, Federica Servillo, Anna Picca, Maria Rita Lo Monaco, Maria Teresa Viscomi, Anna Rita Bentivoglio, Veronica Ghiglieri, Paolo Calabresi

P11.02   **Novel noninvasive gene therapy for Parkinson's disease using viral encoded single-chain antibody treatment**
Anne-Marie Castonguay, Béatrice Morin, Thomas Durcan, Claude Gravel, Martin Lévesque

P11.03   **"Silver Snow Flake": Una iniciativa de prevención de caídas de Parkinson, "Silver Snowflake" Parkinson's Fall Prevention Initiative**
Klaudia Cwiekala-Lewis, Brandon Parkyn, Ileana Feistritzer

P11.07   **Regenerating dopaminergic neural circuits in Parkinson's disease through transplantation of super-resistant human neurons**
Beatrice Morin, Anne-Marie Castonguay, Julia Obergasteiger, Tiago Cardoso, Valérie Watters, Claude Gravel, Samer Hussein, Thomas Durcan, Martin Lévesque

Comprehensive Care: Caregiving, relationships, respite care, families

P12.01   **Time critical medication on time every time: A right for all people with Parkinson's**
Clare Addison, Jonny Acheson, Garth Ravenhill, Tincy Jose, Cormac Mehigan, Claire Leman, Ed Kirkham, Andrew Perkins

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P12.02   **Some data on caregiving in advanced PD patients from Peru**
Cintia Margoth Armas Puente, Luis Torres, Yesenia Nunez, Miriam Velez, Gabriela Gushiken, Marcela Alvarado, Danilo Sanchez, Hugo Estrada, Rafael Suarez, Carlos Cosentino

P12.03   **Compassionate mind training for Parkinson's caregivers: A pilot study**
Elena Berti, Silvia Della Morte, Carolina Lalli, Francesca Morgante, Nicola Modugno, Lucia Ricciardi

P12.04   **Care partner preparedness courses with the BC brain wellness program: Fulfilling unmet need**
Elaine Book, Julia Handra, Lakshmi Menon, Amanda Cama

P12.05   **Caregiving through the progression: Themes from Parkinson's care partners from early to advanced stage partners living with Parkinson's**
Anne Brooks, Courtney Malburg, **Adolfo Diaz**

P12.06   **Care partners in Parkinson's: Who calls the Parkinson's Foundation Helpline and why?**
Adolfo Diaz, Anna Moreno, Sharon Metz, Linda Pituch, Jill McClure, Dianett Ojeda, Amanda Janicke, Michael Thompson, Colleen McKee, Leslie Mohr, Keisha Bermudez

Comprehensive Care: Exercise and physical activity

P13.01   **Mobile health technology, exercise adherence and optimal nutrition post rehabilitation among people with Parkinson's disease (mHEXANUT) – A randomized controlled trial**
Sigrid Ryeng Alnes, Ellisiv Lærum-Onsager, Asta Bye, Annette Vistven, Erika Franzén, Mette Holst, Therese Brovold

P13.03   **Exercise = delay Parkinsons + keep mental health in check**
Isaac Jose Alvarez Torres

P13.04   **Modulation of neural activity in response to dance training in Parkinson's: A case study**
Judith Bek, Royze Simon, Katayoun Ghanai, Karolina Bearss, Rebecca Barnstaple, Rachel Bar, Joseph DeSouza

P13.05   **The effects of table tennis training on dual task performance in Parkinson's disease: Protocol for a pilot study**
Pere Bosch-Barceló, Maria Masbernat-Almenara, Filip Bellon, Francisco José Verdejo-Amengual, Ares Alcaina, **Helena Fernández-Lago**

P13.06   **The effectiveness of 'motor-motor' and 'motor-cognitive' dual-task training interventions on balance in people with Parkinson's disease: A feasibility study**
Nesibe Cakmak, Jenny Freeman, **Camille Carroll**, Lisa Bunn

P13.07   **Immersive virtual reality exergame for patients with Parkinson's disease: Feasibility and potential benefits**
Pablo Campo Prieto, Jose Maria Cancela Carral, Gustavo Rodriguez Fuentes

P13.08   **Outdoor Adventure Program (OAP) for people with Parkinson's (PWP): Increasing activity through fun and salient community classes**
Joy Cochran

P13.09   **Impact of active gait training programs on gait under daily life conditions and quality of life in Parkinson's disease**
Bettina Debû, Pierre Pelissier, Nicolas Vuillerme, Matthias Chardon, Valérie Fraix, Elena Moro

P13.10   **Step variability is decreased during ice skating approach to a door amongst people living with Parkinson disease**
Jon Doan, Brittany Mercier, Claudia Steinke, Natalie de Bruin, Lesley Brown

P13.11   **Effectiveness of trampoline training in people with Parkinson's: preliminary study results**
Josefa Domingos, Joao Gomes, Julio Belo Fernandes, John Dean, Joao R Vaz, Catarina Godinho

P13.12   **Online zumba gold for people with Parkinson's disease: Acceptability study**
Josefa Domingos, Sonia Gow, John Dean, Catarina Godinho, Julio Fernandes, Drew Falconer

P13.13   **U-Turn Parkinson's: Empowering the pursuit of wellness ... for free**
Tim Hague

P13.15 **Pathway to Parkinson's foundation exercise education accreditation program & competencies for exercise professionals and exercise education programs & continuing education courses**
Lisa Hoffman, Miriam Rafferty

P13.17 **The impact of different time in bed calculations on activity measures in people with Parkinson's disease**
Robyn Lamont, Dion Scott, Sjaan Gomersall, Sandra Brauer

P13.18 **Can activity monitors be used to accurately detect time in bed in people with Parkinson's disease?**
Robyn Lamont, Dion Scott, Sjaan Gomersall, Sandra Brauer

P13.19 **Effects of an online 12-week Tai Chi intervention on the electromyography activity of the lower-limb muscles of individuals with Parkinson's disease during obstacle crossing**
Nok-Yeung Law, Jing Xian Li

Comprehensive Care: Alternative & complementary therapies/ Creativity

P14.01 **CANNABAPA: CANNAbis-BAsed medicine for Parkinson's disease: patients' and health workers' points of view to pave the way**
Tangui Barré, **Christelle Baunez**, Camelia Protopopescu, Fabienne Marcellin, Morgane Bureau, Géraldine Cazorla, Patrizia Carrieri

P14.02 **Patients with Parkinson's disease able of postural adaptation to the task performed but not as much as healthy controls**
Cédrick Bonnet, Yann-Romain Kechabia, Arnaud Delval, Luc Defebvre

P14.03 **Why the fascia system needs to be addressed to manage and potentially reverse the effects of Parkinson's disease**
Florencia Cerruti, Deanna Hansen, Gary Sharpe

P14.04 **Music and the native american flute – A tool for slowing Parkinson's disease progression**
William Clugston

P14.05 **Holistic complementary therapies for people with Parkinson's and their families in the open air in synergy with the nature**
Francesca De Bartolomeis

P14.06 **Improv for Parkinson's: Creative skills for cognitive health**
Daniel Dumsha, Peter Jarvis, Lucia Forward, Quinn Contini

P14.07 **Social work student knowledge and attitudes about medical cannabis use for Parkinson's disease**
Offer Emanuel Edelstein, Alexander Reznik, Richard Isralowitz

P14.08 **ES - Park: Evaluation of the effectiveness of the Parkinson's Specialized Teams intervention on the quality of life of Parkinson's patients in the territory of the Nouvelle-Aquitaine: ES-Park pilot study**
Alexandra Foubert-Samier, Isabelle Benatru, Jean-Luc Houeto

P14.09 **"Those movements weren't moving anything to me": Investigating experiences and opinions about using motor imagery in people with Parkinson's**
Charlotte Growcott, Ellen Poliakoff, Emma Gowen

P14.10 **Rhythmic flow taiko – Therapeutic drumming for people with Parkinson's**
Vivian Lee, Yeeman Mui, Galen Rogers

P14.11 **Dance for Parkinson in Iberian: Portugal and Spain methodologies**
Anjos L. Macedo, Rafael Alvarez, Annabel Barnes, Luisa Bento, Leonor Tavares, Cesar Casares, Paloma Alfonsel, Guillermina Bedoya, Sara Mora, Aurora Rodríguez del Barrio, Juvenal García

Comprehensive Care: Lay/professional health literacy & public thought

P15.01 **The early treatment phase in Parkinson's disease: Not a honeymoon for all, not a honeymoon at all?**
Araceli Alonso-Canovas, Jos Voeten, Larry Gifford, Omotola Thomas, Andrew J Lees, Bastiaan R Bloem

P15.02 **Precision needed in Parkinson's advocacy: Healthy land and affordable food for people is always in desperate need**
Grant Burchnall

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P15.03   **Teaching nursing students about Parkinson's disease using conversation mapping**
Marjorie Getz

P15.04   **Piece of mind: Bridging scientific research and the lived experience of Parkinson's with the performing arts**
Naila Kuhlmann, Aliki Thomas, Natalia Incio-Serra, Stefanie Blain-Moraes

Comprehensive Care: Disability and quality of life outcome measures

P16.01   **Impact of sexual dysfunction in quality of life amongst Mexican population living with Parkinson's disease**
Daniela Renee Aguila- Godinez, Etienne Reséndiz-Henríquez, Eduardo Ichikawa-Escamilla, María Alejandra Ruiz-Mafud, Gloria Itzel Cerda-Hernández, **Ana Jimena Hernández-Medrano**, Anna Paola Bazán-Rodríguez, Axel Antonio Herrera-Ruiz, Amin Cervantes-Arriaga, Mayela Rodriguez-Violante

P16.02   **Introducing Project "Parkinson & Well": A study by Slovak Health Spa Piestany and Comenius University in Bratislava, Jessenius Faculty of medicine in Martin, Slovakia**
Alena Korencikova, Milan Grofik, Martin Kolisek, Boris Banovsky, Ivona Hrdinova, Michal Verchola

P16.03   **Flourishing in the face of Parkinson's: The question of well-being as it relates to Parkinson's disease**
Neil Arvin Bretana, Edward Shepherd, Dominic Rowe

P16.04   **Quality of life in Parkinson's disease hypokinetic dysarthria and acoustic features in dialogical speech**
Barbara Gili Fivela, Anna Chiara Pagliaro, Sonia d'Apolito

P16.05   **Understanding the circumstances and consequences of falls and near-falls in people with Parkinson's disease**
Dale Harris, Wei-Peng Teo, Gavin Abbott, Robin Daly

Comprehensive Care: PwP - Clinician partnership: Shared decision-making

P17.01   **Why doctors should be talking about DBS with their YOPD patients early in their Parkinson's journey**
Christy Daniels

P17.02   **The complexity of Parkinson disease medication regimens may factor into treatment decisions: Results of a PMD alliance survey**
Jill Farmer, Clarisse Goas, Jason Rivera, Anissa Mitchell, **Andrea Merriam**, Nikkilina Crouse, Andrea Formella

Comprehensive Care: Palliative care/ advance planning/ end of life care

P18.06   **Status report on palliative care in Parkinson's patients: Dark reality in resource poor nations**
Shankh Pal, Ranjit Sharma, Tillotma Roy, Kaul Meghna

P18.07   **The role of telemedicine to support care in advanced Parkinson's disease**
Robin van den Bergh, Pauline van Barschot, Bauke W. Dijkstra, Herma H. Lennaerts-Kats, Catharina Muente, Marjan J. Meinders

Comprehensive Care: Health accessibility/ underserved populations

P19.01   **What can applicable Hoehn and Yahr five assessment measures tell us about people in advanced Parkinson's disease?**
Pâmela Barbosa, **Maria Elisa Pimentel Piemonte**

P19.03   **Towards inclusion: Using integrated knowledge translation to design and implement a community-based assessment service for young people with Parkinson's disease**
Sarah Davies, **Donna Rooney**, **Miguel Diaz**

P19.04   **Increasing Hispanic/Latino recruitment into Parkinson's genetics research**
Priscila Delgado Hodges, Rebeca DeLeon, Anna Naito, Roy N Alcalay, Juan Ramirez-Castaneda, Ruby Rendon, Claudia Martinez, Camila Gadala-Maria, Adriana Jimenez, Rossy Cruz-Vicioso, Henry Moore, Paulina Gonzalez Latapi, Valentina Caceres, Anny Coral, **Ignacio F Mata**

P19.05 **Academic-community partnership to develop a Parkinson resource center in the rural southern U.S.**
Donna Hood, Denise Pyles

P19.06 **Gaps in the literature for women with young onset Parkinson's disease**
Kristi LaMonica, Katherine Florian, Diandra Hennessy, Alexandra Iglesia, Britney Merwin, Eliza Whitman, Kate Murphy

Comprehensive Care: Sexuality & intimacy

P20.02 **LGBTQ, intimacy, sexuality and Parkinson's Disease (PD): Planning an observational pilot studd**
Gila Bronner, Tanya Gurevich

P20.03 **The cultural imaginary of disease: How those with Young-Onset Parkinson's disease are restricted in their relationships**
Lewis Johnstone

P20.04 **Biopsychosocial factors associated with the sexual health of women living Parkinson's disease**
Katia Nobrega, Maria Elisa Piemonte, Thalyta Martins, Geovanna Santos

Comprehensive Care: Daily life activities including working & driving

P21.01 **Impact of laser shoes on activities of daily living in people with Parkinson's and freezing of gait**
Lauralei Dirks, **Kalie Plesher**, Paige Rupiper, Sarah Moskowitz, Daniel Peterson, Linda Denney, Cindy Ivy

Comprehensive Care: Self-management, empowerment, coping strategies

P22.02 **Behaviour change techniques to reduce sedentary behaviour and increase physical activity in people with Parkinson's disease: A scoping review**
Ghazi Alnajdi, Natalie Allen, Dr Serene Paul, Dr Sonia Cheng, A/Prof Zoe McKeough

P22.03 **Salutogenesis among people living with diagnosed Parkinson's disease**
Alannah Beston, Edward Shepherd, Terry Boyle, Neil Arvin Bretaña

P22.04 **Examining leadership of Parkinson's disease support groups in rural and regional New South Wales: A qualitative descriptive case study**
Vincent Carroll, Rachel Rossiter, Marguerite Bramble

P22.05 **Lifestyle medicine for Parkinson's disease: Diet as a treatment tool**
Rachel Dolhun, Erin Presant

P22.06 **Possible explanations for unexpectedly high functional mobility despite the presence of postural instability and gait disturbances. A longitudinal mixed-models analysis**
Anne-Marie Hanff, Christopher McCrum, Armin Rauschenberger, Gloria A. Aguayo, Maurice Zeegers, Anja K. Leist, Rejko Krüger

P22.10 **Gaitkeeping: A Parkinson's telehealth training program**
Pamela Quinn, Jeff Friedman, **Colin O'Connor**, Natalie Schultz-Kahwaty, Lauren St. Hill, Roseanne D. Dobkin

P22.16 **Patient experience and treatment satisfaction with continuous subcutaneous infusion of foslevodopa/foscarbidopa for treatment of advanced Parkinson's disease**
Rajeev Kumar, Michael Soileau, **Connie H. Yan**, Triza Brion, Alex Bellenger, Christina O'Donnell, Pavnit Kukreja, Maurizio F. Facheris, Anand Shewale, Jason Aldred

P22.18 **Investigating pain catastrophizing to improve treatment of pain and psychological distress in Parkinson's disease**
Léonore Robieux, **Sylvia Zimmers**, Catherine Bungener

Comprehensive Care: Multidisciplinary/ interdisciplinary teams

P23.01 **Parkinson's care clinic: "Outside the pill box" interdisciplinary rehab and wellness care: Improving access and efficiency of care for people with Parkinson's disease (PWP) and their care partner(s) in underserved areas of North Alabama, USA**
Erin Edmundson, **Arantxia Wijngaarde**, Rebecca Rodgers

P23.02 **A missing piece of the Parkinson's puzzle: The critical role of the dietitian in the care of people living with Parkinson's disease (PD)**
Richelle Flanagan, Indu Subramanian, Carley Rusch

P23.03 **Feasibility and efficacy of a multidisciplinary telemedicine intervention program to reduce falls and improve quality of life in Parkinson's disease (NCT04694443)**
Álvaro García-Bustillo, Florita Valiñas-Sieiro, Marta Allende-Río, Alicia Olivares-Gil, José Miguel Ramírez-Sanz,
José Luis Garrido-Labrador, Álvar Arnaiz-González, José Francisco Díez-Pastor, Maha Jahouh, Josefa González-Santos,
Jerónimo Javier González-Bernal, José María Trejo-Gabriel-Galán, Esther Cubo

P23.04 **Advanced practice providers central to managing patients with Parkinson disease and other movement disorders**
Sherrie Gould, Kelly Papesh, Bruce Jones, Anissa Mitchell

P23.05 **ParkinsonNet Luxembourg – A multidisciplinary network adjusted to the healthcare environment in Luxembourg**
Mariella Graziano, Nicole Colson, Joëlle V. Fritz, Sylvia Herbrink, Anne Kaysen, Carole Simon, Jochen Klucken, Alexandre Bisdorff,
Sanne Bouwman, Bastiaan R. Bloem, Rejko Krüger

P23.06 **Temporal trends in the coverage of specialized allied health services for Parkinson's disease: 10 years of experience with the Dutch ParkinsonNet**
Sanne Bouwman, Judith van Erkelens, Anja van Baardewijk-Joosten, Bastiaan Bloem, **Johanna Kalf**

P23.07 **All hands on deck! Development and implementation of a nurse-driven, rehab-focused, in-person or telehealth interdisciplinary team (IDT) clinic for Veterans with PD and other movement disorders**
Jessica Kaplan, Jessica Lehosit, Erin Buckley, Hall Emily, Serio Karissa, Brittany Reed, Lauren Sharpe-Payne, Abu Qutubuddin,
Debbie Lindsey, Mark Baron, Cameron Jennings, Melissa Oliver, Alicia Sullivan, Hope Kumme, Mark Flores, Elsa Mathew, Leslee Hudgins,
Kayla Thompson, Julie Thompson, Lesa Beatty, Christina Kausek, Mary Hamm, Miriam Hirsch, Michael Shapiro

P23.08 **The role of social work in the delivery of integrated care for Parkinson's disease**
Linda Kreitzer, Jessica Shurer, Elaine Book, Lisa Zerden, Ting Guan

Comprehensive Care: Digital health, E-health and technology

P24.02 **Adherence and satisfaction of telemedicine in patients with Parkinson's disease. A longitudinal, randomized, multidisciplinary-based intervention (NCT04694443)**
Marta Allende-Río, Florita Valiñas-Sieiro, Álvaro García-Bustillo, José Luis Garrido-Labrador, José Miguel Ramírez-Sanz,
Alicia Olivares-Gil, Álvar Arnaiz-González, José Francisco Díez-Pastor, Maha Jahouh, Josefa González-Santos,
Jerónimo Javier González-Bernal, José María Trejo-Gabriel-Galán, Esther Cubo

P24.03 **Use of a single inertial sensor on the thigh to assess gait quality during the 6-minute walk test in persons with Parkinson Disease**
Dheepak Arumukhom Revi, **Franchino Porciuncula**, Nick Wendel, Jenna Zajac, James Cavanaugh, Terry Ellis, Louis Awad

P24.04 **Methods to quantify skin conductance in people with Parkinson's disease: A systematic review of observational studies**
Mercedes Barrachina, Laura Valenzuela-López, Marcos Moreno-Verdú, Yeray González-Zamorano, Juan Pablo Romero,
Carmen Sánchez-Ávila

P24.05 **Ability of electrodermal activity measures to detect non-motor fluctuations in Parkinson's disease**
Mercedes Barrachina, Laura Valenzuela-López, Marcos Moreno-Verdú, Yeray González-Zamorano, Francisco José Sánchez-Cuesta,
Juan Pablo Romero, Carmen Sánchez-Ávila

P24.06 **Measuring rest-activity patterns using wearable devices in inpatients with Parkinson's and delirium: A nested feasibility study**
Gemma L Bate, Sarah J Richardson, John-Paul Taylor, David J Burn, Louise M Allan, Alison J Yarnall, Silvia Del Din, Rachael A Lawson

P24.08 **From research to home: Deployment of three web-based interventions types developed with people living with Parkinson disease and their caregivers in Quebec, Canada**
Line Beaudet, **Auriane Haegeman**, Caroline Champeau, Dora Rodriguez, Marie-Neige Filteau, Renée Coulombe

P24.09 **Video-assisted telenursing in patients with advanced Parkinson's disease treated with LCIG: Results from the Facilitate-Care study**
Lars Bergmann, Tanya Gurevich, Andrew Evans, Georg Kägi, Dariusz Koziorowski, Juan Carlos Parra Riaza, Olga Sanchez-Soliño,
Jaroslaw Slawek

P24.10 **Digitised home-based care for people with Parkinson's disease**
Katie Bounsall, Sue Whipps, John Whipps, Edward Meinert, **Camille Carroll**

P24.11 **Evaluation of the Parkinson's Remote Interactive Monitoring System (PRIMS): Beta testing**
Bronwyn Bridges, John Weber, Jake Taylor

P24.12 **Accelerating research on Parkinson's disease and empowering patients through digital health technologies**
Yun-Hsuan Chang, Matt Wilson, Alastair J Noyce

P24.14 **Making my moves matter**
Richelle Flanagan

P24.15 **Digital mobility outcomes derived from different wearable sensors and their link to clinically relevant scores in Parkinson's disease**
Heiko Gassner, Sarah Seifferth, Teresa Greinwalder, Sabine Stallforth, Jelena Jukic, Patrick Süß, Alexander German, Franz Marxreiter, Martin Regensburger, Jochen Klucken, Alison Yarnall, Clemens Becker, Walter Mätzler, Lynn Rochester, Jürgen Winkler

P24.16 Validation of mobility biomarkers in the assessment of Parkinsonian bradykinesia: Experience from a large real world data set
Tiffany Jansen, Aiden Arnold, Witney Chen, **Ro'ee Gilron**

P24.17 **Usability and acceptability of a cognitive training application in Parkinson's**
Julia Das, Gill Barry, Rodrigo Vitório, **Lisa Graham**, Claire McDonald, Brony Storey, Richard Walker, Samuel Stuart, Rosie Morris

Comprehensive Care: Rehabilitation sciences (PT, OT, SLP)

P25.01 **Fisior sequential squares mat as a stable environment to reeducate gait in patients whit Parkinson disease**
José Alegre Tamariz, Nuria Toledo Martel, Leticia Martínez Caro, Alberto Bermejo Franco

P25.02 **Fisior® sequential square mat as a stable environment to improve the risk of falls in patients with Parkinson's disease**
José Alegre Tamariz, Asier Arrizabalaga Otaegui, Leticia Martínez Caro, Alberto Bermejo Franco

P25.03 **Visual perturbation training to reduce fall risk in people with Parkinson's disease**
Remco Baggen, Anke Van Bladel, Maarten Prins, Katie Bouche, Leen Maes, Miet De Letter, Dirk Cambier, Patrick Santens

P25.04 **Relationship between self-efficacy and real world walking activity in persons with Parkinson's disease**
Teresa Baker, Kerri Rawson, Jaimie Girnis, Ryan Duncan, James Cavanaugh, Tamara R. DeAngelis, Daniel Fulford, Martha Hessler, Michael Lavalley, Timothy Nordahl, Marie Saint-Hilaire, Cathi Thomas, Jenna Zajac, Gammon Earhart, Terry Ellis, Franchino Porciuncula,

P25.05 **Can augmented feedback facilitate learning in serious games in People with Parkinson's Disease? A single-blind randomized clinical trial**
Pâmela Barbosa, Amarilis Falconi, Matheus D'Alencar, Erika Okamoto, **Maria Elisa Pimentel Piemonte**

P25.06 **Differences in gait between clinical subtypes in Parkinson disease**
Sidney Baudendistel, Scout Hizer, Allison Haussler, Kerri Rawson, Meghan Campbell, Gammon Earhart

P25.07 **Assessment of upper limbs impairments in Parkinson's disease: A systematic review**
Tamine Capato, Rubia Rodrigues, Beatriz Santos, Manoel Teixeira, Rubens Cury, Egberto Barbosa

P25.08 **Use of a novel comprehensive balance assessment to measure fall risk in people with Parkinson's disease**
Patricia Carlson-Kuhta, Carla Silva-Batista, Anjanibhargavi Ragothaman, Jacqueline Ellison, Graham Harker, Giorgia Marchesi, Alice De Luca, Valentina Squeri, Fay B. Horak, Martina Mancini

P25.09 **The eyes have it: Persons with Parkinson Disease demonstrate poor performance on the King-Devick test**
Valerie Carter, John Heick, Robert Gorman, Tarang Jain

P25.10 **Talk the Walk: Dual tasking with walking and visual-verbal processing is more difficult for persons with Parkinson than for young and older adults**
Valerie Carter, John Heick, Tarang Jain

P25.11 **Effectiveness of a virtual physiotherapy for Parkinson's course using a mixed on-demand and live model: Lessons learned from Malta**
Veronica Clark, Josefa Domingos, Victoria Masalha

P25.12   **BeatMove: A personalized music-based gait auto-rehabilitation for persons with Parkinson's disease**
Valérie Cochen De Cock, Loic Damm, Dobri Dotov, Simone Dalla Bella, Benoit Bardy

P25.13   **Voice self-assessment in Parkinson's disease: A comparison with different types of dysphonias**
Francisco Contreras-Ruston, Jordi Navarra, Adrian Castillo-Allende, Jorge Saavedra-Garrido, Andrés Ochoa-Muñoz, Sonja Kotz

P25.14   **The priority goals and underlying symptomology related to goal-related performance of people with Parkinson's disease receiving a community-based rehabilitation program**
Sarah Davies, **Hannah Gullo**, **Emmah Doig**

P25.15   **CO-OP feasible and promising for facilitating goal attainment in adults with Parkinson's disease: findings of a randomised controlled feasibility trial**
Sarah Davies, **Hannah Gullo**, **Emmah Doig**

P25.16   **"I didn't know I had executive functioning problems, but now I do… And there's something I can do about it" – Perspectives of people with Parkinson's disease about the Cognitive Orientation to daily Occupational Performance approach**
Sarah Davies, **Hannah Gullo**, **Emmah Doig**

P25.17   **The effect of rehabilitation interventions on freezing of gait in people with Parkinson's disease: A systematic review and meta-analyses**
Lina Goh, Colleen G Canning, Jooeun Song, Lindy Clemson, Natalie E Allen

P25.18   **Immediate effects of music therapy on gait disturbance in Parkinson's disease, and possibility to reduce the risk of freezing by analyzing the trajectory of center of body**
Emiri Gondo

P25.19   **Effectiveness of transcranial direct current stimulation (tDCS) on clinical perceived pain and pain processing features in Parkinson's disease (PD) patients**
Yeray González Zamorano, Francisco José Sánchez Cuesta, Aida Arroyo Ferrer, Marcos Moreno Verdú, Laura Valenzuela López, Josué Fernández Carnero, Juan Pablo Romero Muñoz

P25.20   **Voice changes following deep brain stimulation in persons with Parkinson disease**
Nicole Herndon, Karen Hegland

P25.21   **Speech and swallow trends following bilateral deep brain stimulation in persons with Parkinson disease: A retrospective chart review**
Nicole Herndon, Karen Hegland, May Smith-Hublou

P25.22   **Effects of motor-cognitive training on dual task performance in people with Parkinson's disease: A systematic review and meta-analysis**
Hanna Johansson, Ann-Kristin Folkerts, Ida Hammarström, Elke Kalbe, Breiffni Leavy

P25.29   **Long-term effects of a 6-month brisk walking and balance program on physical performance and health-related quality of life in people with Parkinson disease: A randomized controlled trial**
Margaret KY Mak, Irene SK Wong-Yu

P25.31   **Gait impairments in Parkinson's disease**
Anat Mirelman, Richard Camicioli, Terry Ellis, Jochen Klucken, Larry Gifford, Jeffrey Hausdorff, Elisa Pelosin, Paolo Bonato, Alfonso Fasano, Alice Nieuwboer

P25.36   **Clinical practice guideline for the physical therapist management of Parkinson disease: An American physical therapy association and academy of neurologic physical therapy collaboration for quality improvement**
Miriam Rafferty, Beth Crowner, Jacqueline Osborne, Terry Ellis

Comprehensive Care: Nutrition and gastrointestinal issues

P26.01   **Case studies documenting the interaction of antibiotics, photobiomodulation and Parkinson's disease**
Brian Bicknell, Ann Liebert, Anita Saltmarche, Orla Hares, Hosen Kiat

P26.03   **The mealtime of people with Parkison's disease: A qualitative descriptive pilot study**
Muriel Gabas, Estelle Harroche, Jean Paul Poulain, Virginie Woizard, **Margherita Fabbri**

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P26.04 **The unmet nutritional needs of people living with Parkinson's Disease**
Richelle Flanagan

Clinical Science: Symptoms, signs, features & non-motor manifestations

P27.01 **The novel p.A30G SNCA mutation in Greek Parkinson's disease patients and asymptomatic family members**
Ioanna Alefanti, Christos Koros, Chrisoula Kartanou, Athina Maria Simitsi, Maria Bozi, Stefanos Varvaressos, Athina Zachou, Roubina Antonelou, Matina Maniati, Sokratis Papageorgiou, Georgios Paraskevas, Constantin Potagas, Marios Panas, Konstantinos Voumvourakis, Georgia Karadima, Georgios Koutsis, Leonidas Stefanis

P27.02 **Nature, degree of frequency and importance of the motor and non-motor disorders in 39 patients with Parkinson's disease**
Etienne Baldayrou, Elodie Baroux-Petitperrin, Camille Beauger, Geneviève Merelle, Elise Maugras, Serge Merelle

P27.03 **Compassionate mind training for people with Parkinson: A pilot study**
Elena Berti, Silvia Della Morte, Carolina Lalli, Francesca Morgante, Nicola Modugno, Lucia Ricciardi

P27.04 **Personality dimensions in Parkinson's disease patients with or without chronic pain**
Mathilde Boussac, Fleur Lerebours, Nathalie Cantagrel, Margherita Fabbri, Clémence Leung, Fabienne Ory-Magne, Olivier Rascol, Estelle Harroch, Emeline Descamps, Christine Brefel-Courbon

P27.05 **Validation and replication of Parkinson disease behavioral subtypes**
Christina Lessov-Schlaggar, Peter Myers, Joshua Jackson, Baijayanta Maiti, Paul Kotzbauer, Joel Perlmutter, **Meghan Campbell**

P27.09 **Exploring prediction of freezing of gait using sensor-based probability of freezing**
Allison M Haussler, **Lauren E Tueth**, David S May, Gammon M Earhart, Pietro Mazzoni

P27.11 **Impulsiveness: A clinical aspect in Parkinson's disease with freezing of gait**
Karina Yumi Tashima Honda, **Nathalia de Brito Pereira**, Maria Elisa Pimentel Piemonte, Isaíra Almeida Pereira da Silva Nascimento, Katia Cirilo Costa Nobrega, Thayane Habache Barolli

P27.12 **Parkinson's disease duration and motor symptom severity at baseline: An analysis of the Parkinson Progression Markers Initiative (PPMI) dataset**
Emily Houston

P27.13 **Patterns and consistency of speech changes in a diverse national sample of people with parkinson disease in the United States**
Jessica Huber, Andrew Exner, Sandy Snyder, Hardik Kothare, Jackson Liscombe, Renee Kohlmeier, Shreya Sridhar, Brianna Coster, Kaylee Patterson, Helen Willis, Vikram Ramanarayanan

P27.14 **Women and Parkinson's disease: The impact of hormonal fluctuations during the menstrual cycle on parkinson symptoms**
Willanka Kapelle, Esra Stuart, Hein Bogers, Bastiaan Bloem, Marjan Meinders, Annelien Oosterbaan, Bart Post

P27.15 **Measurement of dyskinesia in Parkinson's disease using a lower back sensor**
Jennifer Kudelka, Clint Hansen, Pia Reisdorf, Lisa Alcock, Philip Brown, Katharina Dirksen, Heiko Gassner, Pieter Ginis, Mark Gordon, Jeffrey M. Hausdorff, Hanna Hildesheim, Heather Hunter, Anat Mirelman, Alice Nieuwboer, Robbin Romijnders, Christian Schlenstedt, Alison Yarnall, Clemens Becker, Lynn Rochester, Walter Maetzler

P27.16 **Clinical parameters associated with impaired self-awareness of levodopa-induced dyskinesias in Parkinson's disease**
Jennifer Kudelka, Katharina Dirksen, Lisa Alcock, Philip Brown, Heiko Gassner, Pieter Ginis, Mark Gordon, Clint Hansen, Jeffrey M. Hausdorff, Hanna Hildesheim, Heather Hunter, Anat Mirelman, Alice Nieuwboer, Pia Reisdorf, Robbin Romijnders, Christian Schlenstedt, Alison Yarnall, Clemens Becker, Lynn Rochester, Walter Maetzler

P27.17 **Discrepancy between self-awareness and objective measurements of olfactory function In patients with Parkinson's disease**
Do-Young Kwon, **Hwa Been Yang**, Minyoung Seo

P27.18 **Association between dizziness and clinical features in patients with de novo Parkinson's disease?**
Kyum-Yil Kwon, Jihwan You, Rae On Kim, Eun Ji Lee

P27.19 **Sex differences in motor and non-motor symptoms among Spanish patients with Parkinson's disease**
Ariadna Laguna, Jorge Hernández Vara, Diego Santos-García, Teresa de Deus Fonticoba, Carlos Cores Bartolomé, Maria J. Feal Painceiras, Maria Cristina Íñiguez-Alvarado, Iago García Díaz, Silvia Jesús, Maria Teresa Boungiorno, Lluís Planellas, Marina Cosgaya, Juan García Caldentey, Nuria Caballol, Ines Legarda, Iria Cabo, Lydia López Manzanares, Isabel González Aramburu, Maria A. Ávila Rivera, Víctor Gómez Mayordomo, Víctor Nogueira, Víctor Puente, Pablo Martinez-Martin, Pablo Mir, COPPADIS Study Group

P27.20 **Cardiac perception task demonstrates interoceptive precision is impaired in Parkinson's disease**
Senegal Alfred Mabry, Samantha Moss, Jeffery Bauer, Eve De Rosa, Adam Anderson

P27.21 **Observational study to investigate the relationship between stress related disorders and dysautonomic symptoms in Parkinson's disease**
Esrom Jared Acosta Espinoza, Ilse Alejandra Ortiz Marroquin, Daniela Itzel Salinas Leal, Adriana Salinas Blancas, Hannia Mariana Macias Cruz, Daniel Martinez-Ramirez

Clinical Science: Progression & prognosis

P28.01 **The neuro genomics partnership: A new consortium dedicated to a fully open patient to patient (P2P) integrative R&D approach**
Clotilde Degroot, Kirsten Taylor, Sandor Szalma, Vincent Mooser, Ziv Gan-Or, Madeleine Sharp, Thomas Durcan, Caitlin Taylor, Marc Lussier, Edward Fon

P28.02 **Parkinson's: One disease or several? The fallacy of subtypes**
Jodie Forbes

P28.07 **Machine learning-based prediction of cognitive decline in early Parkinson's disease using multimodal features**
Hannes Almgren, Milton Camacho, Alexandru Hanganu, Mekale Kibreab, Richard Camicioli, Zahinoor Ismail, Nils D. Forkert, Oury Monchi

Clinical Science: Behavioral disorders

P29.01 **Cognitive behavioral therapy for anxiety in Parkinson's disease induces functional brain changes**
Guillaume Carey, Renaud Lopes, Anja Moonen, Anne Mulders, Joost de Jong, Gregory Kuchcinski, Defebvre Luc, Mark Kuijf, Kathy Dujardin, Leentjens Albert

P29.02 **Jumping to conclusions (JtC) and its association with psychosis and impulsivity in early stages of Parkinson's disease**
Ioanna Pachi, Vasilis Papadopoulos, Christos Koros, Athina-Maria Simitsi, Anastasia Bougea, Maria Bozi, Nikos Papagiannakis, Rigas-Filippos Soldatos, Dimitra Kolovou, George Pantes, Nikolaos Scarmeas, Georgios Paraskevas, Konstantinos Voumvourakis, Sokratis Papageorgiou, Konstantinos Kollias, Nikos Stefanis, Leonidas Stefanis

P29.03 **Multidisciplinary approach as key to successful management of functional disorders in patients treated with deep brain stimulation – A report of two patients**
Marijan Masic, Valentino Racki, Elisa Papic, Ines Toric, Vladimira Vuletic

Clinical Science: Cognition/ mood/ memory

P30.01 **Investigating the effects of COVID-19 and the first UK lockdown on anxiety and mood in people with Parkinson's**
Moudhi Al Twaijri

P30.02 **Imitation of object-directed hand movements in Parkinson's**
Judith Bek, Eamon Brockenbrough, Emma Gowen, Stefan Vogt, Trevor Crawford, Ellen Poliakoff

P30.03 **Impact of cognitive impairment on quality of life in Mexican persons living with Parkinson's disease**
Gloria Itzel Cerda Hernández, María Alejandra Ruiz Mafud, Anna Paola Bazán Rodríguez, Etienne Reséndiz Henríquez, Eduardo Ichikawa Escamilla, Daniela Renee Aguila Godinez, Axel Antonio Herrera Ruiz, Ana Jimena Hernández Medrano, Amin Cervantes Arriaga, Mayela Rodriguez-Violante

P30.04 **NeuroOrb: An accessible co-designed "Serious Games" system for targeted cognitive training in Parkinson's disease**
Lyndsey Collins-Praino, Bianca Guglietti, Simon Drum, Angus McNamara, Benjamin Ellul, Bradley Wesson, David Hobbs

P30.05   **Moderating effects of uric acid and sex on non-motor symptoms in asymmetric Parkinson's disease**
Ioana Medeleine Constantin, Philippe Voruz, Julie Anne Péron

P30.06   **Differential effects of motor task and executive demand on cognitive dual-task performance in people with Parkinson's disease and freezing of gait**
Nicholas D'Cruz, Jana Seuthe, Femke Hulzinga, Pieter Ginis, Christian Schlenstedt, Alice Nieuwboer

P30.07   **The impact of antidepressant treatment on disease-related disability: Preliminary findings from the Parkinson's progression markers initiative**
Roseanne Dobkin, Nabila Dahodwala, Catherine Kulick, Meredith Bock, Ryan Cho, Chelsea Caspell-Garcia, Ethan Brown, Dag Aarsland, **Daniel Weintraub**

P30.08   **Is the ability to create motor images related to functionality and quality of life in people with Parkinson's disease and healthy control?**
María del Rosario Ferreira-Sánchez, Marcos Moreno-Verdú, **Yeray González-Zamorano**

P30.09   **Cognitive performance and depression in Parkinson's disease: A cross sectional analysis**
Emily Houston

P30.10   **The neuropsychological profile and other clinical characteristics in non-affected GBA-carriers versus non-carriers**
Sonja R. Jónsdóttir, Claire Pauly, Valerie E. Schröder, Laure Pauly, Olena Tsurkalenko, Rejko Krüger

P30.23   **Extending the BRAIN keyboard tapping test: To detect cognitive decline in a large community cohort of older Australians**
Xinyi Wang, Rebecca J. St George, Aidan Bindoff, Alastair J Noyce, Katherine Lawler, Eddy Roccati, Larissa Bartlett, Son Tran, James Vickers, Quan Bai, Jane Alty

P30.24   **Using keyboard motor tests in a cognitive clinic may help identify stages of the dementia continuum**
Xinyi Wang, Aidan Bindoff, Rebecca J. St Geroge, Son Tran, Kaylee Rudd, Quan Bai, James Vickers, Jane Alty

Clinical Science: Sleep disorders/ fatigue

P31.01   **Continuous dopaminergic stimulation to improve sleep disorders in Parkinson's disease with insomnia: Results from the Apomorphee study on subcutaneous night-time only apomorphine infusion**
Valérie Cochen De Cock, Pauline Dodet, Smaranda Leu, Cecile Aerts, Giovanni Castelnovo, Beatriz Abril, Sophie Drapier, Laurene Leclair-Visonneau, Marie Vidailhet, Isabelle Arnulf, Mohamed Doulazmi, Emmanuel Roze

P31.05   **Keyboard tapping performance in people with subjective REM sleep behaviour disorder**
Cristina Simonet, Harneek Chohan, Teresa Perinan Tocino, Laura Perez-Carbonell, Guy Leschziner, Aneet Gill, Jonathan Bestwick, Anette Schrag, Alastair Noyce

Clinical Science: Diagnosis (differential, accuracy)

P32.01   **Acute onset secondary Parkinsonism due to extrapontine myelinolysis**
Cintia Margoth Armas Puente, Carlos Cosentino Esquerre

P32.02   **Tacrolimus-induced Parkinsonism: A case report**
Cintia Margoth Armas Puente, Carlos Cosentino Esquerre

P32.03   **Parkinson's disease: A new metabolic biomarker for early diagnosis and development of potential therapeutic target**
Sabrina Boulet, David Mallet, Raphael Goutaudier, Thibault Dufourd, Sebastien Carnicella, Emmanuel Barbier, Florence Fauvelle, Véronique Sgambato, Pierre-Olivier Fernagut, Jerry Colca

Clinical Science: Co-morbidities

P33.01   **PD and spine surgery: The importance of less-invasive surgery and potential of knowledge mobilizatil**
Christian Carrwik, Anna Clareborn

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P33.02   **The prevalence of sarcopenia in an international Parkinson's disease cohort**
Laura Cordova Rivera, Ashley Hart, Lisa Alcock, Philip Brown, Heather Hunter, Alice Nieuwboer, Ginis Pieter, Heiko Gassner, Jürgen Winkler, Jochen Klucken, Walter Maetzler, Jennifer Kudelka, Hanna Hildesheim, Christian Schlenstedt, Anat Mirelman, Jeff Hausdorff, Mark Gordon, Clemens Becker, Lynn Rochester, Alison Yarnall

P33.03   **A systematic review of the prevalence of sarcopenia in Parkinson's disease and related disorders**
Laura Cordova Rivera, **Ashley Hart**, Fred Barker, Avan A. Sayer, Antoneta Granic, **Alison J Yarnall**

Clinical Science: Biomarkers and neuroimaging

P34.01   **Plasma ptau181 helps to identify amyloid-β co-pathology in Lewy body disease patients**
Carla Abdelnour, Melanie J. Plastini, Marian Shahid, Alena Smith, Edward N. Wilson, Katrin Andreasson, Victor Henderson, Geoffrey Kerchner, Kathleen L. Poston

P34.03   **Dopaminergic dysfunction is more symmetric in dementia with Lewy bodies compared to Parkinson's disease**
Tatyana Fedorova, Karoline Knudsen, Jacob Horsager, Allan K Hansen, Niels Okkels, Hanne Gottrup, Kim Vang, Per Borghammer

P34.05   **Ocular microtremor in Parkinson's disease: Protocol for an observational pilot study**
Lisa Graham, Rodrigo Vitorio, Claire McDonald, Richard Walker, Alan Godfrey, Rosie Morris, Samuel Stuart

P34.07   **Differential prognostic implications of cerebral hypo- and hyperperfusion in Parkinson's disease: Early-phase 18F-FP-CIT PET study**
Seong Ho Jeong, Jong Sam Baik, Phil Hyu Lee, Young H. Sohn, Seok Jong Chung

P34.08   **Adaptive closed loop deep brain stimulation in advanced idiopathic Parkinson's disease patients: A study with neuroengineering perspective**
Neerati Lavanya

P34.10   **Characterizing Parkinson's clinical features in black americans and measuring the effect of non-impact lower body exercise on neuroimaging biomarkers and motor and gait function**
Senegal Alfred Mabry, Samantha Moss, Jeffery Bauer, Eve De Rosa, Adam Anderson

P34.11   **Predicting progression of Parkinson's disease motor outcomes using a multimodal combination of baseline clinical measures, neuroimaging and biofluid markers**
Angus McNamara, Benjamin Ellul, Dr Irina Baetu, Dr Stephan Lau, Professor Mark Jenkinson, Assoc/Professor Lyndsey Collins-Praino

P34.12   **Local field potentials in Parkinson's disease: Effect of lead type and target, peak detection, and contact selection**
Alfonso Fasano, Thomas Witt, Sara Bick, Mya Schiess, Hideo Mure, Genko Oyama, Katsuo Kimura, Alexa Singer, Claudia Sannelli, Nathan Morelli

P34.13   **Real-world local field potential dynamics in patients with Parkinson's disease**
Alfonso Fasano, Hideo Mure, Genko Oyama, Thomas Witt, Alexa Singer, Claudia Sannelli, Nathan Morelli

Clinical Science: Pharmacological therapy

P35.03   **Effect of cannabis on motor and non-motor symptoms of Parkinson's disease: A behavioral and pharmacological study in rats**
Elodie Giorla, **Christelle Baunez**

P35.04   **Deciphering cross talks of dopamine/insulin/NLRP3-Inflammasome signaling (DA/IN/NLRP3), metabolic syndrome(MeS) and cardiovascular risk (CVR) in drug-(antipsychotic)-induced Parkinsonism (DIP) and tardive dyskinesia (TD) mimicking Parkinson's disease (PD) motor/cognition symptoms: Neuroprotective effects of Panax ginseng: The prototypal NLRP3 regulator**
Autumn Carriere, Simon Chiu, Jerry Hou, Edmund Lui, Mariwan Husni, John Copen, Robbin Campbell, Allison foskett, Shad Mujeeb, Michel Woodbury-Farina, Ram Mishra, Yves Bureau, Amresh Srivastava

P35.05   **Drivers of treatment decisions in advanced Parkinson's disease: A qualitative study among people with Parkinson's and caregivers**
Josefa Domingos, Rajesh Pahwa, Angelo Antonini, Irene Malaty, Susanna Lindvall, Franceso De Renzis, Connie Yan, Krystallia Pantiri, Nancy Touba, Emily Evans, Ali Alobaidi, Anand Shewale, Pavnit Kukreja, Jorge Zamudio, K Ray Chaudhuri

P35.06   **Apomorphine hydrochloride injection (Apokyn®) treatment initiations in the presence and absence of an antiemetic in people with Parkinson disease**
Mindy Grall, Cindy Happel, Andrea Formella

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P35.08   **Personalized dopaminergic treatment in a cohort of Parkinson's disease patients carrying autosomal recessive gene variants**
Christos Koros, Athina-Maria Simitsi, Anastasia Bougea, Nikolaos Papagiannakis, Roubina Antonelou, Ioanna Pachi, Athina Zachou, Constantin Potagas, Leonidas Stefanis

P35.09   **Summative human factors validation of the foslevodopa/foscarbidopa (ABBV-951) continuous subcutaneous infusion drug delivery system by Parkinson's disease patients, caregivers, and healthcare professionals**
Pavnit Kukreja, Ed Halpern, Jill M. Giordano Farmer, Michael J. Soileau, Ji Zhou, Amy M. Spiegel

P35.10   **A comparative study for selecting the proper Parkinson's disease medication with Fuzzy PROMETHEE**
Ilker Ozsahin, Efe Precious Onakpojeruo, Berna Uzun, Dilber Uzun Ozsahin, Tracy Butler

P35.11   **6 years of safinamide in the treatment of Parkinson's disease: Low rate of discontinuation and sparing of dopamine agonists**
Anna Planas Ballve, Nuria Caballol Pons, Isabel Gómez-Ruiz, Marta Balagué Marmaña, Alex Velazquez, Xavier Cardona, Asunción Ávila Rivera

Clinical Science: Surgical therapy, including cell and gene therapy

P36.02   **Long-term motor outcomes of deep brain stimulation of the globus pallidus interna in Parkinson's disease patients: Five-year follow-up**
Sun Ju Chung, Sungyang Jo, Seung Hyun Lee, Mi-Sun KIm, Yun Su Hwang

P36.03   **Accuracy of the Guide ™ XT to determine the electrodes position according to the clinical outcome after subthalamic nucleus deep brain stimulation in patients with Parkinson's disease**
Kirsys Del Giudice, Almudena Sánchez-Gómez, Pedro Roldán, Jordi Rumià, Esteban Muñoz, Ana Cámara, Francesc Valldeoriola

P36.04   **Enhanced differentiation of human induced pluripotent stem cells towards the midbrain dopaminergic neuron lineage both in vitro and in vivo through GLYPICAN-4 down regulation**
Serena Corti, Remi Bonjean, Thomas Legier, Diane Rattier, Christophe Melon, Pascal Salin, Lydia Kerkerian-Le Goff, **Rosanna Dono**

P36.05   **Improvement in quality-of-life and motor function during daily clinical practice using a directional DBS system**
Jan Vesper, Heleen Scholtes, Roshini Jain, Lilly Chen, Michael Barbe, Steffen Paschen, Andrea Kühn, Chong Sik Lee, Jens Volkmann, Günther Deuschl

P36.06   **Real-world outcomes in USA using DBS systems with directionality and multiple independent current control**
Michael Okun, Kelly Foote, Theresa Zesiewicz, Yarema Bezchlibnyk, Alexander Papanastassiou, Juan Ramirez-Castaneda, Jonathan Carlson, Jason Aldred, Vibhor Krishna, Aristide Merola, Corneliu Luca, Jonathan Jagid, Jennifer Durphy, Leo Verhagen-Metman, Sepehr Sani, Stephen Ojemann, Drew Kern, David Weintraub, Ritesh Ramdhani, Abdolreza Siadati, Bharathy Sundaram, Cong Zhao, Derek Martinez, Mustafa Siddiqui, Roshini Jain

P36.07   **Motor function and quality-of-life improvement following asleep versus awake deep brain stimulation (DBS) procedures**
Jan Vesper, Günther Deuschl, Lilly Chen, Roshini Jain

Clinical Science: Complications of therapies

P37.01   **Protocol to help neurologists manage subcutaneous apomorphine therapy skin nodules: Expert roundtable recommendations**
Stu Isaacson, **Mindy Grall**, Fiona Gupta, Daniel Kremens, Cuong Nguyen, Rajesh Pahwa, Marc Serota, Matthew Zirwas, Steven Feldman

P37.02   **Influence of continuous subcutaneous apomorphine infusion on cognition and behavior in Parkinson's disease: A systematic review**
Jean-Fançois Houvenaghel, Virginie Czernecki, Kathy Dujardin, Emmanuelle Schmitt, Alexia Arifi, Eve BENCHETRIT, Céline Dillier, Elodie Lemercier, Cécile Cau, Amélie Bichon, Laura Lavigne, Mylène Meyer

Clinical Science: Clinical trials: Design, outcomes, recruiting, etc.

P38.02   **Phenotyping REM sleep behaviour disorder in a large community cohort in Tasmania, Australia: Baseline characteristics of the ISLAND Sleep Study**
Samantha Bramich, Alastair Noyce, Anna King, Aidan Bindoff, Maneesh Kuruvilla, Sharon Naismith, Larissa Bartlett, James Vickers, Jane Alty

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P38.03 **Onset of efficacy with continuous, subcutaneous levodopa/carbidopa infusion in patients with PD experiencing motor fluctuations**
C. Warren Olanow, Fabrizio Stocchi, Aaron L. Ellenbogen, Liat Adar, **Ryan Case**, Tami Yardeni, Alberto J Espay

P38.04 **Descriptive case studies of patients in their fifth consecutive year of treatment with ND0612**
Alberto J. Espay, Tanya Gurevich, David Arkadir, Sophia Sopromadze, Liat Adar, Ryan Case, Tami Yardeni

P38.05 **Efficacy of 24-hour subcutaneous levodopa/carbidopa infusion with ND0612 for patients with Parkinson's disease experiencing motor fluctuations: Subgroup-analysis from the open-label BeyoND study**
Werner Poewe, Stuart Isaacson, Fabrizio Stocchi, Liat Adar, Nelson Lopes, Ryan Case, Tami Yardeni, Nir Giladi

P38.06 **Enrollment characteristics for patients entering a Phase 3 study of subcutaneous levodopa/carbidopa infusion with ND0612**
Olivier Rascol, Alberto Albanese, Aaron Ellenbogen, Joaquim J Ferreira, Tanya Gurevich, Sharon Hassin, Jorge Hernandez-Vara, Stuart Isaacson, Karl Kieburtz, Peter LeWitt, Lydia Lopez Manzanares, C. Warren Olanow, Rajesh Pahwa, Werner Poewe, Harini Sarva, Fabrizio Stocchi, Tami Yardeni, Liat Adar, Laurence Salin, Nelson Lopes, Nissim Sasson, Ryan Case, **Alberto J. Espay**, Nir Giladi

P38.07 **Utilizing a variation of the train the trainer model to create best practice guidelines and to build a culturally sensitive and community educated team of ambassadors to increase diverse enrollment in clinical trial research studies**
R Bernard Coley, **Denise Coley**

P38.08 **Targeted touchscreen training in people with Parkinson's disease: A pilot study**
Joni De Vleeschhauwer, Evelien Nackaerts, Yifeng Zhang, Luc Janssens, Wim Vandenberghe, Alice Nieuwboer

P38.10 **An entirely home-based phase 3 clinical trial of specialized light therapy for Parkinson's disease – Rationale and design**
Ray Dorsey, Dan Adams, Suzanne Hendrix, Bradley Wyman, Jamie Adams, Meghan Pawlik, Melissa Kostrzebski, Karl Kieburtz

P38.12 **Key factors affecting participation in Parkinson's clinical trials**
Rosie Fuest, Gary Rafaloff, Kevin McFarthing, Lyndsey Isaacs, Helen Bracher, Tim Bracher, Alison Anderson, Michelle Bartlett, Zia Mursaleen, Georgia Mills, Marie-Louise Zeissler, Camille Carroll, Leah Mursaleen, Soania Mathur, Helen Matthews, Emma Lane

P38.13 **The current experience of participating in Parkinson's clinical trials**
Rosie Fuest, Gary Rafaloff, Kevin McFarthing, Lyndsey Isaacs, Helen Bracher, Tim Bracher, Alison Anderson, Michele Bartlett, Zia Mursaleen, Georgia Mills, Marie-Louise Zeissler, Camille Carroll, Leah Mursaleen, Soania Mathur, Helen Matthews, Emma Lane

P38.14 **Building a coalition to advance engagement of black and African American communities in Parkinson's disease (PD) research using best practices in diversity, equity and inclusion (DEI), and patient engagement: A multidisciplinary approach**
Bernard Coley, **Denise Coley**, **Casey Gallagher**, Tammyjo Best, Chantale Branson, Michael Fitts, Kimberly Gamble, Phil Gee, Angela Huckabee, Richard Huckabee, Reversa Joseph, Evelyn Lewis, Arita McCoy, Disep Ojukwu, Terrie Peacher-Ransom, Don Ransom, Nik Roberts, Lisa Seghetti, Hiral Shah, Karen Williams, Lance Wilson, Evelyn Stevens, Karlin Schroeder

P38.15 **Outcomes and impact of capacity building for patient engagement in research on staff at academic research centers through a patient advisory board model**
Casey Gallagher, Karlin Schroeder, Melissa Armstrong, Martie Carnie, Megan Dini, Megan Feeney, Benzi Kluger, Sandhya Seshadri, Lance Wilson, Jori Fleisher, Patricia Davies

P38.17 **An outcome measure set for disease-modifying multi-arm multi-stage Parkinson's disease trials within the EJS ACT-PD initiative: Selection process and preliminary results**
Cristina Gonzalez-Robles, Michèle Bartlett, Matthew Burnell, Rebecca Chapman, Caroline S Clarke, Romy Ellis-Doyle, Shlomi Haar, Michele Hu, Brook Huxford, Ashwani Jha, Michael Lawton, Georgia Mills, Alastair Noyce, Paola Piccini, Kuhan Pushparatnam, Lynn Rochester, Carroll Siu, Daniel Van Wamelen, Caroline Williams-Gray, Marie-Louise Zeissler, Henrik Zetterberg, Camille B Carroll, Thomas Foltynie, Rimona Weil, Anette Schrag

P38.18 **Disease-modifying drug selection in multi-arm multi-stage Parkinson's disease trials within the EJS ACT-PD initiative**
Cristina Gonzalez-Robles, Rebecca Chapman, Sally Collins, David T Dexter, Susan Duty, Romy Ellis-Doyle, Edwin Jabbari, Keith Martin, Kevin McFarthing, Georgia Mills, Heather Mortiboys, Esther Sammler, Paula Scurfield, Simon Stott, George Tofaris, Li Wei, Alan Wong, Marie-Louise Zeissler, Camille B Carroll, Thomas Foltynie, Oliver Bandmann, Anthony HV Schapira

P38.19 **Funding and sustainability of a multi-arm multi-stage Parkinson's disease clinical trial: Challenges and progress within the EJS ACT-PD initiative**
Cristina Gonzalez-Robles, Rebecca Chapman, Shona Clegg, Sally Collins, Eric Deeson, Romy Ellis-Doyle, Maryanne Graham, Vince Greaves, Joel Handley, Emily J Henderson, Karen Matthews, Laurel Miller, Georgia Mills, Marie-Louise Zeissler, Camille B Carroll, Thomas Foltynie, Sonia Gandhi, Joy Duffen

P38.20 **Piloting the PREDIGT score in a movement disorders clinic to distinguish Parkinson's patients from subjects with other diagnoses without a neurological examination**
Kelsey Grimes, Juan Li, Joseph Saade, Julianna Tomlinson, Douglas Manuel, Tiago Mestre, Michael Schlossmacher

P38.21 **LRRK2 Inhibition by BIIB122: Trial designs for two efficacy and safety studies in Parkinson's disease patients with and without LRRK2 mutations (LIGHTHOUSE and LUMA)**
Julia Shirvan, Danna Jennings, Pan Wang, Romeo Maciuca, Sowmya Chary, Katie Harrison, Angela Kay, Kyle Fraser, Sarah Huntwork-Rodriguez, Minhua Yang, Matthieu Levee, Peter Chin, Tien Dam

P38.30 **Characterizing the frequency of clinically reportable variants in major genes established in Parkinson's disease (PD) in a large American cohort**
Kamalini Ghosh Galvelis, Anna Naito, Lola Cook, Jennifer Verbrugge, Tae-Hwi Schwantes-An, Jeanine Schulze, Priscila Hodges, Amanda Miller, Rebeca De Leon, Rossy Cruz Vicioso, Anny Coral-Zambrano, Laura Heathers, Michelle Totten, Tatiana Foroud, Anne Hall, Anne-Marie Wills, Karen Marder, Ignacio Mata, Niccolo Mencacci, Marth Nance, Michael Schwarzschild, Tanya Simuni, James Beck, Roy Alcalay

P38.38 **Parkinson's disease drug therapies in the clinical trial pipeline: 2020-2022**
Kevin McFarthing, Sue Buff, Gary Rafaloff, Leah Mursaleen, Rosie Fuest, Marco Baptista, Brian Fiske, Richard Wyse, **Simon Stott**

P38.39 **Ten years of drug repurposing for Parkinson's: The international linked clinical trials project**
Richard Wyse, Simon Stott, Tom Isaacs, Roger A Barker, Jerry Callaghan, Mark R Cookson, Ted Dawson, David Devos, David T Dexter, Joy Duffen, Howard Federoff, Brian Fiske, Thomas Foltynie, Susan Fox, J. Timothy Greenamyre, Lyndsey Isaacs, Karl Kieburtz, Jeffrey H Kordower, Dimitri Krainc, Soania Mathur, Helen Matthews, Kevin McFarthing, Darren Moore, Leah Mursaleen, Gary Rafaloff, Michael Schwarzschild, David Sulzer, Caroline Tanner, Camille Carroll, David K. Simon, **Patrik Brundin**

Clinical Science: Rating scales

P39.01 **Virtual low-cost quantitative continuous measurement of movements in the extremities of people with Parkinson's disease**
James Brasic, Abdelwahab Elshourbagy, Mennatullah Eltaras, Hassan Abdalshafy, Samrah Javed, Ahmed O. Sadaney, Timothy Harrigan, Kelly Mills, Manuel Hernandez

P39.02 **Remote scoring of a low-cost quantitative continuous measurement of movements in the extremities of people with Parkinson's disease**
Abdelwahab Elshourbagy, Menna Eltaras, Hassan Abd El shafy, Samrah Javed, Ahmed O. Sadaney, Timothy P. Harrigan, Kelly Alexander Mills, Manuel Manuel Enrique Hernandez, **James Brasic**

P39.03 **The Ziegler test is a reliable and valid measure of freezing of gait in people with Parkinson's disease**
Lina Goh, Serene S Paul, Colleen G Canning, Kaylena A Ehgoetz Martens, Jooeun Song, Stephanie L Campoy, Natalie E Allen

Clinical Science: E-health and technology

P40.01 **TAS Test automatic hand movement analysis – Validation of a new self-assessment tool designed for home use**
Jane Alty, Quan Bai, Xinyi Wang, Renjie Li, Guan Huang, Katharine Lawler, Rebecca St. George, Kaylee Rudd, Eddy Roccati, Aidan Bindoff, Larissa Bartlett, Saurabh Garg, Mark Hinder, Anna King, James Vickers

P40.02 **A 20-second home-based test helps detect prodromal Parkinson's in a community sample of older Australians**
Jane Alty, Samantha Bramich, Xinyi Wang, Renjie Li, Alastair Noyce, Guan Huang, Maneesh Kuruvilla, Rebecca St. George, Katherine Lawler, Mark Hinder, Eddy Roccati, Larissa Bartlett, Saurabh Garg, Quan Bai, Sharon Naismith, Anna King, James Vickers

P40.03 **Evaluation of the Parkinson's Remote Interactive Monitoring System (PRIMS): A usability study**
Bronwyn Bridges, John Weber, Jake Taylor

P40.04 **Screening risk of falls in people with Parkinson's disease using a digital App: A feasibility study**
Tamine Capato, Johnny Miranda, Venicio Graboi, Francielle Santos, Fabiana Almeida, Rafael Carra, Rubens Cury, Manoel Teixeira, Egberto Barbosa

P40.06 **Acceptability of a hybrid dual-task exercise program for Parkinson's delivered online to an in-person group, facilitated by an on-site physical therapist**
John Dean, Josefa Domingos, Emily Moncheski, Catarina Godinho

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Wednesday, July 5, 2023

P40.07 **A preliminary feasibility study of online motor assessments of people with Parkinson's disease and related conditions**
Menna Eltaras, Abdelwahab Elshourbagy, Hassan Abdalshafy, Samrah Javed, Ahmed Sadaney, Timothy Harrigan, Kelly Mills, Manuel Hernandez, James Brasic

P40.08 **Design and development of a digital therapeutics (DTx) delivering personalized medication optimization for people with Parkinson's disease**
Giovanni Gentile, Maria Teresa Pellecchia, Pier Paolo Iagulli, Raffaele Aulisio, Maria Frediani, Silja-Riin Voolma, Gerry Chillè

Clinical Science: Neuroimaging

P41.01 **Cerebral glucose consumption and synaptic density in patients with Lewy body diseases, as measured with [18F]FDG and [11C]UCB-J PET**
Katrine B. Andersen, Allan K. Hansen, Anna Christina Schacht, Jacob Horsager, David J. Brooks, Per Borghammer

P41.05 **Dancing modifies activations in brain regions associated with movement, mood and reward in people with Parkinson's**
Rebecca Barnstaple, Judith Bek, J Royze Simon, Rachel Bar, Karolina Bearss, Katayoun Ghanai, Ashkan Karimi, Joseph FX DeSouza

P41.06 **Image-guided programming tool for DBS programming used with a multiple-source, constant-current system reduces initial programming time**
Jason Aldred, Theresa Zesiewicz, Michael Okun, Juan Ramirez-Castaneda, Leo Verhagen-Metman, Corneliu Luca, Ritesh Ramdhani, Jennifer Durphy, Yarema Bezchlibnyk, Jonathan Carlson, Kelly Foote, Sepehr Sani, Alexander Papanastassiou, Jonathan Jagid, David Weintraub, Julie Pilitsis, Lilly Chen, Roshini Jain

P41.07 **The effect of nonimpact eccentric lower body exercise on Parkinson's symptoms and substantia nigra structure and function**
Senegal Alfred Mabry, Samantha Moss, Jeff Bauer, Eve De Rosa, Adam Anderson

P41.10 **Neuroinflammation is elevated in people with Parkinson's disease with higher risk of developing dementia: Baseline findings from the NET-PDD (NEuroinflammation and Tau aggregation in Parkinson's Disease Dementia) study**
Lennart R B Spindler, Antonina Kouli, Tim D Fryer, Young T Hong, Franklin I Aigbirhio, Simon R White, Maura Malpetti, Marta Camacho, Caroline H Williams-Gray

Clinical Science: Prodromal

P42.01 **Isolated REM sleep behaviour disorder (prodromal Parkinson's disease) is associated with poor sleep quality in Tasmanian ISLAND sleep study**
Samantha Bramich, Aidan Bindoff, Anna King, Alastair Noyce, Jane Alty

P42.02 **Detecting early symptoms of parkinsonism and isolated REM sleep behaviour disorder in the Tasmanian ISLAND sleep study using a quick online screening questionnaire**
Samantha Bramich, Aidan Bindoff, Anna King, Alastair Noyce, Jane Alty

Living with Parkinson's: Public education or awareness programs

P43.02 **Subjective evaluation of "painfulness" and its variation factors in working generation PwPs (Parson with Parkinson's)**
Yojiro Ashina, Yuki Furumoto, Junya Ogawa, Mikitaka Matsuno, Masashi Hiraoka, Satoshi Akiyama

P43.04 **Maintaining social insertions while facing varying symptoms: Experiences of working-age patients with Parkinson disease**
Myriam Borel

P43.05 **"Surely, you are too young"**
Sheenagh Bottrell

P43.07 **Development of a patient journey map for people living with Parkinson's disease**
Alberto Albanese, Ryan Case, Anat Amit, Shmuel Ben-Hamo

P43.08 **Exploring public perceptions and awareness of Parkinson's disease: A scoping review of the international literature**
Sophie Crooks, Gillian Carter, Christine Brown Wilson, Lisa Wynne, Gary Mitchell

P43.10 **Stand up to Parkinson's: A global awareness campaign for exercise in Parkinson's on WPD 2022**
Laura Douglas

P43.17 **A call to action for community-cased exercise classes: Building a team of healthcare providers, students, and fitness instructors**
Robert Hand

P43.21 **Piece of mind: Parkinson's screening and interactive workshop**
Naila Kuhlmann, **Anne McIsaac**, **Jeremie Robert**, **Alice Masson**, **Rebecca Barnstaple**, **Louise Campbell**

P43.22 **Friends of Parkinson's: Involving youth in raising public awareness about Parkinson's disease in India**
Deepshikha Mathur, Maria Barretto

P43.25 **A Parkinson's manifesto for Europe**
Fiona Montague, Josefa Domingos, Amelia Hursey

P43.26 **What I didn't say – A journey through Parkinson's: An original play about life with Parkinson's, authored and produced by Matthew Moore, Ohio, United States**
Matthew Moore

P43.27 **The Barcelona Parkinson's Ready Program**
Selma Pelaez

P43.28 **A study on social media strategies employed by the PDMDS to create awareness on Parkinson's Disease in India**
Neha Rane, Maria Barretto

P43.29 **Faces of Parkinson's**
Travis Robinson

Living with Parkinson's: Government advocacy/ campaigns/ public policy

P44.02 **Anti-antiparkinsonian drug use after diagnosis of Parkinson's disease**
Woong-Woo (Woody) Lee, Beomseok Jeon

P44.03 **Assessing access to medications and other health-related barriers for people living with Parkinson's: A pmd alliance policy panel survey**
Andrea Merriam, Greg Chesmore, Maria Cristina Ospina, Jill Farmer, Lori DePorter, Julia Pitcher, Kelly Papesh, Jason Rivera

P44.04 **Networking of NGOs with World Parkinson Coalition: Approach in public health policy evolvement**
Shankh Pal, Toshni Roy, Jyothi Kumari

Living with Parkinson's: Living well with PD

P45.01 **Living well with Parkinson's disease**
Chinyere Rachel Agwu

P45.02 **PARK&SUN: An intergenerational discussion**
Jean Andresen, Hannah Nizet, Lily Nizet

P45.03 **What patients themselves can do to make DBS a success**
Yojiro Ashina

P45.07 **Live well with Parkinson's through connective dance/movement practices that promote changing flow states: A study by Dr Melanie Brierley, independent dance and health artist and researcher, United Kingdom**
Melanie Brierley

P45.08 **4 simple tips for full-time workers with Parkinson´s**
Luis Castellanos

P45.09 **Restore your power and control your present with a health education channel you can truly rely on**
Begoña Cirera Perez

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P45.10 **Parkinson Society BC bridges the gap between clinical care and social care: Social prescription initiatives**
Alana Dhillon

P45.11 **Young Parkies Portugal: Empowered to improve care in young-onset Parkinson's disease**
Josefa Domingos, Maria do Carmo Teixeira Bastos, Rui Couto, Ana Rita Carneira, Ana Leal Cardoso, Alexandre Reffóios, Susana Magalhães, João Massano, Tiago Fleming Outeiro

P45.12 **Walking in a group using urban walking poles to improve physical and mental health**
Sandra Elms

P45.17 **Happiness with Haiku; ZOOM Haiku meeting for PwP**
Nobuko Haneji

P45.18 **Caring for the carepartner: Gatekeepers and guardians**
Celeste Harris, Kathleen Crist

P45.20 **PD&ME: Leveraging technology to increase access to wellness and support groups**
Rebecca Korduner, Anissa Mitchell

P45.21 **Sunday mornings with Twitchy Woman: Learn together, play together and thrive together. A response to the pandemic shutdown**
Sharon Krischer

P45.22 **Decades-long fight against PD: A scientist's experience and perspectives**
Prabhakaran Kuniyil

P45.25 **A novel peer mentoring support system for persons with Parkinson's disease**
Tsao-Wei Liang, S. Kenneth Thurman, **Lance Wilson**, Kimberly Stoveld

P45.28 **Parkinson can't steal my heart, love, thoughts and poetry: Writings by Lili Saint Laurent**
Alice Masson

P45.29 **Parkinson's wellness professionals needs assessment**
Bradley McDaniels, Gabriella Dimotsantos, Davis Phinney Foundation, National Engagement Advisory Team

P45.30 **Impact of socioeconomic status on severity of symptoms and quality of life in Mexican people living with Parkinson's disease**
María Fernanda Medina-Pérez, Diana Paulina Romero-Terán, Andrea García-Hernández, Ana Jimena Hernández-Medrano, Rodolfo Arturo Abundes-Corona, Amin Cervantes-Arriaga, Mayela Rodriguez-Violante

P45.31 **Parkinson's Europe's don't lose sleep over Parkinson's campaign**
Tara Nabili, Dominic Graham, Jennifer Stratten, Adrien Moyroud

P45.32 **'Exchanges': A visual resource to inspire and support deeper conversations in the Parkinson's community**
Miratul Muqit, Daksha Patel, **Sarah Patrick**, Nur Kockaturk, Daniel Saarela, Shalini Agarwal, Gloria Shi, Bill Carton, Janet Niven, Katrine Wreford, Daryl Lawson, Ian Keir, Sharon Langlands, Linda Donegan, Anthony Knowles, Sandra Knowles, Joy Milne, Thomas Giddens, Paul Davies

Living with Parkinson's: Advancing research: collaborations, capacity building, fundraising, trials, campaigns

P46.01 **Including patients and care partners in clinical trial design: The EJS ACT-PD experience**
Michèle Bartlett, Eric Deeson, Jodie Forbes, Anna Jewell, Keith Martin, **Laurel Miller**, Kuhan Pushparatnam, Dorothy Salathiel, Paula Scurfield, **Carroll Siu**, Sue Whipps, Sheila Wonnacott, Kevin McFarthing

P46.03 **The Canadian Open Parkinson Network (C-OPN): A multimodal biorepository connecting the Canadian Parkinson's community around the world**
Marisa Cressatti, Catherine Normandeau, Clotilde Degroot, Iris Kathol, A. Jon Stoessl, Martin McKeown, Janis Miyasaki, Richard Camicioli, David Grimes, Lorraine Kalia, Antonio Strafella, Penny MacDonald, Nicolas Dupré, Edward Fon, Oury Monchi

P46.04 **Parkinson community plays a critical role in new brain health initiaitve**
Roseanne Dobkin, Maggie McGuire Kuhl, Lynell Lemon, Christina Destro, **Caitlin Kelliher**, Laura Heathers, Michelle Totten, Erinn Bryan, Craig Stanley, Chris Hobbick, Bridget McMahon, Kim Fabrizio, Ken Marek

P46.05 **A call to action: Including people with Parkinson's in clinical study design and execution**
Anne Donnelly, Margaret Sheehan

P46.06 **Informing a multi-country Parkinson's research grant in Africa through community engagement and involvement**
Jared Okeno, Natasha Fothergill-Misbah, Richard Walker, Njideka Okubadejo, Tania Park, Omotola Thomas

P46.07 **Transforming Parkinson's Care in Africa (TraPCAf): A newly funded research grant**
Natasha Fothergill-Misbah, Njideka Okubadejo, Catherine Dotchin, Tania Park, Richard Walker

Living with Parkinson's: Other

P47.02 **A neurologist with PD: What I've learnt about being a patient and person with PD**
David Blacker

P47.05 **Medication experiences of people with Parkinson's disease**
Sneha Mantri, Kristin Richards, Steven Arcona, Rahul Sasane

Late-Breaking

LBP01.18 **Genome-wide association identifies novel etiological insights associated with Parkinson's disease in African and African admixed populations**
Mie Rizig, Sara Bandres Ciga, Mary Makarious, Oluwadamilola Ojo, Kristin Levine, Olaitan Okunoye, Ellen Sidransky, Nahid Tayebi, Peter Wild Crea, BLAAC PD Study Group, Nigeria Parkinson's Disease Research Network, Cornelis Blauwendraat, Henry Houlden, John Hardy, **Andrew Singleton**, Njideka Okubadejo

LBP01.23 **Association of diet with gut microbiome in patients with Parkinson's disease**
Dayoon Kwon, Keren Zhang, Kimberly Paul, Irish Del Rosario, Jonathan Jacobs, Adrienne Keener, Jeff Bronstein, **Beate Ritz**

LBP01.24 **A low-quality diet is associated with Parkinson's disease in central California**
Dayoon Kwon, Aline Folle, Irish Del Rosario, Keren Zhang, Kimberly Paul, Adrienne Keener, Jeff Bronstein, **Beate Ritz**

LBP03.08 **G51D, a rare and aggressive form of Parkinson's disease**
Noelia Pelegrina-Hidalgo

LBP05.02 **The effect of gut microbiome dysbiosis on tyrosine and cholesterol sex hormone metabolism in Parkinson's disease**
Natalia Birch, Nanthini Jayabalan, Kerry Roper, Helen Woodhouse, John O'Sullivan, Robert Adam, Richard Gordon

LBP05.06 **Spatial transcriptomics identifies molecular signatures of prodromal and advanced alpha-synuclein pathology**
Asad Jan, Xiaoying Zhao, Poul H. Jensen, Yonglun Luo, Marina Romero-Ramos, Lin Lin, Jens R. Nyengaard

LBP06.04 **Establishing a Progenitor Cell Bank of iPSC-derived cells poised for neural differentiation for the Parkinson's research community**
Michela Ilaria Barbato, Nicola J. Drummond, Yixi Chen, Karamjit Singh Dolt, Maurice A. Canham, Peter Kilbride, G. John Morris, Andrew Chai, Zhijun Wang, Tilo Kunath

LBP06.05 **Diverging progression of synucleinopathy in mouse models of Parkinson's disease and multiple system atrophy**
Anna Barber Janer, Eline Vonck, Chris Van den Haute, Ariel Louwrier, Vicky Marie Myhre, Jacob Alec McPhail, Veerle Baekelandt, Wouter Peelaerts

LBP06.17 **Functional and neuropathological changes induced by injection of distinct alpha-synuclein strains: A pilot study in non-human primates**
Audrey Fayard, Alexis Fenyi, Sonia Lavisse, Sandra Dovero, Luc Bousset, Tracy Bellande, Sophie Lecourtois, Christophe Jouy, Martine Guillermier, Caroline Jan, Pauline Gipchtein, Benjamin Dehay, Erwan Bezard, Ronald Melki, Philippe Hantraye, Romina Aron Badin

LBP06.24 **Early-life Parkinson's-related behavioural changes in neonatal Lrrk2 knock-in mice**
David J Harrison, Fatima M Sheikh, Dayne A Beccano-Kelly

LBP06.31 **Characterization of the GBA1 E326K mutation in Parkinson's disease progression and its impact on neuroinflammation and α-synucleinopathy**
Sangjune Kim, Sin Ho Kwoen, Hye Guk Ryu, Hyeonwoo Park, Saebom Lee, Namshik Kim, Han Seok Ko

LBP08.01 **Imaging the noradrenergic system in Parkinson's disease: A [11C]Yohimbine PET and neuromelanin MRI study**
Chloé Laurencin, Sophie Lancelot, Marine Huddlestone, Sarah Brosse, Inès Merida, Nicolas Costes, Jérôme Redouté, Didier Le Bars, Stéphane Thobois, Philippe Boulinguez, **Bénédicte Ballanger**

LBP09.04 **A pilot study about the effectiveness of the high-dose donepezil in the cognitive function and neuropsychiatric symptoms in Parkinson disease with cognitive impairment**
Sang Jin Kim

LBP10.01 **The modulation of subthalamic beta bursts during task execution underlies deep brain stimulation related motor improvement in Parkinson's disease**
Manuel Bange, Gabriel Gonzalez-Escamilla, Damian Marc Herz, Gerd Tinkhauser, Alek Pogosyan, Martin Glaser, Dumitru Ciolac, Christian Dresel, Huiling Tan, Peter Brown, Sergiu Groppa

LBP13.02 **Exercise and physical activity promotion after a Parkinson's diagnosis: a UK survey of healthcare professionals**
Ledia Alushi, Peter Hartley, Louise Lafortune

LBP19.02 **Transforming Parkinson's disease education & care: Engaging & addressing American Indian & Alaskan Native communities**
Somil Bhushan, Peery White, Sarah Osborne

LBP22.01 **"It's such a basic instinct to walk, but ..." People with Parkinson's experience using compensation strategies to improve walking**
Sheemah Alenezi, Sarah Morgan-Trimmer, Sophia Hulbert, William Young, Victoria A Goodwin

LBP24.01 **Exploring people with Parkinson's disease's experiences of online exercise groups in the UK – a qualitative study**
James Alexander, Caroline Appel, Yiota Constantinou, Anette Schrag

LBP24.07 **Different speech biomarkers for tremor and motor coordination in Parkinson's disease — Implications for remote disease severity monitoring**
Ebru Baykara, Louisa Schwed, Johannes Tröger, Nicklas Linz, Juan Rafael Orozco-Arroyave

LBP24.13 **Patient experiences and working alliance in a decentralized, online trial of cognitive behavioral therapy for depression in PD.**
Aleksander H. Erga, Guido Alves, Albert Leentjens

LBP27.07 **Alopecia in females with young onset Parkinson's disease: An exploratory survey**
Kelsey Fisher, Erin Clifford, Nicholas Piniella, Dr. Rosemary Gallagher, Dr. Adena Leder

LBP28.03 **The prevalence of delirium and risk of mortality in hospital inpatients with Parkinson's disease**
Florence Gerakios, Gemma Bate, Laura Wright, Daniel Davis, Blossom CM Stephan, Louise Robinson, Carol Brayne, Linda Barnes, Glenn Stebbins, John-Paul Taylor, David J Burn, Louise M Allan, Alison J Yarnall, Sarah J Richardson, Rachael A Lawson

LBP32.04 **Which tests? Evaluation of bedside tests to identify delirium in Parkinson's disease**
Rachael A Lawson, Sarah J Richardson, Florence Gerakios, Gemma Bate, Alison J Yarnall, Laura Wright, John-Paul Taylor, David J Burn, Louise M Allan, Glenn Stebbins

LBP34.04 **Prospective role of PAK6 and 14-3-3γ as biomarkers for Parkinson's disease**
Elena Giusto, Lorenza Maistrello, Lucia Iannotta, Veronica Giusti, Ludovica Iovino, Rina Bandopadhyay, Angelo Antonini, Luigi Bubacco, Rita Barresi, Nicoletta Plotegher, Elisa Greggio, Laura Civiero

LBP34.09 **The Synuclein-One study: Detection of cutaneous phosphorylated alpha-synuclein for the diagnosis of the synucleinopathies**
Todd Levine, Christopher Gibbons, Jade Stohl, Bailey Bellaire, Roy Freeman

LBP36.01 **Preclinical safety and efficacy of dopamine neuron progenitor cells derived from PD donor induced pluripotent stem cells**
Derren Barken, Rachel Hills, Jim Mossman, Ha Tran, Ai Zhang, Roy Williams, Emma Lane, Mariah Lelos, Xiaokui Zhang, **Andres Bratt-Leal**

POSTERS – Session 1
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LBP38.01   **Effects of asymmetric vs symmetric dosing of IPX203 during a Phase 3 trial on the occurrence of drug-related adverse events**
Robert Hauser, Zachary Grieb, **Ghazal Banisadr**, Stanley Fisher

LBP38.09   **Pharmacological neuromodulation with intracerebroventricular administration of anaerobic dopamine for Parkinson's disease**
David Devos

LBP38.11   **The Norwegian Parkinson's Registry and Biobank**
Eldbjørg Fiske, Johannes Lange, Kenn Freddy Pedersen

LBP38.16   **A novel technological functional movement Parkinson test. A preliminary study**
Marco Gidoni, **Giuseppe Sarcinella**, Milena Guizzetti, Marco Esposito, Cecilia Gatti

LBP38.27   **Redesigning Parkinson's disease care: rationale, methods and baseline data from the PRIME-UK Parkinson's randomised controlled trial**
Katherine Lloyd, Emma Tenison, Matthew Smith, Rebecca Heath, Charlotte McDonald, Nicola Giles, Alexandru Stan, Chloe Thomas, Micheál Ó Breasail, Yoav Ben-Shlomo, Emily J Henderson

LBP38.31   **NLX-112 has favorable safety, tolerability and efficacy against levodopa-induced dyskinesia (LID) in a randomized, double-blind, placebo-controlled, proof-of-concept Ph2A study**
Per Svenningsson, Per Odin, Filip Berquist, Karin Wirdefeldt, Dag Nyholm, Måns Jergil, Christopher Jankosky, Mark Varney, Fabienne Herbrecht, Steven Johnson, **Adrian Newman-Tancredi**

LBP40.05   **DigiPark: First results of a medical device based on digital neuromarkers monitoring for better individualized care of patients with Parkinson's disease**
Djamchid Dalili, Caroline Atlani

LBP43.09   **Support groups are empowering the Parkinson's community**
Lori DePorter

LBP43.19   **Increasing Hispanic/Latino participation to provide knowledge, resources, and support through their Promotora/Embajadora de Parkinson around the world**
Adriana Jimenez

LBP43.20   **Parkinson's is not witchcraft: A report by Kabugo Hannington Tamale, Parkinson's Si Buko Uganda, Parkinson's Si Buko USA**
Hannington Kabugo Tamale, Sherryl Klingelhofer

LBP45.04   **Constitution of the Argentinian Parkinson's Network Civil Association – RaPark**
Adrián Borches, Daniel Merino, Andrea Cuellar, Natalia Lardieri, **Beatriz Navarro**, María de los Angeles Bacigalupe, Fernanda López, **Graciela Orostizaga**

LBP45.19   **Scaling heights: Climbing Mount Kilimanjaro with Parkinson's**
Michael High

LBP45.26   **SParky Samba – Exploring the benefits of Samba percussion**
Eirwen Malin, Emma Lane

LBP46.08   **A framework to facilitate access to medicines for people with Parkinson's disease in Africa**
Kabugo Hannington, Soania Mathur, Tania Park, Kat Hill, Nitish Sharma, Jared Okeno, Natasha Fothergill-Misbah

LBP47.06   **In their own words: Fears of people with Parkinson disease**
Sneha Mantri, Jennifer Purks, Daniel Kinel, Allison Allen, Connie Marras

POSTERS – Session 2
Thursday, July 6, 2023

11:30 AM – 1:30 PM | **Exhibit Hall**

Presenters of featured posters listed below will be present over lunch to discuss their work.

Basic Science: Etiology, genetics, epidemiology, and toxicants

P01.12 **Do Parkinson's susceptibility risk factors also influence age of onset?**
Amali S. Fernando, Santiago Díaz-Torres, Nicholas G. Martin, Miguel E. Renteria

P01.13 **Shared molecular pathways underlie the relationship between Parkinson's disease and chronic pain**
Luis Garcia Marin, Freddy Chafota, Miguel Renteria

P01.16 **Parkinson's disease is associated with large-scale microbial dysbiosis which may promote disease progression**
Avril Metcalfe-Roach, Mihai Cirstea, Adam Yu, Hena Ramay, Davide Martino, Laura Sycuro, Silke Appel-Cresswell, B. Brett Finlay

P01.17 **β-adrenoreceptor drugs and incidence of Parkinson's disease in women from the French E3N cohort study**
Thi Thu Ha Nguyen, Agnès Fournier, Émeline Courtois, Fanny Artaud, Sylvie Escolano, Pascale Tubert-Bitter, Isabelle Degaey, Emmanuel Roze, Ismaïl Ahmed, Anne C.M. Thiébaut, Alexis Elbaz

P01.20 **Genome wide association studies using SNP1 reveals new associated genes with Parkinson Disease in a Latino Cohort**
Thiago Peixoto Leal, Miguel Inca-Martinez, Emily Mason, Douglas Loesch, Andrea RVR Horimoto, Elif Sarihan, Mario Cornejo-Olivas, Luis Torres, Pilar Mazzetti, Carlos Cosentino, Elison Sarapura-Castro, Andrea Rivera-Valdivia, Angel C. Medina, Elena Dieguez, Victor Raggio, Andres Lescano, Vitor Tumas, Vanderci Borges, Henrique B. Ferraz, Carlos R. Rieder, Artur Schumacher-Schuh, Bruno L. Santos-Lobato, Carlos Velez-Pardo, Marlene Jimenez-Del-Rio, Francisco Lopera, Sonia Moreno, Pedro Chana-Cuevas, William Fernandez, Gonzalo Arboleda, Humberto Arboleda, Carlos E. Arboleda-Bustos, Dora Yearout, Cyrus P. Zabetian, Timothy A. Thornton, Timothy D. O'Connor, **Ignacio F. Mata**, the Latin American Research Consortium on the Genetics of Parkinson's Disease (LARGE-PD)

P01.21 **Differences in cytochrome P450s genes between genetically predisposed Parkinson's disease individuals with and without disease signs**
Polina Petkova-Kirova, Stephan Baas, Gudrun Wagenpfeil, Marcus Unger, Rita Bernhardt

P01.22 **High-throughput proteomics in the study of Parkinson's disease progression**
Raquel Real, Laura Winchester, Alejandro Martinez-Carrasco, Michael A Lawton, Yoav Ben-Shlomo, John Hardy, Alejo Nevado-Holgado, Donald G Grosset, Huw R Morris

P01.25 **Parkinson Disease in women: How does sex affect motor and non-motor symptoms?**
Francisca Ruiz Gonzalez, Silvia Enriquez Calzada, Daniela Samaniego Toro, Helena Xicoy, Sara Belmonte, Miquel Vila, Jorge Hernandez-Vara, Ariadna Laguna

P01.26 **Persistent microgliosis and neurodegenerative processes in a SARS-CoV-2-model**
Cara Schreiber, Christopher Käufer, Anna-Sophia Hartke, Ivo Wiesweg, Stephanie Stanelle-Bertram, Sebastian Beck, Nancy Mounogou Kouassi, Berfin Schaumburg, Gülsah Gabriel, Franziska Richter

P01.27 **What causes Parkinson's Disease?**
Jennifer Thornton

P01.28 **The DRD4 gene polymorphism is associated with the severity of impulse control disorder using dopamine agonists in Parkinson's disease**
Viviana Torres Ballesteros, Mario Ezquerra, Jesica Perez, Ruben Fernandez-Santiago, Manel Fernandez, Francesc Valldeoriola

P01.29 **Nuclear functions of alpha-synuclein in DNA double-strand break repair**
Moriah Arnold, Dorthe Payne-Larsen, Pamela Cassidy, Stephan Witt, **Vivek Unni**

P01.30 **Non-motor symptoms of Parkinson's disease in Mexico: Case series**
Xavier Vilchis, Jose Eduardo Solórzano Quiroz, Jose Antonio Fernandez, Alejandro Medardo Gonzalez

P01.32 **Elevated trimethylamine (TMA) from the gut microbiota drives synuclein pathology and immune activation in Parkinson's disease**
Zizheng Xian, Nanthini Jayabalan, Katherin Roper, Helen Woodhouse, John O'Sullivan, Robert Adam, Anumantha Kanthasamy, Gene Tyson, Richard Gordon

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Basic Science: Cell death, neuroprotection and trophic factors

P02.03 **Identification of new neuroprotective molecules**
Joanna Fombonne, Kristina Radkova, Erika Cosset, Merja Voutilainen, Catherine Guix, Mart Saarma, Patrick Mehlen

P02.05 **SARS-CoV-2 induces dopaminergic neuron loss in midbrain organoids**
Javier Jarazo, Eveline Santos da Silva, Enrico Glaab, Danielle Perez Bercoff, Jens Schwamborn

P02.06 **The neuroprotective effect of NLX-112 in MPTP-treated mice is mediated through upregulation of astrocytic GDNF**
William H. Powell, Lucy E. Annett, Ronan Y. Depoortère, **Adrian Newman-Tancredi**, Mahmoud M. Iravani

P02.08 **Therapeutic role of MicroRNA 34a in Parkinson's disease via inhibiting expression of colony-stimulating factor 1 and subsequent anti-neuroinflammation and neuroprotection**
Ming Yew, **Ping Heng Tan**

P02.09 **SERCA as a preclinical disease modifying drug target against α-synuclein aggregate dependent dysfunctions**
Zagorka Vitic, Lasse Reimer, Nelson Ferreira, Claus E. Olesen, William Dalby Brown, Jakob Ulstrup, Gergo Kovacs, Marina Lopez Incera, Lara Perucho, Cristine Betzer, Sara A. Ferreira, Nanna Møller Jensen, Hjalte Gram, Marina Romero-Ramos, Poul Henning Jensen

Basic Science: Protein misfolding and handling

P03.09 **Aged periventricular microglia contribute to CSF-borne aggregated αSyn spreading**
Salomé Sirerol-Piquer, Ana Pérez-Villalba, Pere Duart-Abadia, Laura Blasco-Chamarro, Pau Carrillo-Barberà, Ulises Gomez-Pinedo, Victoria Navarro, Benjamin Dehay, Javier Vitorica, Azucena Pérez-Cañamás, Francisco Pérez-Sánchez, Miquel Vila, Isabel Fariñas

P03.10 **Impaired autophagic-lysosomal fusion in Parkinson's patient midbrain neurons occurs through ykt6 and is rescued by farnesyltransferase inhibition**
Caleb Pitcairn, Naomi Murata, Annie Zalon, Iva Stojkovska, Joseph Mazzulli

P03.11 **SUMO system changes in PD and SUMOylation inhibitor promotion of autophagy subtypes as a novel therapy**
Matthew K. Boag, Shamini Vijayakumaran, Jacob Clark, Angus Roberts, Ruth E. Carmichael, Kevin A. Wilkinson, Stephen Wood, George D. Mellick, Jeremy M. Henley, **Dean L. Pountney**

P03.12 **Combination of fluorescence lifetime and anisotropy imaging microscopy to measure intracellular microenvironment as early diagnosis of neurodegenerative diseases**
Soheila Sabouri, Hamid Soleimaninejad, Yuning Hong

P03.14 **Directed evolution of the human molecular chaperone DNAJB1 towards the alpha-synuclein protein**
Come Stellio, Marie-Pierre Castanié-Cornet, Axel Mogk, Bernd Bukau, Pierre Genevaux

P03.15 **Interplay of α-synuclein aggregation and mitochondrial function in PD**
Carmen Venegas, Patrycja Mulica, Thais Arns, Dimitrios Kyriakis, Sylvie Delcambre, Sandro L Pereira, Paul MA Antony, Rejko Krüger, Alexander Skupin, Anne Grünewald

P03.16 **Uncovering secretory mechanisms underlying the spreading of alpha-synuclein**
Aurore Filaquier, Marie-Laure Parmentier, **Julien Villeneuve**

Basic Science: Mitochondria, oxidative stress, inflammation, pathogenesis

P04.12 **Peripheral and central immune changes in early PD: Baseline analysis of the AZA-PD trial cohort**
Julia Greenland, Jonathan Holbrook, Caroline Williams-Gray

P04.13 **The ubiquitin E3 ligase Parkin regulates CaV1.3 channel functional expression with a prospective role in Parkinson's disease pathogenesis**
Lizbeth Grimaldo, Alejandro Sandoval, Paz Duran, **Liliana Gómez-Flores-Ramos**, Ricardo Félix

P04.16 **The influence of vagus-mediated immune modulation in the progression of Parkinson's disease and its hypothesized subtypes**
Ida Klaestrup, Sara K. Nissen, Louise E. Warming, Sara A. Ferreira, Johanne Lauritsen, Hjalte Gram, Poul H. Jensen, Nathalie Van Den Berge, Marina Romero-Ramos

P04.18 **An 80% improvement in UPDRS was followed by no progression in the last seven years in one Parkinson's patient. Here are the five lifestyle changes made, and how they might work**
Patrick Bradshaw, **William M Curtis**, Jeffrey Bohnen, William Seeds

P04.19 **Immunoproteasome PSMB8 subunit increased in in Parkinson's disease**
Hyeoi-Il Ma, Huu Dat Nguyen, Linh Nhat Nguyen, In Hee Kwak, Young Eun Kim

P04.21 **The intranigral infusion of alpha synuclein oligomers induces a cognitive decline underpinned by altered neuronal firing and neuroinflammation in cognition-related areas**
Maria Francesca Palmas, Michela Etzi, Claudia Sagheddu, Maria Francesca Manchinu, Michele Santoni, Chiara Camoglio, Giuliana Fusco, Alfonso De Simone, Paola Fadda, Marco Pistis, Nicola Simola, Ezio Carboni, Augusta Pisanu, Anna Rosa Carta

P04.22 **Elucidating the link between mitochondrial stress responses and cellular senescence using human induced pluripotent stem cell-derived neurons and glia**
Maria Jose Perez Jimenez, Mariella Bosch, Stefanie Kalb, Hariam Raji, Michela Deleidi

P04.23 **The CaV3.2 T-type calcium channel is a novel target dysregulating miro1-dpendent mitophagy and driving Parkinson's disease pathology**
Sean Pintchovski, Chung-Han Hsieh, Atossa Shaltouki, Eric Beattie, Ashley Gonzalez, Bill Shrader

P04.24 **High levels of cell-Free mitochondrial DNA deletions in cerebrospinal fluid from patients with idiopathic, but not LRRK2, Parkinson's disease**
Margalida Puigròs, Anna Calderon, Alexandra Pérez-Soriano, Cristina de Dios, Manel Fernández, Anna Colell, Maria-José Martí, Eduard Tolosa, Ramon Trullas

P04.25 **Blocking the angiotensin type-1 receptor reduces NLRP3 inflammasome upregulation in the substantia nigra of aging and PD animal models**
Aloia Quijano Ocampo, Carmen Díaz Ruíz, Andrea López López, Begoña Villar Cheda, Ana Muñoz Patiño, Ana Isabel Rodríguez Pérez, José Luis Labandeira García

P04.26 **Non-cell autonomous effects of neuromelanin on Parkinson's disease pathogenesis**
Gerard Roch, Maria Sellés, Joan Compte, Marta Gonzalez-Sepulveda, David Ramos-Vicente, Thais Cuadros, Joana M Cladera-Sastre, Annabelle Parent, Ariadna Laguna, Jordi Bové, Miquel Vila

P04.27 **Viscosity sensitive AIE probes: Solid fluorescent tools for mapping mitochondria viscosity in proteostasis disordered in neurodegenerative cells**
Soheila Sabouri, Hamid Soleimani Nejad, Tze Cin Owyong, Yuning Hong

P04.28 **Acetylation of intestinal proteins: A potential mediator of systemic inflammation in Parkinson's disease**
Verena Schmitt, Ippei Miyagawa, Birthe Gericke, Martin Regensburger, Franz Marxreiter, Franziska Richter, Mario M. Zaiss, Jürgen Winkler, Wei Xiang

P04.29 **PINK1-PD neurons display altered tyrosine hydroxylase phosphorylation**
Karan Sharma, Katharina Zittlau, Boris Macek, Julia Fitzgerald

P04.30 **Systemic inflammation activates coagulation and immune cell infiltration pathways in brains with propagating α-synuclein fibril aggregates**
Anne-Line S. Laursen, Mikkel V. Olesen, Jonas Folke, Tomasz Brudek, Florence Sotty, Kate L. Lambertsen, Karina Fog, Louise T. Dalgaard, Susana Aznar

P04.31 **Investigating the mechanisms by which progranulin deficits contribute to Parkinson's disease pathology**
Oihane Uriarte Huarte, Jake S. Boles, Rebecca L. Wallings, Noelle K. Neighbarger, Cassandra L. Cole, Malú Gámez Tansey

P04.32 **Mitochondrial DNA copy number inferred from whole genome sequencing data is lower in individuals with Parkinson's disease**
Longfei Wang, Liam Fearnly, Haloom Rafehi, Jiru Han, Melanie Bahlo

P04.34 **Validation of clinical stage NLRP3 inflammasome inhibitor RRx-001 for disease modification in Parkinson's disease**
Madeleine Yule, Natalia Birch, Katerina Hanton, Nanthini Jayabalan, Rob Adams, John O'Sullivan, Brian Oronsky, Tony Reid, Richard Gordon

Basic Science: Pathology

P05.01 **Novel antibodies against oligomeric alpha synuclein**
Johanne Aarup Lauritsen, Janni Nielsen, Sanne Simone Kaalund, Susana Aznar, Daniel Otzen, Marina Romero-Ramos

P05.03 **Activating beta-glucocerebrosidase by exploiting its transporter LIMP-2**
Jan Philipp Dobert, Simon Bub, Rebecca Mächtel, Alice Drobny, Dovile Januliene, Arne Möller, Philipp Arnold, Friederike Zunke

P05.07 **Heterozygous GBA N370S mutation does not uniformly reduce GCase activity or cause lysosomal dysfunction in iPSC-derived neurons**
Adahir Labrador-Garrido, Katherine Moruzi, Siying Zhong, Shikara Keshiya, Glenda Halliday, Nicolas Dzamko

P05.09 **Neuropathological alterations in subjects initially diagnosed by polysomnography with isolated REM sleep behavior disorder**
Gerard Mayà, Alex Iranzo, Carles Gaig, Joan Santamaria, Mònica Serradelll, Laura Molina-Porcel, Ellen Gelpi, Iban Aldecoa

P05.12 **Single molecule array assay for phosphorylated alpha-synuclein detection in cerebrospinal fluid**
Camilla Pedersen, Guido Alves, Jodi Maple-Grødem, Johannes Lange

P05.14 **Reciprocal effects of alpha-synuclein aggregation and lysosomal homeostasis in synucleinopathy models**
Alice Drobny, Fanni Boros, Caleb Pitcairn, Joseph Mazzulli, Friederike Zunke

Basic Science: Animal and cellular models of Parkinson's and Parkinsonisms

P06.06 **Establishment of a 3D iPSC-based neurovascular model to investigate Parkinson's disease pathophysiology**
Valentina Baruffi, Veronica Testa, Meritxell Pons Espinal, Livia Piatti, François Korbmacher, Ivonne Richaud, Alicia Garrido, Eduardo Tolosa, Angel Raya, Maria Bernabéu Aznar, Antonella Consiglio

P06.08 **Exacerbation of alpha-synuclein pathology by B-lymphocyte depletion**
Tomasz Brudek

P06.11 **A high-content analysis pipeline for quantifying the autophagy-lysosomal pathway in IPSC-derived cortical neurons carrying Parkinson's disease associated mutations**
Jessica Chedid, Adahir-Labrador Garrido, Gautam Wali, Dad Abubonsarah, Lachlan Thomson, Carolyn Sue, Deniz Kirik, Clare Parish, Glenda Halliday, Nicolas Dzamko

P06.22 **Modeling PRKN/PARK2-associated Parkinson's disease**
Christopher J. Griffey, Alf H. Lystad, Anne Simonsen, Robert E. Burke, Ai Yamamoto

P06.28 **Cell autonomous role of leucine-rich repeat kinase in dopaminergic neuron survival**
Jongkyun Kang, Guodong Huang, Long Ma, Youren Tong, Phoenix Chen, Jie Shen

P06.35 **Modulation of the gut microbiota modifies Parkinson's disease-like pathology in transgenic neuromelanin-producing mice**
Marina Lorente Picon, Núria Peñuelas, Marta Gonzalez-Sepulveda, Marc Velilla, Gisela Besa, Annabelle Parent, Josep A. Villena, Miquel Vila, Ariadna Laguna

P06.36 **IPSC-derived human midbrain-striatal assembloid for Parkinson's disease modeling**
Beatriz Elena Lucumí Villegas, Julia Obergasteiger, Valerie Clavet-Fournier, Flavie Lavoie Cardinal, Samer Hussein, Martin Lévesque

P06.41 **Healthy human iPSC-derived astrocytes rescue the degenerative phenotype of p.A53T-αSyn iPSC-derived neurons generated from Parkinson's disease patients**
Olympia Apokotou, Christina Paschou, Anastasios Kollias, Era Taoufik, Rebecca Matsas, Florentia Papastefanaki

P06.42 **A novel autoimmune alpha-synuclein-induced model of Parkinson's disease**
Rebekah Parkinson, Jessica Petitt, Alexandre Rcom-H'cheo-Forgues, Rebecca Buckland, Christopher Parish, Anne Bruestle, Nathalie Dehorter

P06.43 **Modelling human brain-wide pigmentation induces Parkinson-like pathology and transcriptomic alterations in vivo**
Ariadna Laguna, Nuria Peñuelas, Marta Gonzalez-Sepulveda, Alba Nicolau, Sébastien Arthaud, Camille Guillard-Sirieix, Marina Lorente-Picón, Joan Compte, Helena Xicoy, Lluís Miquel-Rio, Jiong Liu, Annabelle Parent, Thais Cuadros, Jordi Romero-Giménez, Gemma Pujol, Eliana Markidi, Lydia Giménez-Llort, Patrice Fort, Analia Bortolozzi, Iria Carballo-Carbajal, Miquel Vila

P06.47 **Nuclear α-Synuclein detection and α-Synuclein-histones interactions**
Angela Rollar, Shirley S. L. Lee, Ayse Ulusoy, Donato A. Di Monte

P06.48 **Exploring the role of the lysosomal lipid flippase ATP10B in the nigrostriatal dopaminergic pathway of rats**
Maria Sanchiz-Calvo, Eduard Bentea, Christopher Cawthorne, Mirte De Ceuninck, Teresa Torre-Muruzabal, Chris Van den Haute, Peter Vangheluwe, Veerle Baekelandt

P06.49 **Ketamine as a modulator of endoplasmic reticulum stress in a cross-sex mouse model of Parkinson's disease with depressive phenotype**
Unai Sarriés-Serrano, Lluis Miquel-Rio, Verónica Paz, Jose Javier Meana, **Analia Bortolozzi**

P06.51 **Unveiling the impact of glial autophagic dysfunction in the initiation and progression of Parkinson´s disease**
Aurora Scrivo, Veronica Testa, Valentina Baruffi, Merixtell Pons Espinals, Irene Fernandez Carasa, Eduardo Tolosa, Angel Raya, Antonella Consiglio

P06.54 **Investigating the role of astrocytes and microglia in driving neurodegeneration in Parkinson's disease using an hiPSC-based in vitro model**
Veronica Testa, Valentina Baruffi, Meritxell Pons Espinal, Franz Arnold Ake, Marieke Alzeer, Irene Fernandez Carasa, Yvonne Richaud-Patin, Eduardo Tolosa, Angel Raya, Mireya Plass, Antonella Consiglio

P06.55 **Ca2+–calmodulin–calcineurin signaling modulates α-synuclein transmission**
Jun Ueda, Norihito Uemura, Tomoyuki Ishimoto, Tomoyuki Taguchi, Masanori Sawamura, Etsuro Nakanishi, Masashi Ikuno, Shuichi Matsuzawa, Hodaka Yamakado, Ryosuke Takahashi

P06.57 **Age-related elevations in type-I interferon signalling control brain-gut transmission in the α-synuclein pre-formed fibril model of Parkinson's disease**
Harrison Waters, Shuyan Chen, Peter Crack, Juliet Taylor

P06.58 **TLR2 mediated α-synuclein pathology development and the contribution of astrocytes in a midbrain model of Parkinson's disease**
Fiona Weiss, Glenda Halliday, Nicolas Dzamko

P06.60 **Modelling of axonal degeneration in Parkinson's disease using hiPSC-derived midbrain dopaminergic neurons carrying SNCA gene duplication**
Wei Xiang, Yanni Schneider, Aron Koller, Marie Andert, Lukas Seebauer, Katharina Pieger, Johannes Schlachetzki, Johann Helmut Brandstätter, Jürgen Winkler

P06.61 **A novel mouse model to investigate the formation of oligodendroglial α-synuclein aggregates in multiple system atrophy (MSA)**
Hodaka Yamakado, Tomoyuki Ishimoto, Miki Oono, Takashi Ayaki, Katsuya Nishida, Itaru Funakawa, Seiji Kaji, Takakuni Maki, Shu-ichi Matsuzawa, Ryosuke Takahashi

P06.62 **Single cell transcriptomic analysis of peripheral blood immune cells from people with Parkinson disease: Subtypes and sex**
Ankita Singh

Basic Science: Brain physiology and circuitry

P07.03 **Overexpression of human α-synuclein in serotonin neurons drives brain functional disconnection in a PD-like mouse model with depressive phenotype**
Lluis Miquel-Rio, Maria Torres-López, Verónica Paz, Carme Casal, Emma Muñoz-Moreno, Xavier López-Gil, **Analia Bortolozzi**

P07.04 **Advancing adaptive subthalamic deep brain stimulation for gait disturbances and freezing of gait in Parkinson's disease**
Marie-Laure Welter, Brian Lau, Ludovic Saint-Bauzel, Carine Karachi, Mathieu Yeche, Sinan Haliyo, Alexandre Guerre, He Shenghong, **Huiling Tan**

Basic Science: Dopamine, receptors and other neurotransmitters

P08.05 **PD antibodies without side effects: Dr. Mehmet Oz, probably the most famous medical doctor of our time, has said, "The next big frontier in medicine is energy medicine."**
Jeffrey Harsh

P08.06 **70 years of historical brain life cell therapy for PD, and thank God it is not created from aborted human fetus!**
Jeffrey Harsh

P08.09 **Calcium-sensor linkage of N-methyl-D-aspartate receptors to the MAP kinase pathway is blockade by α-synuclein in cortical and hippocampal neurons and microglia**
Gemma Navarro Brugal, Irene Reyes, Jaume Lillo, Iu Raïch, Rafael Rivas-Santisteban, Joan Biel Rebassa, Rafael Franco

P08.10 **Adora1 mutation linked to early-onset Parkinson's disease alters adenosine A1-A2A receptor heteromers formation and function**
Laura Isabel Sarasola, Clàudia Llinas del Torrent, Victor Fernandez-Dueñas, Sergi Ferré, Leonardo Pardo, Francisco Ciruela

Basic Science: Neuropharmacology

P09.06 **Epigenetic deregulation in striatal neurons during impulse control disorders related to dopamine agonists in Parkinson's disease: towards the identification of therapeutic target**
Louise-Laure Mariani, Jean-Antoine Girault, Denis Herve, Olga Corti, Jean-Christophe Corvol

P09.07 **A model to test novel therapeutic interventions for Parkinson's disease: The Thy1-aSyn ("line 61") mice**
Franziska Richter Assencio, Christopher Kaeufer, Birthe Gericke, Malte Feja

P09.08 **Uncovering the interaction between the cannabinoid CB1 receptor and the angiotensin AT2 receptor. Overexpression of AT2-CB1 receptor heteromers in the striatum of 6-hydroxydopamine hemilesioned rats.**
Rafael Rivas-Santisteban, Jaume Lillo, Iu Raïch, Ana Muñoz, Alejandro Lillo, Ana I. Rodríguez-Pérez, José L. Labandeira-Garcia, Gemma Navarro, Rafael Franco

P09.09 **Clemizole hydrochloride reduces alpha-synuclein toxicity in Parkinson's disease models: A behavioural and mechanistic study**
Bhupesh Vaidya, Pankaj Gupta, Joydev K. Laha, Ipsita Roy, Shyam Sunder Sharma

Basic Science: Electrophysiology & functional imaging, optogenetics

P10.03 **Parkinsonian beta oscillations in the cortico-basal ganglia network during movement: Beyond the frequency range**
Marc Deffains

P10.04 **LRRK2 G2019S mutation causes hyperexcitability of iPSC-derived cortical neurons**
Shiva Nag Kompella, Dayne Becanno-Kelly

P10.06 **Analysis of Parkinson`s neuronal disease using microelectrode recording and simulation data with subthalamic-nucleus deep brain stimulation**
Venkateshwarla Rama Raju, Lavanya Neerati

P10.08 **A spectrotemporal analysis of local field potentials in the subthalamic nucleus during language processing**
Patrick Santens, Emma Depuydt, Elissa-Marie Cocquyt, Arnout Bruggeman, Dirk Van Roost, Pieter Van Mierlo, Miet De Letter

Basic Science: Prevention, neuroprotection neuroplasticity

P11.04 **Potential of exercise to modify the progression of prodromal Parkinson's disease**
Malte Feja, Leonie Baldauf, Milos Stanojlovic, Julia Hankel, Christian Visscher, Eva Schäffer, Daniela Berg, Franziska Richter

P11.05 **Systematic balance exercise affects the level of Sirt1 and Sirt3 in older adults and persons with Parkinson's disease – pilot study**
Jadwiga Kubica, Joanna Pera, Magdalena Wiecek, Justyna Kusmierczyk, Jadwiga Szymura

P11.06 **Case series of PD patients with and without immobility symptoms and gait function – Three-dimensional motion analysis**
Tadamitsu Matsuda, Kazunori Sato, Eriko Kitahara, Yuji Fujino, Toshiyuki Fujiwara, Nobutaka Hattori

P11.08 **Effects of magnetic stimulation in the rat brain plasticity: New insight in the astrocytes function in experimental parkinsonism**
Giuseppina Natale, Maria De Carluccio, Maria Teresa Viscomi, Veronica Ghiglieri

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Comprehensive Care: Caregiving, relationships, respite care, families

P12.07 **A call for more comprehensive approaches to Parkinson's, taking into account the voice of Uruguayan PwP and their families**
Paula Dodera

P12.08 **Partnering with poise: Retention of cognitive, emotional, and physical benefits for care partners of people living with Parkinson's disease at 6 and 12 months after completion of an in-person Alexander-based group course**
Monika Gross, Jaime Bellingham, Pepper Brisset, Rajal G. Cohen

P12.09 **Supporting the journey to empowerment for people with Parkinson's through the person-centred lens of those living with Parkinson's**
Julie Jones, Alison Williams

P12.10 **Getting Real!®: Addressing the educational, support and planning needs of Parkinson's caregivers through virtual formats**
Anissa Mitchell

P12.11 **Relationship of psychological, financial and societal factors to Parkinson's disease**
Elpida Panagiotounakou, Anastasia Bougea, **Nikolaos Papagiannakis**, Athina-Maria Simitsi, Chrysa Chrysovitsanou, Christos Koros, Leonidas Stefanis

P12.12 **Close contact for couples with Parkinsons**
Judith Sachs

Comprehensive Care: Exercise and physical activity

P13.14 **Utilizing the Parkinson's foundation five domains of exercise professional competencies to map five criteria for exercise education: A pilot study**
Lisa Hoffman, Miriam Rafferty, Lauren Krasucki

P13.16 **An exploration of service users perceptions of the Parkinson's beat program**
Julie Jones, Yoon Irons, Alison Williams, Jo Holland

P13.20 **Physical exercise interventions on balance and postural stability in Parkinson's disease: A network meta-analysis**
Patricia Lorenzo-García, Iván Cavero-Redondo, Sergio Nuñez de Arenas-Arroyo, María José Guzmán-Pavón, Susana Priego-Jiménez, Celia Álvarez-Bueno

P13.21 **Immediate effects of forced exercise cycling on core outcomes in individuals with Parkinson's disease**
Daniel Miner, Kenny Harrah, Kevin Chui

P13.22 **Expanding on the brain-body connection through free, symptom-driven Parkinson's fitness programming**
Nina Mosier

P13.23 **Evaluation of functional capacity, body composition and VO2max in Parkinson's disease: Pre and post physical activity practice**
Marcos Moura, Dirce Sanches Rodrigues, Miguel Soares Conceição, Katia Lousada Gouvea, Luiz Arthur Moreira Nunes

P13.24 **Does exercise attenuate indicators of disease progression in Parkinson's disease? A systematic review with meta-analysis**
Jiecheng Alex Li, Marte Loevaas, Catherine Guan, Lina Goh, Natalie Allen, Margaret Mak, Jinglei Lv, **Serene Paul**

P13.25 **Use of inertial sensors to measure the impact of a therapeutic boxing program in people with PD in Chile.**
Miguel Pino, Pablo Burgos, Lorena Bernales, Pablo Roa

P13.26 **Relationship between habit strength of walking-related exercise behavior and real-world walking in persons with Parkinson disease**
Franchino Porciuncula, Jenna Zajac, Nicholas Wendel, Dheepak Arumukhom Revi, Jaimie Girnis, Louis Awad, James Cavanaugh, Terry Ellis

P13.27 **A retrospective evaluation of the brain and body fitness studio service on functional capacity and quality of life in people with neurological disorders**
Joyce Ramos, Ranjay Chakraborty, Lance Dalleck, Kristina Sarunic, Jyoti Khadka, Tayla Haslam, Olivia Nassaris

P13.28 **Evaluating dancing with Parkinson's (DWP) online dance classes**
Sarah Robichaud

P13.29 **Physical exercise and its impact on caregivers burden of people living with Parkinson's disease in a National Institute of Neurology and Neurosurgery from Mexico City**
Diana Paulina Romero-Terán, Ana Jimena Hernandez-Medrano, María Fernanda Medina-Pérez, Andrea García-Hernández, Rodolfo Arturo Abundes-Corona, Amin Cervantes-Arriaga, Mayela Rodriguez-Violante

P13.30 **Case report: A dual tasking intervention for Parkinson's disease**
Darbe Schlosser

P13.32 **Establishing the impact of aerobic exercise on biomarkers, mobility, and cognitive functioning of Parkinson's disease: A translational study**
Isabel Soto, Vicki Nejtek, Gary Boehm, Paige Braden, Kelly Brice, Ella Kasanga, Robert McManus, Walter Navarrete-Barahona, Michael Salvatore

P13.33 **Post pandemic motor performance recovery among people with Parkinson's disease in a community-based wellness center**
Elizabeth Stiles, Karen Jaffe, Cathe Schwartz, David Riley, Ben Rossi, Patrick Houlahan

P13.34 **Paradoxical relationship between handgrip strength performance and gait in subjects with Parkinson's disease**
Eduardo Villamil-Cabello, Alfonso Jimenez-Gutierrez, Miguel Angel Fernandez-del-Olmo

P13.35 **Pass to Pass: Outdoor adventures with Parkinson's**
A.C. Woolnough, Sarah Eltzman, John Cunniff, William Clugston, Sandy Knudson

Comprehensive Care: Alternative & complementary therapies/ Creativity

P14.12 **Mucuna: The power of nature**
Patricia Maldonado, Veronica Ruscio, Felix Jozsa

P14.13 **Dance and Parkinson's: The effects on selected functional parameters during the 180 turning phase of the timed up & go test in people with Parkinson's**
Aline Nogueira Haas, Leonardo Alexandre Peyré-Tartaruga, Marcela Dos Santos Delabary, Tina Smith, Yiannis Koutedakis, Matthew Wyon

P14.14 **Effect of vocal-dance program on speech, voice quality, and quality of life in persons with Parkinson's disease**
Eunsun Park, Frank Boutsen, Betty Kollia, Justin Dvorak

P14.15 **Systematic review of the efficacy of traditional Chinese medicine in Parkinson's disease**
Catarina Pereira, Jorge Rodrigues, Natália Oliveira, Jorge Machado, Maria Criado, Henri Greten6

P14.16 **Moving mindfully: A mindfulness-based walking therapy program for people with freezing of gaip**
Kerri Rawson, Tueth Lauren, Jeanne Kloeckner, Raina Foreman, Ryan Duncan, Allison Haussler, Sidney Baudenstiel, Keith Lohse, Gammon Earhart

P14.17 **The use of music in every day life among people with Parkinson's: A mixed methods study**
Dawn Rose, Ellen Poliakoff, William Young, Michelle Phillips

P14.18 **Songlines for Parkinson's: A new approach to co-developing a group-based music and movement intervention for and with people with Parkinson's, practitioners, medical professionals, and scientists**
Dawn Rose, Marietta Ungerer, Sabrina Koechli

P14.19 **Sing a new song: Results from research on group therapeutic singing for people with Parkinson's disease**
Elizabeth Stegemoller

P14.20 **Music therapy improves strength and gait in Parkinson's disease patients: A pilot study and clinical case analysis**
Cristina Tinajas Arrontes, Manuel García San Emeterio, Marta Méndez Olavide, Vanessa Bayo Tallón, Carlos Llobregat Delgado, Jordi Esquirol Caussa

P14.21 **Can musical sonification improve motor control in Parkinson's disease? Results from a rehabilitation protocol**
Lauriane Veron-Delor, Serge Pinto, Alexandre Eusebio, Jean-Philippe Azulay, Tatiana Witjas, Bruno Nazarian, Jean-Luc Anton, Julien Sein, Marieke Longcamp, Jérémy Danna

P14.22 **Can action observation and/or motor imagery improve computer-based actions in Parkinson's?**
Camilla Woodrow-Hill, Emma Gowen, Stefan Vogt, Matthew Sullivan, Ellen Poliakoff

Comprehensive Care: Lay/professional health literacy & public thought

P15.05 **Supporting Parkinson's disease medication safety for nurses in the acute care setting through an educational intervention study**
Diane M. Ellis, Elizabeth Burgess Dowdell, Johanna Romero de Slavy, Louise Laufer Hummel, Lola Rene' Kropkowski, **Gwyn M. Vernon**, Heintje Calara, Erin Houton, Katelyn Wackrow, **Natalia Matar**, Paul W. Bernhardt

P15.06 **Certified Parkinson disease care (CPDC™): Improving the care of Parkinson's patients in long-term care**
Anissa Mitchell, Andrea Merriam-Crespo

P15.07 **Doing DBS: Social considerations**
Daavid Shea

P15.08 **The Edmond J Safra visiting nurse faculty program at the Parkinson foundation**
Gwyn Vernon

Comprehensive Care: Disability and quality of life outcome measures

P16.06 **Comparing the benefits of cognitive mapping and motivational interviewing with the Canadian occupational performance measure to provide better person-centered care**
Mary Grace Lagasca

P16.07 **Correlation between functionality, motor and non-motor aspects of daily life experiences and the evolution of Parkinson's disease**
Isaíra Nascimento, Kátia Nobrega, Isabela Barone, Giovanna Checchio, Vitória Ponciano, Clara Paula, Natália Cardoso, Arieni Possani, **Maria Elisa Piemonte**

P16.08 **Tracing quality of life in Parkinson's**
Fiona Navilly

P16.09 **Falls and quality of life in patients with Parkinson's disease**
Kumar M Prakash, Ee Chien Lim, Siew Lian Voon

P16.10 **Quality of life neurological disorders (Neuro-QoL) differences among individuals with Parkinson disease with and without freezing of gait**
Lauren Tueth, Raina Foreman, Ryan Duncan, Teresa Baker, James Cavanaugh, Tamara DeAngelis, Daniel Fulford, Jaimie Girnis, Michael Lavalley, Timothy Nordahl, Marie Saint-Hilaire, Cathi Thomas, Terry Ellis, Gammon Earhart, Kerri Rawson

P16.11 **Prevalence and nature of self-reported visual complaints in people with Parkinson's disease – Use of the screening visual complaints questionnaire**
Iris Van der Lijn, Gera de Haan, Fleur Van der Feen, Joost Heutink, Teus Van Laar

Comprehensive Care: PwP – Clinician partnership: Shared decision-making

P17.03 **What's your style? How personas can support personalized information provision for people with Parkinson's disease**
Angelika Geerlings, Sanne Van den Berg

P17.04 **The 55-word story to improve patient-provider communication**
Esme Trahair, Allison Allen, **Sneha Mantri**

Comprehensive Care: Palliative care/ advance planning/ end of life care

P18.01 **Parkinson's and palliative care – Are there different needs for women?**
Kathleen Armstrong

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P18.02 **Continuous subcutaneous apomorphine infusion for the management of Parkinson's disease at the end-of-life**
Matthieu Bereau, Mathilde Giffard, Anne-Laure Clairet, Marc Verin, Manon Auffret

P18.03 **Terminal care for parkinsonian residents in French nursing homes: A 10-year longitudinal retrospective study**
Mathilde Giffard, Corentin Geoffroy, Manon Auffret, Matthieu Béreau

P18.04 **The effect of a multidisciplinary blended learning program on palliative care knowledge for health care professionals involved in the care for people with Parkinson's disease**
Herma Lennaerts, Anne Ebenau, Silvia Kanters, Bas Bloem, Kris Vissers, Bauke Dijkstra, Marjan Meinders, Marieke Groot

P18.05 **Feasibility of a nurse-led advance care planning and care coordination intervention in Parkinson's disease – Results of a multicenter European study**
Catharina Muente, Bauke W. Dijkstra, Marieke Groot, Marjan J. Meinders

P18.08 **Symptoms at the end of life in patients with Parkinson's disease**
Elisabeth Wilson, Emily King-Oakley, Edward Richfield

Comprehensive Care: Health accessibility/ underserved populations

P19.08 **The role of community neurology clinic**
Iku Moroo

P19.09 **Leveraging design thinking to increase the accessibility of power for Parkinson's programming for underserved populations in Austin, Texas**
Nina Mosier, Elena Eddington

P19.10 **www.PregSpark.com, introducing the International PregnancieS and Parkinson's Registry, an initiative of the Radboud UMC in co-creation with PWP**
Annelien Oosterbaan, Willanka Kapelle, Bastiaan Bloem, Bart Post

P19.11 **Novel initiative project for Parkinson's care by community contribution**
Shankh Pal, Tillotma Roy, Bhindu Gupta

P19.12 **Improving equitable access to care through Parkinson Society BC (PSBC)'s innovative new programs of physiotherapy and healthcare navigation**
Shelly Yu

Comprehensive Care: Sexuality & intimacy

P20.01 **Approach to the management of sexual and intimate problems in patients with motor and non-motor manifestations of Parkinson's disease**
Gila Bronner, Tanya Gurevich

P20.05 **Association between motor, non-motor and sexual function in women living with Parkinson's disease in Brazil**
Katia Nobrega, Maria Elisa Piemonte, Thalyta Martins, Geovanna Santos

P20.06 **Development of a scale assessing sexual dysfunctions specifically experienced by patients with Parkinson's disease: "Parkinson's disease sexual experience scale" (PD-SES)**
Emilie Wawrziczny, Kathy Dujardin, Luc Defebvre, Bérengère Flinois, Virginie Herlin, Nicolas Carrière, Clara De Groote

Comprehensive Care: Daily life activities including working & driving

P21.02 **Grip strength, motor symptoms, and ADL function pre-versus post-deep brain stimulation surgery**
Nicole Tester, Samantha Witte, Orit Shechtman, Justin Mason, Lisa Warren, Charles Jacobson, Michael Okun, Kelly Foote, Justin Hilliard

P21.03 **Reading difficulties in Parkinson's disease – Guidance for assessment and rehabilitation**
Iris Van Der Lijn, Gera de Haan, Pia Langenberg, Fleur Van der Feen, Joost Heutink, Teus Van Laar

Comprehensive Care: Self-management, empowerment, coping strategies

P22.07 **Influence of neuropsychological care for the empowerment of patients with Parkinson's disease in managing their continuous subcutaneous apomorphine infusion**
Jean-Fançois Houvenaghel, Marie Delliaux, Sophie Drapier

P22.08 **Unique methods to alleviate freezing of gait that people with Parkinson's developed**
Yasuyuki Okuma

P22.09 **Impower: Developing home-based digital training for people with Parkinson's to manage impulse control behaviours**
Ellen Poliakoff, Jade Pickering, Judith Bek, Chris Kobylecki, Aansha Priyam, Jacob Hadfield, Jennifer McBride

P22.11 **Exercise with C.A.R.E.**
William Richard

P22.12 **A qualitative analysis of coping strategy patterns in Parkinson's disease**
Caroline Seton, Aileen K. Ho

P22.13 **Detours of persons affected by Parkinson's disease in circumventing cognitive obstacles in daily life: The COPIED study**
Ingrid Sturkenboom, Edwin Barentsen

P22.14 **Empowerment of people with Parkinson`s disease: development, testing and evaluation of a cross-sectoral, intervention-based self-management program**
Trine Thomsen, Sara Lyngby Skovbølling, Morten Møller, Vibeke W Grønlund, Maria Brønden, Bo Biering-Sørensen

P22.15 **Registry of patients living with Parkinson: Active patient role in co-creating data-driven tools and solutions**
Lucia Wang, Lucila Falcone

P22.17 **P.D. PowerUp: A Comprehensive virtual program for managing pain in Parkinson's disease**
Apurva Zawar

Comprehensive Care: Multidisciplinary/ interdisciplinary teams

P23.10 **CENPAR: Rehabilitaction area to 12 months**
Paola Alicia Riveros Cortés

P23.11 **Integrative treatment of Parkinson's disease including photobiomodulation: A case series**
Anita Saltmarche, Ann Liebert, Orla Hares, Brian Bicknell

P23.12 **Six month evaluation of a one year post graduate nurse practitioner (NP) fellowship focused on care for persons with movement disorders: An interdisciplinary approach**
Kristen Matulis, Patrick Walker, Abigail Corriveau, Christopher Hess, Christine Kim, Eli Pollard, Serge Przedborski, Janice Smolowitz

P23.13 **Multidisciplinary education transforming Parkinson's services**
Susan Thomas, Sarah Gillett, Charlie Peel

P23.14 **Home-based titration with duodenal infusion of levodopa in People with Parkinson's disease: An observational feasibility study**
Trine Thomsen, Bo Biering-Sørensen, Nick Schou Nielsen, Asher Lou Isenberg, Michael Møller, Jesper Bøje Clausen, Louise Olsen, Mahsa Javidi, Marc Klee Olsen, Jeanet Roger Vilhelmsen

P23.15 **Frailty and risk for falling in Parkinson´s disease. A longitudinal, randomized, multidisciplinary-based telemedicine intervention (NCT04694443)**
Florita Valiñas-Sieiro, Marta Allende-Río, Álvaro García-Bustillo, José Miguel Ramírez-Sanz, Alicia Olivares-Gil, José Luis Garrido-Labrador, Álvar Arnaiz-González, José Francisco Díez-Pastor, Maha Jahouh, Josefa González-Santos, Jerónimo Javier González-Bernal, José María Trejo-Gabriel-Galán, Esther Cubo

P23.16 **Improving Parkinson's care in senior living communities and home care agencies in the US**
Rose Wichmann, Joan Gardner

Comprehensive Care: Digital health, E-health and technology

P24.18 **Investigating usability, understandability, and acceptance of the MY PD-CARE digital tool for tracking and communicating symptoms of Parkinson's: The self-aware study**
Angelo Antonini, Tove Henriksen, **Amelia Hursey**, Lars Bergmann, Juan Carlos Parra, Per Odin

P24.19 **Mobilising patient and public involvement in the development of real-world digital technology solutions: Lessons learned from the Mobilise-D consortium**
Alison Keogh, Riona McArdle, Mara Diaconu, Nadir Ammour, Valdo Arnera, Federica Balzani, Sara Buttery, Alma Cantu, Solange Corriol-Rohou, Laura Delgado-Ortiz, Jacques Duysens, Tova Gur-Arieh, Dominique Hamerelijnck, John Linnell, Leitizia Leocani, Tom McQuillan, Isabel Neatrour, Ashley Polhemus, Werner Remmele, Isabel Saraiva, Kirsty Scott, Norman Sutton, Koen Van den Brande, Beatrix Vereijken, **Lynn Rochester**

P24.20 **Individualized smartphone-based exercise as a telemedical approach to reduce motor symptoms in Parkinson's disease**
Lisa Lützow, Isabelle Teckenburg, Veronica Koch, Martin Regensburger, Franz Marxreiter, Jelena Jukic, Sabine Stallforth, Jürgen Winkler, Jochen Klucken, Heiko Gaßner

P24.21 **Integration of a conversational agent in a mHealth solution to increase exercise adherence in Parkinson's disease**
Patricia Macedo, Pedro Mota, Ana Beatriz Rebola, Rui Neves Madeira, Carla Pereira

P24.22 **Suppocial – Connect. Support. Inspire**
Blake Mackey

P24.23 **Development of an evaluation framework for digitally enabled integrated care: Connected care PD**
Ivana Paccoud, Liyousew Borga, Joëlle V. Fritz, Jochen Klucken

P24.24 **Compliance and satisfaction of Parkinson's disease patients from a pilot smart devices-enabled study**
Nikolaos Papagiannakis, Anastasia Bougea, Athina-Maria Simitsi, Elpida Panagiotounakou, Chrysa Chrysovitsanou, Minas Badounas, Ioannis Ladakis, Hara Stefanou, Panos Tsakanikas, Christos Koros, Leonidas Stefanis

P24.25 **Alameda study protocol: Bridging the early diagnosis and treatment gap of brain diseases via smart, connected, proactive and evidence-based technological interventions for Parkinson's disease**
Nikolaos Papagiannakis, Anastasia Bougea, Athina-Maria Simitsi, Elpida Panagiotounakou, Kostas Lourentzos, Chrysa Chrisovitsanou, Christos Koros, Panagiotis Kokotis, Constantin Potagas, Anastasios Bonakis, Alexandru Sorici, Minas Badounas, Hara Stefanou, Sofia Segkouli, Christoniki Manga-Nteve, Nikos Tsolakis, Stefanos Vrochidis, Iphigenia Kapsomenaki, George Koutalieris, AdaneNega Tarekegn, Muhammad Sajjad, Faouzi Alaya Cheick, Konstantina Giannakopoulou, Panos Tsakanikas, Leonidas Stefanis

P24.27 **MoveONParkinson: Development of an innovative motivational solution for personalized exercise through the ONParkinson platform**
Carla Pereira, Ana Beatriz Rebola, Daniela Sineiro, Pedro Alburquerque Santos, Ricardo Carmo, João Carreira, Patricia Macedo, Rui Neves Madeira

P24.28 **Stepping outside the clinic: Gait detection using wrist-worn sensors for remote arm swing analysis in Parkinson's disease**
Erik Post, Twan Van Laarhoven, Yordan Raykov, Max Little, Peter Kok, Pablo Rodríguez-Sánchez, Tom Heskes, Bastiaan Bloem, Luc Evers

P24.30 **A system for measuring akinesia via handheld momentum sensors**
Venkateshwarla Rama Raju

P24.31 **Consultation preparation: A pilot study to improve Parkinson's disease patients' perception of their doctor visit**
Laura Carrasco, Damaris Alvarez, Manuel Perez, Chiara Capra, **Daniel Rodriguez-Martin**, Marina Mata, Monica M. Kurtis, Carmen Borrue, Lydia Lopez-Manzanares

P24.32 **Co-designing digital medical devices for living well with Parkinson's disease**
Isabel Schwaninger, Alexandre Kloos, Fozia Noor, Sandrine Lavalle, Anne Kaysen, Jochen Klucken

P24.33 **A 26-week case study of long-term adherence to a smartphone-based patient reported outcomes (PRO) platform: Enhancing measurement and improving outcomes for an individual living with Parkinson's**
Benoit Tas, Benoit Duvivier, Heiko Mueller, John M Dean

P24.34 **Patient-centered recommendations for Parkinson's clinical trials using digital health technologies**
Kimberly Ward Barowicz, Marjan Meinders, Mark Frasier, Johan Hellsten, Tairmae Kangarloo, Matthew Sullivan, Cindy Zadikoff, Martijn Müller, Diane Stephenson

P24.35   **Soft robotic apparel and freezing of gait: A targeted approach**
Nick Wendel, Jinsoo Kim, Franchino Porciuncula, Teresa Baker, Hee Doo Yang, Sungwoo Park, Conor Walsh, Terry Ellis

Comprehensive Care: Rehabilitation sciences (PT, OT, SLP)

P25.23   **Occupational outcomes in individuals with Parkinson's disease using a small group functional skill training approach**
Noelle Joyner, Heather Simpson, Alison Kraus, Becky Farley

P25.24   **Use of constraint induced goggles to manage dystonia and axial rigidity in Parkinsonism**
Aison Kraus, Paul Auth, Nicole Tester, Michael Okun

P25.25   **The application of PD specific functional training in group rehabilitative sessions – Physical performance outcomes**
Aison Kraus, Heather Simpson, Noelle Joyner

P25.26   **Defining the components of an occupation-based intervention for people with Parkinson's with anxiety using Group Concept Mapping**
Chris Lovegrove, Jon Marsden, Ingrid Sturkenboom, Katrina Bannigan

P25.27   **Developing an occupation-based complex intervention for living well with anxiety and Parkinson's (OBtAIN-PD): A logic modelling approach**
Chris Lovegrove, Jon Marsden, Ingrid Sturkenboom, Katrina Bannigan

P25.28   **Evaluating the occupation-based complex intervention for living well with anxiety and Parkinson's disease (OBtAIN-PD): A feasibility cluster randomised controlled trial protocol**
Chris Lovegrove, Jon Marsden, Chris Hayward, Joanne Hosking, Ingrid Sturkenboom, Katrina Bannigan

P25.30   **Does hand exercise and training improve dexterity and function in people with Parkinson's disease? A systematic review and meta-analysis**
Jennifer McGinley, Elizabeth Proud, Kimberly Miller, Meg Morris, Jannette Blennerhassett

P25.32   **Effectiveness of balanceHOME program in functional mobility and cognitive performance in Parkinson's disease: A case study with mild cognitive impairment**
Sara Monleón Guinot, José M. Tomás, Joan Sánchez-Ortí, Vivina Aranda Asensi, Concepción de Salazar Antón, Manuel Villanueva Navarro, Constanza San Martín Valenzuela

P25.33   **Crowdsourced perceptual ratings of voice quality in people with Parkinson's disease before and after intensive voice and articulation therapies: Secondary outcome of a randomized controlled trial**
Tara McAllister, Christopher Nightingale, Gemma Moya-Galé, Ava Kawamura, Lorraine Ramig

P25.34   **Clinicians' self-perceptions of LSVT LOUD Globally: Data from Germany, France, and Japan**
Gemma Moya Galé, Thomas Brauer, Catherine Airiau, Masako Fujiu-Kurachi, Cynthia Fox, Heike Penner, Petra Benecke, Lorraine Ramig

P25.37   **Do dual-tasks affect gait asymmetry in people with Parkinson's disease?**
Constanza San Martín Valenzuela, Lirios Dueñas Moscardó

P25.38   **Comprehensive communication care for people with Parkinson's disease and their care partners**
Lisa Sommers, Sara Mamo

P25.39   **Developing an integrated guideline for allied health care in Parkinson's disease with decision support: Lessons learned**
Ingrid Sturkenboom, Anneli Langbroek-Amersfoort, Marten Munneke, Bastiaan Bloem

P25.40   **Feasibility of a combined intermittent theta-burst stimulation and video game-based dexterity training in Parkinson's disease**
Manuela Pastore-Wapp, Brigitte C. Kaufmann, Thomas Nyffeler, Simona Wapp, Stephan Bohlhalter, Tim Vanbellingen

P25.41   **No added effect of transcranial direct current stimulation on motor sequence learning in older adults**
Britt Vandendoorent, Sanne Broeder, Moran Gilat, Evelien Nackaerts, Jean-Jacques Orban de Xivry, Alice Nieuwboer

P25.42   **Effects of a 6-month community-based Nordic walking program on alleviating motor and non-motor symptoms and improving balance performance in people with Parkinson's disease**
Irene SK Wong-Yu, Ken CK Poon, Margaret KY Mak

P25.43 **Experiences and future perspectives with two patterns of intensive online exercise training in early-stage Parkinson's disease**
Yuya Yamaguchi, Junya Ogawa, Hiromi Masumori, Tadamitsu Matsuda

P25.44 **Effect of transcranial direct current stimulation depending on stimulation sites to improve dual-task performance in Parkinson's disease**
Seo Jung Yun, Sung Eun Hyun, Woo Hyung Lee, Byung-Mo Oh, Han Gil Seo

Comprehensive Care: Nutrition and gastrointestinal issues

P26.02 **Objective measures of gut dysfunction in Parkinson's disease**
Marta Camacho

P26.05 **Comprehensive personalized nutrition approach for people with Parkinson's: A case study**
Sally Hillis

P26.06 **The relationship between diet and Parkinson symptoms over time**
Laurie Mischley, **Joshua Farahnik**

Clinical Science: Symptoms, signs, features & non-motor manifestations

P27.06 **Does musculoskeletal pain impact physical activity in people with Parkinson disease?**
Ryan Duncan, Timothy Nordahl, Teresa Baker, James Cavanaugh, Tamara DeAngelis, Daniel Fulford, Jaimie Girnis, Martha Hessler, Michael Lavalley, Marie Saint-Hilaire, Cathi Thomas, Jenna Zajac, Terry Ellis, Gammon Earhart, Kerri Rawson

P27.08 **The hormonal impact on symptoms in women with Parkinson's**
Richelle Flanagan, Kat Hill, Sree Sripathy, Sabela Avion

P27.10 **Apathy, gender and quality of life among Mexican people living with Parkinson's disease: An underrecognized non-motor symptom**
Ana Jimena Hernández-Medrano, Diana Paulina Romero-Terán, María Fernanda Medina-Pérez, Andrea García-Hernández, Rodolfo Arturo Abundes-Corona, Daniela Renee Águila-Godínez, Axel Antonio Herrera-Ruiz, Amin Cervantes-Arriaga, Mayela Rodriguez-Violante

P27.22 **Respiratory dysfunction in Parkinson's Disease: Prevalence and determinants**
Maarten J. Nijkrake, Veerle A. van de Wetering-van Dongen, Philip J. van der Wees, Joanna IntHout, Sirwan K.L Darweesh, Bastiaan R. Bloem, Johanna G. Kalf

P27.23 **Clinical and cognitive characteristics in Parkinson's: The role of white matter injuries is decisive?**
Daniela Ortiz Zacarias, **Ingrid Eloisa Estrada Bellmann**, Christopher Cerda, Roberto Estrella Silva, Juan Roberto Trejo Ayala, Beatriz Chavez Luevano, Fernando Góngora Rivera

P27.24 **Association between anxiety and freezing of gait in Parkinson's diseases**
Nathalia de Brito Pereira, **Karina Yumi Tashima Honda**, Isaíra Almeida Pereira da Silva Nascimento, Katia Cirilo Costa Nobrega, Thayane Habache Barolli, Maria Elisa Pimentel Piemonte

P27.25 **Atypical Parkinsonism and psychiatric disorder in hereditary diffuse leukoencephalopathy with spheroids: A novel variant in the CSF1R gene**
Neus Rabaneda Lombarte, Belén Flores Pina, Dolores Vilas Rolán, Ana Castillo Gandía, Cristina Carrato Moñino, Katrin Beyer, Martí Paré Curell, Anna Massuet, Lourdes Ispierto González, Mireia Gea Rispal

P27.26 **Compliance with national and international guidelines in treatment of non-motor symptoms in late stage Parkinson's disease**
Kristina Rosqvist

P27.27 **Correlation of olfactory dysfunction in total and selective smell factors with cardiac sympathetic degeneration**
Dong-Woo Ryu, Sang-Won Yoo, Ko-Eun Chol, **Joong-Seok Kim**

P27.28 **The impact of freezing of gait on daily life mobility**
Christian Schlenstedt, Jennifer Kudelka, Jonas Müller, Paul Fritz, Pia Reisdorf, Katharina Dirksen, Heiko Gassner, Clemens Becker, Anat Mirelman, Jeff Hausdorff, Lynn Rochester, Pieter Ginis, Alice Nieuwboer, Walter Maetzler

P27.29 **Visual dysfunction and performance in activities of daily living among persons with Parkinson's disease**
Nicole Tester, Chiung-ju Liu, Yun Chan Shin, Aparna Wagle-Shukla

P27.30 **Relationship between cognitive functions and motor performance in patients with Parkinson's disease**
Olena Tsurkalenko, Patricia Martins Conde, Claire Pauly, Sonja Jonsdottir, Stefano Sapienza, Laure Pauly, Anne-Marie Hanff, Jochen Klucken, Rejko Kruger

P27.31 **Applications of acoustic analysis in the evaluation of the prosody in people with Parkinson**
Alejandro Cano Villagrasa, Beatriz Valles-González, Cristina Agudo, Leticia Moreno

P27.32 **The impact of faecal microbiome transplantation (FMT) on gut physiology in Parkinson's disease patients with abnormal gut microbiota composition**
Nora Vetkas, Lotta Luiskari, Tatyana D Fedorova, Reeta Levo, Berta Bosch, Riitta Korpela, Perttu Lahtinen, Rebekka Ortiz, Valtteri Kaasinen, Reetta Satokari, Perttu Arkkila, Filip Scheperjans

P27.33 **Safety and tolerability of adjunct non-invasive vagus nerve stimulation in people with Parkinson's: A randomised sham-controlled pilot trial**
Alison Yarnall, Hilmar Sigurdsson, Heather Hunter, Lisa Alcock, Ross Wilson, Ilse Pienaar, Elizabeth Want, Mark Baker, John-Paul Taylor, Lynn Rochester

P27.34 **The natural history of orthostatic blood pressure instability in early Parkinson's disease**
Sang-Won Yoo, Joong-Seok Kim

P27.35 **Striatal dopaminergic depletion is related with cardiovascular non-motor symptom in drug-naïve patients with Parkinson's disease**
Minkyeong Kim, Eugene Jeong, Jong Hyeon Ahn, Jin Whan Cho, Kyung-Han Lee, Seunghwan Moon, Jong Kyu Park, Jinyoung Youn

P27.36 **The experience of pain in people diagnosed with Parkinson's disease at an early age: An interpretive phenomenological analysis**
Sylvia Zimmers, Catherine Bungener

Clinical Science: Progression & prognosis

P28.04 **Pure autonomic failure developed parkinsonism without changes in 18F-FP-CIT PET: A case study**
Oh Dae Kwon

P28.05 **Larger ventricle may predict the development of freezing of gait in Parkinson's disease**
Jae-jung Lee, Young Bok Yong, Jong Sam Baik

P28.06 **Development and validation of a 7-year prognostic model for institutionalisation in Parkinson's disease: An individual-participant-data meta-analysis**
Yan Li, David McLernon, Rachael Lawson, Alison Yarnall, David Bäckström, Lars Forsgren, Marta Camacho, Caroline Williams-Gray, Jodi Maple-Grødem, Guido Alves, Ole-Bjørn Tysnes, Carl Counsell, Angus Macleod

P28.08 **Effects of dihydropyridines on the motor and cognitive outcomes of patients with Parkinson's disease**
Jin Ho Jung, Han Kyu Na, Seong Ho Jeong, Seok Jong Chung, Han Soo Yoo, Yang Hyun Lee, Kyoungwon Baik, Sang Jin Kim, Young H Sohn, Phil Hyu Lee

P28.09 **Clinical evidence and upcoming neuroprotective strategies for Parkinson's disease: An update**
Olivier Uwishema

Clinical Science: Behavioral disorders

P29.04 **Mindfulness-based cognitive therapy for anxiety and depression in people with PD**
Andreea Seritan, Ana-Maria Iosif, Prarthana Prakash, Sarah Wang, Stuart Eisendrath

P29.05 **Minds & movement: Evidence-based guidance for psychological interventions for people with Huntington's disease, Parkinson's disease, motor neurone disease, and multiple sclerosis**
Jane Simpson, Fiona Eccles, Nicolò Zarotti

P29.06 **Psychosocial interventions affecting global perceptions of control in people with Parkinson's disease: A scoping review**
Nicolò Zarotti, Katherine Deane, Catherine Ford, Jane Simpson

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Clinical Science: Cognition/ mood/ memory

P30.11 **Impairment in the behavioral synergic control of postural sway, gaze shift, and mental workload in Parkinson's disease**
Yann Kechabia, Arnaud Delval, Luc Defebvre, Cédrick Bonnet

P30.12 **In the direction of quantifiable objective psychopathology via cognitive neuropsychiatry: A fusion oriented hybrid-study**
Neerati Lavanya

P30.13 **The effect of the social evaluative threat on substantia nigra functional connections to stress processing system regions of interest**
Senegal Alfred Mabry, Marlen Gonzalez, Eve De Rosa, Adam Anderson

P30.14 **Psychotic features in early PD: Prevalence, phenomenology and clinical correlates**
Ioanna Pachi, Vasilis Papadopoulos, Christos Koros, Athina-Maria Simitsi, Anastasia Bougea, Maria Bozi, Nikos Papagiannakis, Rigas-Filippos Soldatos, Dimitra Kolovou, George Pantes, Nikolaos Scarmeas, Georgios Paraskevas, Konstantinos Voumvourakis, Sokratis Papageorgiou, Konstantinos Kollias, Nikos Stefanis, Leonidas Stefanis

P30.15 **Cognitive profile in prodromal Parkinson's disease – Cross-sectional and case-control study in an at-risk cohort of people with REM-sleep-behavior-disorder and hyposmia**
Laure Pauly, Claire Pauly, Armin Rauschenberger, Valerie E. Schröder, Gilles Van Cutsem, Anja K. Leist, Rejko Krüger

P30.16 **Facial emotion recognition is associated with MoCA score in patients with Parkinson's disease**
Claire Pauly, Anne-Marie Hanff, Sonja R. Jónsdóttir, Olena Tsurkalenko, Nico J. Diederich, Rejko Krüger

P30.17 **Cognition and freezing of gait in Parkinson's disease: A systematic review and meta-analysis**
Andrew Monaghan, Elise Gordon, Lisa Graham, Daniel Peterson, Rosie Morris

P30.18 **Screening for anxiety symptoms in Parkinson's disease in a Mexican cohort**
Paula Reyes-Pérez, Alejandra Medina-Rivera, Alejandra Ruiz-Contreras, Sarael Alcauter-Solórzano, Miguel Rentería, Luis García-Marín, Alejandra Lázaro-Figueroa, Eugenia Morelos-Figaredo, Damaris Vazquez-Guevara

P30.19 **Agents and phases of stress and coping strategies in Parkinson's disease**
Dirce Sanches Rodrigues, Marcos Antônio Moura, Adriana Aparecida Ferreira de Souza, Kátia Lousada Gouvea, Luiz Arthur Moreira Nunes, Miguel Soares Conceição

P30.20 **Association between thyroid dysfunction and severity of cognitive impairment in de novo patients with Parkinson's disease**
Iva Sarac, Helena Sarac, Fran Borovecki, Neven Henigsberg, Ida Ivek, Lucija Bagarić Krakan, Mateja Iveta, Tea Sukobljevic, Zdravko Kresic

P30.21 **The effects of computerised cognitive training of executive functioning on emotion regulation in Parkinson's disease**
Caroline Seton, Carien M. van Reekum, Aileen K. Ho

P30.22 **Motor symptom asymmetry predicts emotional and cognitive theory of mind outcome following STN DBS in Parkinson's disease**
Philippe Voruz, Julie Péron

P30.25 **Perceived control as a predictor of medication adherence in people with Parkinson's: A large-scale cross-sectional study**
Nicolò Zarotti, Katherine Deane, Catherine Ford, Jane Simpson

P30.26 **Gait initiation in Parkinson's disease: Investigating the role of proactive and reactive inhibition with EEG**
Déborah Ziri, Laurent Hugueville, Claire Olivier, Marie-Laure Welter, Nathalie George

Clinical Science: Sleep disorders/ fatigue

P31.02 **Do motor symptoms worsen Parkinson's disease insomnia? A videopolysomnographic study**
Sarah Joanny, Smaranda Leu-Semenescu, Isabelle Arnulf

P31.04 **Examining the impact of sleep disturbances on lived experiences of persons with Parkinson's disease (PwPD)**
Adriana Ornelas, Karen Aranha, Angela Blackwell, Nina Mosier

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Clinical Science: Diagnosis (differential, accuracy)

P32.05 **Correlation between olfactory dysfunction and severity of tremor: New hypothesis**
Denis Pokhabov, Vladislav Abramov, Michael Sadovsky, Dmitrii Pokhabov

P32.06 **Transcranial sonography as a tool for the differential diagnosis of early stages of synucleinopathies**
Neus Rabaneda Lombarte, Anna Planas Ballvé, Belén Flores Pina, Mireia Gea Rispal, Lourdes Ispierto González, Laia Grau, Ramiro Álvarez, Pau Pastor, Dolores Vilas Rolán

P32.07 **Whole-exome sequencing for Parkinson's disease: Tertiary single-center experience**
Valentino Racki, Elisa Papic, Mario Hero, Anja Kovanda, Borut Peterlin, Vladimira Vuletic

P32.08 **Impact of educational level on delayed diagnosis in people living with Parkinson's disease (PD): Treated at the National Institute of Neurology and Neurosurgery (INNN) during the year 2022**
María Alejandra Ruiz-Mafud, Eduardo Ichikawa-Escamilla, Etienne Reséndiz-Henríquez, Gloria Itzel Cerda-Hernández, Axel Antonio Herrera-Ruiz, Daniela Renee Aguila-Godinez, Ana Jimena Hernández-Medrano, Amin Cervantes-Arriaga, Mayela Rodriguez-Violante

P32.09 **Interpretable machine learning on metabolomics data reveals biomarkers for Parkinson's disease**
J. Diana Zhang, Chonghua Xue, Vijaya B. Kolachalama, William A. Donald

Clinical Science: Co-morbidities

P33.04 **Association between history of SARS-CoV-2 infection and worsening of non-motor symptoms and non-motor fluctuations in Mexican people living with Parkinson's disease**
Ana Jimena Hernández-Medrano, Diana Paulina Romero-Terán, María Fernanda Medina-Pérez, Andrea García-Hernández, Rodolfo Arturo Abundes-Corona, María Alejandra Ruiz-Mafud, Daniela Renee Águila-Godínez, Axel Antonio Herrera-Ruiz, Amin Cervantes-Arriaga, Mayela Rodriguez-Violante

P33.05 **Association between type 2 diabetes mellitus with Parkinson's disease and the increase of the severity of neuropsychiatric symptoms in a Mexican institute**
Axel Antonio Herrera-Ruiz, Eduardo Ichikawa-Escamilla, Etienne Reséndiz-Henríquez, María Alejandra Ruiz-Mafud, Ana Jimena Hernández-Medrano, Ana Paola Bazán-Rodríguez, Gloria Itzel Cerda-Hernández, Daniela Renee Aguila- Godinez, Amin Cervantes-Arriaga, Mayela Rodriguez-Violante

P33.06 **Pain and moods disorders as determinants of quality of life in Parkinson**
Daniela Ortiz Zacarias, Ingrid Eloísa Estrada Bellman, Roberto Estrella Silva, Juan Roberto Trejo Ayala

Clinical Science: Biomarkers and neuroimaging

P34.02 **The influence of gut microbiota as a potential regulator of amino acid metabolism and its' novel correlations in Parkinson's pathogenesis**
Yasunthara Balalle-Deo, Nanthini Jayabalan, Kerry Roper, Helen Woodhouse, John O'Sullivan, Robert Adam, Richard Gordon

P34.06 **Assessing the biomarker potential of LRRK2 and GCase in Parkinson's disease monocytes**
Laura Hughes, Nicolas Dzamko, Rebecca Wallings, Roy Alcalay, Alicia Garrido, Malú Gámez Tansey

P34.14 **Cortical microstructural changes in Parkinson's disease and its correlation with clinical and neuropsychological performance**
Jèssica Pardo, Victor Montal, Anna Campabadal, Javier Oltra, Ignacio Roura, Carme Uribe, Gemma Monté-Rubio, Maria J. Martí, Yaroslau Compta, Juan Fortea, Carme Junqué, Bàrbara Segura

P34.15 **Myocardial sympathetic denervation biomarkers for early detection of prodromal DLB**
Mee Y Park, Dong S Shin

P34.16 **Evaluation of a clinically validated digital platform to provide diffusion MRI biomarkers in Parkinsonian syndromes**
Vincent Perlbarg, Lydia Chougar, Jean-Baptiste Martini, Arthur Bezie, Julie Rachline, David Grabli, Florence Cormier, Marie Vidailhet, Jean-Christophe Corvol, Bertrand Degos, Stéphane Lehéricy

P34.17　**Multi-modal prognostic biomarkers for Parkinson's disease**
Anne-Sophie Rolland, Ophélie Simonin, Romain Viard, Julien Labreuche, Jessica Carpentier, Petr Dušek, Markus Otto, Marie-Odile Habert, Stéphane Lehericy, Gregory Kuchcinski, Renaud Lopes, Jean-Pierre Pruvo, Christophe Scherfler, Jean-François Mangin, Marie Chupin, Caroline Moreau, David Devos, For the FAIRPARK-II study group For the FAIRPARK-II study group

P34.18　**Peripheral retinal and microbial biomarkers for the early diagnosis of Parkinson's disease**
Victoria de los Angeles Soto Linan, C. Gora, M. Peralta, F-A. Guevara Agudelo, N. Dupré, M. Hébert, F. Raymond, M. Lévesque

P34.19　**Imaging presynaptic terminal integrity in parkinsonism: New findings from the 18F-SynVesT-1 tracer**
Carme Uribe, Sarah Martin, Kelly Smart, Kimberly Desmond, Anthony Lang, Neil Vasdev, Antonio Strafella

P34.20　**Peripheral immunophenotype and inflammation changes in PD upon αSyn treatment**
Ana Florencia Vega Benedetti, Clara Porcedda, Tommaso Ercoli, Chiara Burgaletto, Giovanni Defazio, Alfonso De Simone, Giuseppina Cantarella, Valeria Sogos, Annarosa Carta

P34.21　**Characterisation of blood-derived extracellular vesicles in Parkinsons's disease patients**
Alexander Weiss, Fanni Annamaria Boros, Philipp Arnold, Andreu Matamos-Angles, Verena Taudte, Friederike Zunke

P34.22　**Delayed cardiac sympathetic denervation in Parkinson's disease: An intermediate gradient between CNS- and PNS-dominant subtypes**
Sang-Won Yoo, Joong-Seok Kim

P34.23　**Evaluation of plasma levels of NFL, GFAP, UCHL1 and tau as Parkinson's disease biomarkers**
Priscilla Youssef, Laura Hughes, Woojin Kim, Glenda Halliday, Simon Lewis, Antony Cooper, Nicolas Dzamko

Clinical Science: Pharmacological therapy

P35.02　**May apomorphine be helpful for the axial symptoms of Parkinson's disease?**
Araceli Alonso-Canovas, Paula Pérez-Torre, Gema Sánchez, Angeles Patiño Paton, Nieves Monterde Fernández, Isabel Pareés Moreno, Juan Carlos Martínez Castrillo

P35.07　**Astrocytic networks as a novel therapeutic target in Parkinson's disease**
Nataly Hastings, Saifur Rahman, Przemyslaw Aleksandr Stempor, Wei-Li Kuan, Maha Alfaidi, Matthew Wayland, Aleksandr Zakirov, Michael Whitehead, Mark Kotter

P35.12　**May safinamide have a role in atypical Parkinsonism? A retrospective study in clinical practice**
Fernando Rodríguez Jorge, Paula Pérez Torre, Isabel Pareés Moreno, Jose Luis López Sendón, Samira Fanjul Arbós, Juan Carlos Martínez Castrillo, Araceli Alonso Cánovas

P35.13　**The impact of RAS inhibition on Parkinson's disease risk in hypertensive patients: A meta-analysis**
Youssef Soliman, Mostafa Hossam, Basma Ehab Amer, Hadeer Elsaeed AboElfarh, Motasem Ayoub, Maged Elsayed Mohamed, Ahmed Nasr, Eman T. Salah, Omar Ahmed Abdelwahab, Mostafa Meshref

P35.14　**Improvements in neuronal health by N-cyano pyrrolidine USP30 inhibitors in Parkinson's disease**
Elizabeth Stephen, Fernanda Martins Lopes, Emma Green, Emma Murphey, Franziska Gunther, Katherine England, John Davis, Michael Clague, Sylvie Urbé, Laura Ferraiuolo, Heather Mortiboys

P35.15　**Passive immunization reduces propagation of alpha-synuclein pathology along gut-brain axis**
Vasileios Theologidis, Jonas Folke, Tomasz Brudek, Richard Dodel, Alexander Ross, Hjalte Gram, Poul Henning Jensen, Per Borghammer, Nathalie Van Den Berge

Clinical Science: Surgical therapy, including cell and gene therapy

P36.08　**Evidence-based correlates and predictors of medication reduction after DBS in PD**
Jim Kirk, Arthur Berg, Michele York, Jason Schwalb, Mustafa Siddiqui, Jim McInerney, Joohi Jimenez-Shahed

P36.09　**Effectiveness of lead-point using combined imaging driven by computed axial tomography and mer for targeting stn-dbs in Parkinson's**
Neerati Lavanya

P36.10 **Acceptability of adaptive deep brain stimulation for Parkinson's disease**
Asuka Nakajima, Genko Oyama, Yasushi Shimo, Hikaru Kamo, Atsushi Umemura, Hirokazu Iwamuro, Yuta Sekiguchi, Ayumi Tsuchiya, Thomas C. Brionne, Kate Noel, Nobutaka Hattori

P36.11 **High-density noninvasive wired and wireless EEG electrodes and minimally invasive DBS in Parkinson's: A study with microelectrode recording**
Venkateshwarla Rama Raju

P36.12 **Refined cutting-edge adaptive closed loop smart deep brain stimulation in Parkinson's: A study with progressive machine learning decryption techniques**
Venkateshwarla Rama Raju

P36.13 **Functional analysis of Parkinson`s disease using computational simulation models and systems control theory**
Venkateshwarla Rama Raju

P36.14 **Computational simulation prototype-model of adaptive closed-loop deep brain stimulation (ACL-DBS) for curbing the low frequency β-oscillations in Parkinson`s**
Venkateshwarla Rama Raju, Lavanya Neerati

Clinical Science: Complications of therapies

P37.03 **Can Abilify cause disability?: A case series providing insight into parkinsonian symptoms experienced by Abilify users**
Kristin Richey, Jacob Goforth, Paul Brill

P37.04 **Apathy and impulse control disorders are not exclusionary behavioral conditions: Challenging a classical model in Parkinson´s disease**
Marta Vales Montero, Francisco Ferre Navarrete, Javier Conejo Galindo, Pablo Andrés Camazón, **José Suárez Campayo**, Rubén Reyes Marrero, José Ramón López-Trabada Gómez, M Bayta Díaz Rodríguez, Pedro José Melgarejo Otálora, Francisco Grandas

Clinical Science: Clinical trials: Design, outcomes, recruiting, etc.

P38.22 **Listening to the experience of participants on neurosurgical trials: Outcomes of the LEARN-GDNF and LEARN-transeuro studies**
Cheney Drew, Kim Smallman, Suzette Shahmoon, **Emma Lane**

P38.23 **The LEARN study: Tools to aid participant and support partner experience in clinical trials for Parkinson's disease**
Cheney Drew, Kim Smallman, Lesley Gosden, Colin Gosden, Darren Calder, Jayne Calder, Helen Matthews, **Emma Lane**

P38.25 **Case studies of a 3-year follow-up of abdominal photobiomodulation treatment for Parkinson's disease**
Ann Liebert, Brian Bicknell, Vincent Pang, Geoffrey Herkes, Hosen Kiat

P38.26 **A triple-blinded, sham controlled study of transcranial photobiomodulation (PBM) in Parkinson's disease**
Claire McGee, **Ann Liebert**, Brian Bicknell, Vincent Pang, Craig McLachlan, Hosen Kiat, Geoffrey Herkes

P38.29 **Exploring the disease-modifying potential of the probiotic Bacillus subtilis in Parkinson disease**
Jodi Maple-Grødem, Veslemøy Hamre Frantzen, Conni McCarthy, Johannes Lange, Rachel Dakin, Guido Alves, Maria Doitsidou, David Breen

P38.32 **APGS-ShakeItUp Australia Parkinson's registry: A catalyst for rapid testing of new therapies in clinical trials**
Michael Katz, Clyde Campbell, Vicki Miller, Richard Balansan, Nicholas G. Martin, **Miguel E. Renteria**

P38.33 **Randomized, double-blind, sham-controlled study to evaluate effectiveness of photobiomodulation plus exercise, to enhance motor, cognition and quality of life in those with Parkinson's disease**
Anita Saltmarche, Orla Hares, Ann Liebert, Brian Bicknell, Margaret Naeser, Geoff Herkes

P38.34 **The Vall d'Hebron Initiative for Parkinson (VHIP) cohort: a prospective, longitudinal and observational study enrolling de novo Parkinson's disease (PD) patients and carriers of PD-linked mutations for biomarker and pathophysiology studies**
Daniela Samengo, Laura Domingo, Maria Camprodon, Silvia Enriquez, Mar Armengol, Victoria Gonzalez, Sara Lucas, Helena Xicoy, Jordi Riera-Heredia, David Montpeyó, Marta Martinez-Vicente, Ariadna Laguna, Jorge Hernandez-Vara

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P38.36 **Development and validation of the Parkinson's Disease-Health Index (PD-HI): A disease-specific, patient-reported outcome measure for use in clinical trials**
Jamison Seabury, Jennifer Weinstein, Spencer Rosero, Anika Varma, Charlotte Engebrecht, Nuran Dilek, John Heatwole, Michael McDermott, Abigail Arky, E. Ray Dorsey, Christine Zizzi, Chad Heatwole

P38.37 **Worldwide collaborative framework for optimizing new Parkinson's treatment trials with patient centric outcome measures**
Diane Stephenson, Yuge Xiao, Catherine Kopil, Karen Lee, David T. Dexter, Martijn Müller, Klaus Romero, Helen Matthews, Gary Rafaloff, Jodie Forbes, Sarah Zenner, Carroll Sui, Johan Hellsten, Mark Maybank, Tanya Simuni

P38.40 **Patient engagement in early drug development: Building target product profiles with patient experts and organisations, from validation to co-creation**
Kate Trenam, Kevin Kwok, Paula Scurfield, Nikul Bakshi, James Beck, Carl Vandeloo, Isabelle Wilputte

P38.41 **Mobilising Parkinson's: Application of real-world digital mobility outcomes for clinical and research use**
Alison Yarnall, Lisa Alcock, Christian Schlenstedt, Pieter Ginis, Phillip Brown, Heather Hunter, Jurgen Winkler, Jochen Klucken, Jennifer Kudelka, Hanna Hildesheim, Mark Gordon, Lou Sutcliffe, Isabel Neatrour, Clemens Becker, Jeffrey Hausdorff, Heiko Gassner, Anat Mirelman, Alice Nieuwboer, Walter Maetzler, Lynn Rochester

P38.42 **Designing a protocol to evaluate feasibility, acceptability and impact of patient and care partner engagement in the EJS ACT-PD initiative**
Marie-Louise Zeissler, Nikul Bakshi, Michèle Bartlett, Amit Batla, Rebecca Chapman, Eric Deeson, Romy Ellis-Doyle, Jodie Forbes, Cristina Gonzalez-Robles, Anna Jewell, Emma Lane, Keith Martin, Helen Matthews, Laurel Miller, Georgia Mills, Miriam Parry, Kuhan Pushparatnam, Dorothy Salathiel, Paula Scurfield, Carroll Siu, Sue Whipps, Sheila Wonnacott, Thomas Foltynie, Camille B Carroll, Kevin McFarthing

P38.43 **Towards a preliminary protocol for a multi-arm multi-stage trial of disease modify therapies in Parkinson's disease: the EJS ACT-PD initiative**
Marie-Louise Zeissler, Matthew Burnell, Tom Barber, Yoav Ben-Shlomo, Rebecca Chapman, Caroline Clarke, Sally Collins, Carl Counsell, Mark Edwards, Romy Ellis-Doyle, Cristina Gonzalez-Robles, Anna Jewell, Georgia Mills, Dorothy Salathiel, Sue Whipps, Alan Whone, Thomas Foltynie, Camille B Carroll, Roger Barker, James Carpenter

P38.44 **Understanding site capability to inform the delivery of an inclusive multi-arm multi-stage trial for disease modifying therapies in Parkinson's as part of the EJS ACT-PD initiative**
Marie-Louise Zeissler, Jennifer Allison, Dilan Athauda, Sandra Bartolomeu-Pires, Gareth Baxendale, Kailash Bhatia, David Breen, Rebecca Chapman, Helen Collins, Rebecca Croucher, Romy Ellis-Doyle, Jodie Forbes, Cristina Gonzalez-Robles, Fleur Hudson, Rajeshree Khengar, Prasad Korlipara, Christian Lambert, Georgia Mills, Huw Morris, Monty Silverdale, Sheila Wonnacott, Alison Yarnall, Thomas Foltynie, Camille B Carroll, Stephen Mullin

P38.45 **The effects of an on-demand auditory cueing device used in the home for freezing of gait in people with Parkinson's disease**
Demi Zoetewei, Pieter Ginis, Talia Herman, Marina Brozgol, Pablo Cornejo Thumm, Luca Palmerini, Alberto Ferrari, Jeffrey Hausdorff, Alice Nieuwboer

Clinical Science: Rating scales

P39.04 **Test-retest reliability of a low-cost quantitative continuous measurement of movements in the extremities of people with Parkinson's disease**
Samrah Javed, Abdelwahab Elshourbagy, **James Brasic**

P39.05 **Validation of the UCLA Loneliness Scale 8- and 3-item versions in a cohort of people living with Parkinson's disease and correlation with quality of life**
Indu Subramanian, Bradley McDaniels, Devon Fox, Laurie Mischley

Clinical Science: E-health and technology

P40.09 **Moving towards the clinic: Validation of computer vision motor function analysis in clinical-based videos of people with Parkinson's disease**
Kathrin Heye, Renjie Li, Quan Bai, Rebecca J. St. George, Kaylee Rudd, Guan Huang, Marjan J. Meinders, Bastiaan R. Bloem, Jane E. Alty

P40.10   **Wearables for Parkinson's disease monitoring – The kuranos project**
Lars Jorgensen, Manuel Gonzalez Berges, Emiliano Piselli, Anna Ferrari, Samuel Simko

P40.11   **Data managing for Parkinson's disease monitoring using wearable devices**
Lars Jorgensen, Manuel Gonzalez Berges, Emiliano Piselli, Anna Ferrari, Samuel Simko

P40.13   **Design of theSTEPS trial: A phase II double blind randomized controlled trial evaluating motor-cognitive home training for people with Parkinson's disease**
Breiffni Leavy, Jenny Sedhed Sedhed, Elisabet Åkesson, Elke Kalbe, Erika Franzen, Hanna Johansson

P40.14   **Computer vision, a promising artificial intelligence tool to detect bradykinesia in Parkinson's disease**
Alicia Olivares-Gil, José Miguel Ramírez-Sanz, José Luis Garrido-Labrador, Álvaro García-Bustillo, Álvar Arnaiz-González, José Francisco Díez-Pastor, Florita Valiñas, Marta Allende, Maha Jahouh, Josefa González-Santos, Jerónimo Javier González-Bernal, José Trejo-Gabriel-Galán, Esther Cubo

P40.15   **Developing automated video assessment of Parkinson's disease: What happens when the training clinician makes errors?**
Kye Won Park, Mohsen Gholami, Tianze Yu, Maryam S. Mirian, Ravneet Mahal, Z. Jane Wang, Martin J. McKeown

P40.16   **Feasibility of a community-based walking program using autonomous rhythmic auditory stimulation in persons with Parkinson disease**
Franchino Porciuncula, Jenna Zajac, James Cavanaugh, Colin McGregor, Jaimie Girnis, Louis Awad, Brian Harris, Alexander Pantelyat, Terry Ellis

P40.17   **Real-world effects of autonomous rhythmic auditory stimulation on walking speed modulation in persons with Parkinson disease**
Franchino Porciuncula, Jenna Zajac, James Cavanaugh, Colin McGregor, Jaimie Girnis, Louis Awad, Brian Harris, Alexander Pantelyat, Terry Ellis

Clinical Science: Neuroimaging

P41.02   **An interpretable radiomics model of basal ganglia for prediction of dementia conversion in Parkinson's disease**
Seok Jong Chung, Yun Joong Kim, Chae Jung Park, Yae Won Park

P41.03   **Cingulate island sign is not associated with early dementia conversion in Parkinson's disease**
Seok Jong Chung, Young H. Sohn, Su Hong Kim, Phil Hyu Lee, Yong Jeong

P41.04   **Patterns of regional cerebral hypoperfusion and risk for dementia conversion in early Parkinson's disease**
Seok Jong Chung, Phil Hyu Lee, Su Hong Kim, Young H. Sohn, Yong Jeong

P41.08   **Microstructural underpinnings of mild behavioral impairment in early-to-mid stage Parkinson's disease**
Hannes Almgren, Maxime Descoteaux, Maryam Ghahremani, Zahinoor Ismail, **Oury Monchi**

P41.09   **When freezing causes a shutdown! A functional near-infrared spectroscopy study on complex stepping in people with Parkinson's disease**
Paulo Pelicioni, Stephen Lord, Yoshiro Okubo, Jasmine Menant

P41.11   **Pattern of cortical atrophy and its association with motor and cognitive symptoms in Parkinson's disease**
Han Soo Yoo, Sung Woo Kang, Han-Kyeol Kim, Chul Hyoung Lyoo

Clinical Science: Prodromal

P42.03   **Parkinson's disease prodromal features and motor symptom progression over five years in the Parkinson's Progression Markers Initiative (PPMI) dataset**
Emily Houston

P42.04   **Grow the prodromal Parkinson's cohort to speed the development of neuroprotective and disease modifying therapies: Five strategies**
Sarah Winter

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Living with Parkinson's: Public education or awareness programs

P43.01   **Parkinson's disease emergency care (PDEC)**
Eric Aquino

P43.03   **Onda PK: A radio show in Spanish about women and PD**
Paqui Ruiz, **Sonia Soriano**, **Inma García**, **Rosa Blázquez**, **Sabela Avion**

P43.06   **Optimizing hospital care for people with Parkinson's: A new professional education course detailing best practices in inpatient hospitalizations, emergency department visits, and outpatient procedures**
Anne Brooks, **Lisa Hoffman**, Indhira Blackwood

P43.11   **Raising the voices of women with Parkinson's**
Richelle Flanagan, Kat Hill, Sree Sripathy

P43.12   **WPC partner series with Womens Parkinson's Project - Unmet needs of women living with Parkinson's disease: The gaps & controversies**
Richelle Flanagan, Kat Hill, Sree Sripathy, Sabela Avion

P43.13   **Adapting and replicating a multidisciplinary model of Parkinson's care, rehabilitation and support developed in India to the Kenyan context**
Peter Masese, Natasha Fothergill-Misbah, Neha Rane, Jared Okeno, Krupa Ovalekar, Hellen Mwithiga, Maria Barretto

P43.14   **APDA trains first responders and fitness professionals to address the unique needs of people with Parkinson's disease**
Elvin Yao, Allan Bleich, Tamara R. DeAngelis, Lee Dibble, Terry Ellis, Robin Kornhaber, Merrill R. Landers, Cathi A. Thomas, **Rebecca Gilbert**

P43.15   **Eradicating neurophobia through expert patient tutors: The Parkinson's perspective**
Gina Hadley, Sally Bromley, Gabriele C. DeLuca

P43.16   **Global mentor/mentee program for Organizations: A pilot project of allied health education for community volunteers in Africa**
Angela Halpern, Cynthia Fox, Hellen Mwithiga, Margarita Makoutonina, Building Global Alliances Working Group

P43.18   **Results from a multi-country survey on advanced Parkinson's treatment knowledge, experience and information**
Amelia Hursey, Francesco De Renzis

P43.23   **The development of a girl scout topic action patch for Parkinson's awareness: T.A.P. – P.D.**
Margaret McCormick, Gwyn Vernon

P43.24   **Providing authentic learning experiences about Parkinson's disease: Bringing humanity into the classroom-phase II**
Margaret McCormick, Gwyn Vernon

P43.30   **Parkinson's experience at school: "Viu el Parkinson a l'escola"**
Jordi Santandreu Esteve, Sofia Malagón Gutiérrez, Pepa Martín Barceló, Núria Langa Beltràn, Paula Artigues Martinez, Montse Gabaldà Torrente

P43.31   **Using story to raise awareness, reach and connect African American and black individuals affected by Parkinson's disease**
Hiral Shah, Denise Coley, Bernard Coley, Sandra Coplin, Elizabeth Delaney, Victoria Dillard, Lorraine Haye, Angela Huckabee, Richard Huckabee, Danielle Kipnis, Michele Lin, Chelsea Macpherson, Nia Mensah, Alissa Pacheco, Anita Parker, Terrie Peacher-Ransom, Randell Pearson, Don Ransom, Kermit Smith, Lori Quinn

P43.32   **Improving care and reducing professional isolation: Developing a community of practice for occupational therapists treating people with Parkinson's**
Victoria Tull

P43.33   **Parkinson's survey: How much do we know about our disease**
Lucia Wang, Lucila Falcone, Monica Giuliano

P43.34   **3-part book study of "Ending Parkinson's disease: A prescription for action" Book author: Ray Dorsey, MD, ET, AL**
Jane Rice Williams

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Living with Parkinson's: Government advocacy/ campaigns/ public policy

P44.01   **The PD avengers: A patient-led, global alliance demanding change in how the disease is seen and treated, adding urgency to the cause of ending Parkinson's**
Larry Gifford, Tim Hague, Soania Mathur, MD

P44.05   **CENPAR: Covid-19**
Paola Alicia Riveros Cortés

P44.06   **Cenpar and the integral health care model (MAIS)**
Paola Alicia Riveros Cortés

P44.07   **A patient survey: What does the Fahr's community need?**
Adam Tate, Amit Batla

Living with Parkinson's: Living well with PD

P45.05   **BC brain wellness program ... Brain wellness beyond all boundaries: From idea to implementation**
Elaine Book, Amanda Cammalleri, Emily Gerson, Katy Chen, Alex Barber-Cross

P45.06   **Everybody has a story: The impact of intergenerational storytelling on wellness**
Elaine Book, Rifad Bhuyia, Serena Woo, Tiffany Chang, Julia Handra, Jiayi Li, Jennifer Lim

P45.13   **Education and exercise support for individuals newly diagnosed with Parkinson disease and their care partners**
Alicia Flach, Reed Handlery, Myriam Sollman, Travis Gawler, Emily Delany, Madeline East, Rebecca Schmidt, Elizabeth Regan

P45.14   **Evaluating a cross-national multisectoral OPTIM-PARK intervention for people with Parkinson's disease and their family carers in the community: A feasibility study**
Ellen Gabrielsen Hjelle, Tove Lise Nielsen, Jacob Callesen, Naja Benigna Kruse, Louise Buus Vester, Line Kildal Bragstad, Silje Bjørnsen Haavaag, Eline Aas, Anita Haahr, Maria Victoria Navarta-Sánchez, Azucena Pedraz-Marcos, Ana Palmar Santos, Leire Gutierrez Ambrosio, Dorit Kunkel, Mari Carmen Portillo

P45.15   **Coordinated care and individualised communication in Parkinson´s disease: Four perspectives on the meaningfulness of a cross-sectoral intervention**
Anita Haahr, Louise Vester, Line Kildal Bragstad, Tove Lise Nielsen, Naja Benigna Kruse, Ellen Gabrielsen Hjelle, Silje Bjørnsen Haavaag, M. Victoria Navarta Sánchez, Dorit Kunkel, Leire Ambrosio, Azucena Pedraz Marcos, Ana Palmar-Santos, Mari Carmen Portillo

P45.16   **Do you dance? Profile of people participating in dance for Parkinson's in Denmark - before Covid-19**
Anita Haahr, Kristian Winge

P45.23   **The importance of single peer support relationships for women with Parkinson's**
Susan Lehman, **Sharon Krischer**

P45.24   **Healthcare professionals with Parkinson's: Insights from a support group in the UK National Health Service (NHS)**
Claire Lehman, Jonny Acheson, Clare Addison, Tiny Binu, Ed Kirkham, Cormac Mehigan, Andrew Perkins, Garth Ravenhill

P45.27   **HerStory: An opera film showcasing the creative talents of people living with Parkinson's**
Amy Mallett

P45.33   **Deep brain stimulation – What are you getting yourself in for?**
Todd Murfitt

P45.34   **Eur -up - ian 2023 - A personal endurance event across Europe to raise awareness of YOPD, fundraise for dedicated charity and make long term Europe wide YOPD connections**
Ian O'Brien

P45.35   **Developing the Parkinson's disease support group network in Massachusetts, USA**
Rosemary Owen, Raymond James, Michael T Stevenson, Marie Saint-Hilaire, Cathi A Thomas

P45.36 **All in summit: Convening support group and community leaders to connect, learn, collaborate and expand Parkinson's community resources**
Clemie Pizzillo, Anissa Mitchell

P45.37 **Art as an avenue for participation in the Spanish-speaking Parkinson's community**
Ruby Rendon, Claudia Martinez, Gregory Pearce

P45.38 **Podcasting as a way to create a global PD community**
Travis Robinson

P45.40 **"Help me card" for off periods**
Jordi Santandreu Esteve

P45.41 **Parkinson's disease and the use of technology for the management of symptoms: A qualitative study**
Richard Walker, Francesca Hookway, Kyle Montague, Lorelle Dismore

P45.42 **The power to give Parkinson's to another**
Lucia Wang

P45.44 **Pivoting to a virtual world: How Parkinson Society BC increased impact and reach to the Parkinson's community during the 2020 pandemic and beyond**
Jean Blake, **Alana Dhillon**, **Shelly Yu**, Liz Janze

Living with Parkinson's: Advancing research: collaborations, capacity building, fundraising, trials, campaigns

P46.02 **The OPTIM-PARK project: A feasibility study assessing acceptability and feasibility of a cross-national multisectoral intervention for people affected by Parkinson's disease**
Line Bragstad, Tove Lise Nielsen, Naja Kruse, Ellen Hjelle, Anita Haahr, Dorit Kunkel, Silje Haavaag, Louise Vester, Victoria Navarta-Sanchez, Leire Ambrosio, Azuzena Pedraz-Marcos, Ana Palmar-Santos, Lydia Lopez-Manzanares, Fani Carabajal Pendon, Beatrice González García, Mari Carmen Portillo-Vega

P46.09 **Optimism in the research-based graphic medicine novel "Moving Along": Generating hope for people with Parkinson's and their caregivers through research communication about Parkinson's dance**
Lisbeth Frølunde, Grethe Lundin

P46.10 **A vital piece in a giant jigsaw: A lived experience of participating in an international Parkinson's study**
Heather Hunter, John Vasey, Philip Brown, Lisa Alcock, Walter Maetzler, Alice Nieuwboer, Pieter Ginis, Heiko Gassner, Mark Gordon, Alison Keogh, Anat Mirelman, Jeff Hausdorff, Clemens Becker, Lynn Rochester, Alison Yarnall

P46.11 **Movement as methodology for individual and collective wellbeing: Overcoming persistent disparities in Parkinson's research and care through dance, qualitative research, and community**
Jhia Jackson, **Richard Jackson**

P46.12 **Parkinson's with altitude: A case study**
Claire Lehman, Jules Janssen Daalen

P46.13 **Sparks of experience – Enhancing serendipity – An initiative by PD avengers research committee**
Eirwen Malin

P46.14 **Experience in action: Using art-science activities to explore experiences of movement and the body in Parkinson's and autism**
Ellen Poliakoff, Antony Hall, Eve Edmonds, Peter Baimbridge, Garry Copitch, Graham Hanks, Matthew Sullivan, Emma Gowen

P46.15 **A patient engagement council for Parkinson's research: Methods of meaningfully incorporating the perspectives of people with Parkinson's into clinical research and decision making**
Kate Trenam, Karlin Schroeder, Nikul Bakshi, Marc van Grieken, Carol Schulte, Harold de Wit

P46.16 **Accelerate research gains and improve service delivery by streamlining the Parkinson's non-governmental organization (NGO) sector in the United States**
Sarah Winter, Melissa Tribelhorn

Living with Parkinson's: Other

P47.01 **Promoting "custom" Parkinson's medication orders in the hospital improves timely administration**
Hooman Azmi, **Francis Ruzicka**, Lisa Cocoziello, Elana Clar, Anthony Rocco, Florian Thomas

P47.03 **Quebec Parkinson network: a collaborative approach to research in Parkinson's disease and related disorders**
Sarah Bogard

P47.04 **Sorting the sock drawer: A performance provocation for changing pan-Parkinson perceptions**
Eirwen Malin

P47.07 **APDA Parkinson's Symptom Tracker App, New York, USA**
Rosa Pena, Rebecca Gilbert, Eloise Caggiano, Vicky Chan

Late-Breaking

LBP01.14 **The pesticide chlordecone promotes Parkinsonism-like neurodegeneration with tau lesions in midbrain cultures and C. elegans worms**
Annie Lannuzel, Valeria Parrales, Patrick P. Michel, Aurore Tourville, Rita Raisman-Vozari, Stéphane Haïk, Stéphane Hunot, Nicolas Bizat

LBP03.13 **The role of karyopherin abnormalities in the onset and progression of synucleinopathies**
Daulet Sharipov, Erika Bereczki, Richard Killick, Tibor Hortobagyi, Claire Troakes, Dag Aarsland, Frank Hirth

LBP05.13 **Exploring LRRK2-Clusterin pathway in astrocytes: implication for a-synuclein clearance and spreading**
Alice Filippini, Giulia Carini, Veronica Mutti, Massimo Gennarelli, **Isabella Russo**

LBP06.01 **Alpha-synuclein miRNA-based AAV gene therapy leads to target engagement and phenotypic correction in an in vivo rat model of Parkinson's disease**
Seyda Acar Broekmans, Rhodé Erbrink, Charlotte van Rooijen, Lodewijk Toonen, Mercedes Valls, Astrid Vallès

LBP06.02 **Combining vectorized antibody and miRNA lowering strategies for synucleinopathies**
Seyda Acar Broekmans, Rhode Erbrink, Nikki Timmer, Charlotte van Rooijen, Sebastian Kieper, Verena Hehle, Astrid Vallès

LBP06.46 **Treadmill exercise modulates nigral and hippocampal cannabinoid receptor type 1 in the 6-OHDA model of Parkinson's disease**
Karina Henrique Binda, Anne Marlene Landau, Marucia Chacur, David J Brooks, **Caroline Real Gregorio**

LBP06.50 **Alpha-synuclein aggregate pathology in the cranial sensorimotor system in a mouse model of Parkinson's disease**
Allison Schaser, Brooke Rodgers, Vivek Unni

LBP06.52 **Use of in-vitro cell-models and fluorescent protein markers for understanding amyloid-related diseases**
Priyanka Swaminathan, Marikken Sundnes, Benedikte Emilie Vindstad, Odrun A.Gederaas, Mikael Lindgren, Therése Klingstedt, Ebba Hellstrand, Per Hammarström, Sofie Nyström, K Peter R Nilsson, Nathalie Van Den Berge

LBP06.53 **Vaccination with a modified fungal prion mimicking conformational epitopes on alpha-synuclein fibrils extends survival in mouse models of Parkinson's disease**
Verena Pesch, Sara Reithofer, Liang Ma, José Miguel Flores-Fernandez, Benedikt Frieg, Yannick Busch, Pelin Özdüzenciler, Gunnar Schröder, Holger Wille, **Erdem Gültekin Tamgüney**

LBP06.56 **Super high resolution metagenomic identified novel targets associated with pathogenic changes in microbiome composition in a Parkinson's disease mouse model**
Connor Wadsworth, Zizheng Xian, Nanthini Jayabalan, Kathrein (Kerry) Roper, Helen Woodhouse, Robert Adam, John O'Sullivan, Gene Tyson, Richard Gordon

LBP06.59 **Development of an alpha-synuclein targeting vectorized antibody strategy: First in vivo proof of mechanism in wild type mice**
Seyda Açar Broekmans, Rhode Erbrink, Charlotte van Rooijen, Lukas Schwarz, Meriem Bourajjaj, **Kim Wolzak**, Verena Hehle, Astrid Vallès

LBP08.08 **Pathway dysfunction in dopamine transporter associated parkinsonism and comorbid psychiatric disease**
Jamila Lilja, Ulrik Gether, Freja Herborg

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LBP12.13 **The meaning of caregiving for people with Parkinson's Disease : A hermeneutic study of non-family Muslim caregiver in New Zealand**
Martyarini Budi Setyawati, Bobbi Laing, Chistantie Effendy, Andrew Lynch, John Parson

LBP13.31 **Do people with Parkinson's disease in daily life do, what they can do in the clinic? Exploring the "can do, do do" conceptual framework**
Sabine Schootemeijer, Kirsten de Laat, Nienke de Vries

LBP19.07 **Comprehensive survey data set of women with Parkisnon's by women with Parkinson's**
Soania Mathur, Kristi Lamonica, Kat Hill, Helen Matthews

LBP23.09 **Integrated care for Parkinson's disease: An international practice survey**
Jennifer L. McGinley, Jennifer G. Goldman, Nabila Dahodwala, Laura Brennan, Joan Gardner, David Grimes, Robert Iansek, Addie Patterson, Norbert Kovacs, Ariela Hilel, Sotirios Parashos, Maria Elisa Piemonte, Bastiaan R. Bloem, Carsten Eggers, Roopa Rajan

LBP24.26 **How can I help you? - Iterative design process of a chatbot for people with Parkinson's**
Tessa Femke Peerbolte, Rozanne van Diggelen, Jacqueline Deenen, Pieter van den Haak, Bas Bloem, Nienke de Vries, Sanne van den Berg

LBP24.29 **Accelerating physical therapy exercise monitoring through digital health technology for people with Parkinson's**
Kevin Smaller, Bridget Fowler King, Kristen Hohl, Monica Hendricksen, Jillian MacDonald, **Miriam Rafferty**

LBP25.35 **Proprioceptive training for upper limb deficits in people with Parkinson's disease: A systematic review with meta-analyses of randomised controlled trials**
Kavinda Malwanage, Thusharika Dissanayaka, Natalie Allen, **Serene Paul**

LBP26.07 **Food for brain diseases; The development of the Brain Anti-Inflammatory Nutrition (BrAIN) Diet**
Ellen van den Oever

LBP31.03 **Prediction of treatment response and effect on clinical manifestations for Normal Pressure Hydrocephalus of sleep disorders**
Ho-Won Lee, Ji-Ye Jeon

LBP35.01 **Discovery and development of a small molecule inhibitor targeting alpha-synuclein pathology**
Nadine Ait-Bouziad, Nicolas Dreyfus, Coralie Vallet, Leonida Maliqi, Lorène Aeschbach, Sylvain Pautet, Sebastien Menant, Johannes Brune, Irina Borovko, Alexis Fenyi, Clarisse Schumer, Thomas Jaquier, Nicolas Fournier, Heiko Kroth, Sonia Poli, Andrea Pfeifer, Marie Kosco-Vilbois, Elpida Tsika

LBP35.16 **Enhancing lysosomal function and autophagy via TRPML1 as a potential therapeutic strategy for Parkinson's disease**
Gabriela Vilema-Enríquez, Matthew Williamson, John Blackwood, Warren Galloway, Geraldine Farjot, James Taylor, Alkmini Kalousi, Nancy Malintan, Jakub Stefaniak, Benjamin Atkinson, Tsz Ting Chow, Catherine Coutts, Zahra Shather, Peter Hamley

LBP38.24 **Effect of acupuncture stimulation on cognitive reserve in normal aging and neurodegenerative disease: A study design of clinical trial using a functional-near infrared spectroscopy**
Dong Hyuk Lee, Joo-Hee Kim

LBP38.28 **Motor, non-motor, and cognitive trajectories from 4 to 6 years after diagnosis in the AT-HOME PD cohort**
Eric Macklin, Jamie Adams, Katherine Amodeo, Elizabeth Baloga, Katherine Callahan, Joshua Gottesman, Karlo Lizarraga, Casey Stevens, James Beck, Hyun Joo Cho, Alberto Espay, Codrin Lungu, Dan Novak, David Oakes, Ira Shoulson, Ray Dorsey, Tanya Simuni, Larsson Omberg, Michael Schwarzschlid, Ruth Schneider

LBP38.35 **Double-blind placebo-controlled multicenter trial of fecal microbiota transplantation in Parkinson's disease**
Filip Scheperjans, Reeta Levo, Berta Bosch, Mitja Lääperi, Perttu Lahtinen, Rebekka Ortiz, Valtteri Kaasinen, Reetta Satokari, Perttu Arkkila

LBP39.06 **Extraction of the pull force from inertial sensors during the pull test in Parkinson's disease: An inter- and intra-rater reliability study**
Ryoma Taniuchi, Shusaku Kanai, Amane Hara, Kazuya Monden, Hiroaki Nagatani, Tsuyoshi Torii, Toshihide Harada

LBP40.12 **Lexico-semantic differences between people with PD and healthy controls observed in a story retell task**
Hardik Kothare, Andrew Exner, Sandy Snyder, Jessica Huber, Vikram Ramanarayanan

LBP45.39 **Mime as a therapeutic tool for people with Parkinson's Disease**
Barbara Salsberg Mathews, Muhammad Kathia

LBP45.43 **Utility in nutritional guidance for patients with Parkinson's disease**
Misa Yamaguchi, Yasunao Baba, Makoto Shiraishi, Kenji Isahaya, Yuri Kintaka

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The *Journal of Parkinson's Disease* (JPD) is dedicated to providing an open forum for original research in basic science, translational research and clinical medicine that will expedite our fundamental understanding and improve treatment of Parkinson's disease.

The journal is international and multidisciplinary and aims to promote progress in the epidemiology, etiology, genetics, molecular correlates, pathogenesis, pharmacology, psychology, diagnosis and treatment of Parkinson's disease.

It publishes research reports, reviews, short communications, and letters-to-the-editor and offers very rapid publication (the average turn-around time to first decision is 18 days). The journal has transformed to open access in 2023 with a publication charge of EUR2000/US$2000 (excl. VAT): All published articles are freely accessible immediately upon publication.

JPD is committed to serving the PwP community, and publishes sections such as "Clinical Trial Highlights", which is run jointly by a PwP and a researcher. PwP are represented on the Editorial Board and the journal features PwP blogs on the website. More initiatives are in the works.

The abstract book for the WPC 2023 is available at:
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POSTER TOURS
Wednesday, July 5, 2023

DAY 1

5:15 PM – 6:30 PM

Presenters of featured posters will be present during poster tours to explain their work.
Tour sign up is required (see sheets in back of Exhibit Hall).

Poster Tour 1: Etiology, genetic and epidemiology
Host: Mike Nalls (USA)

P01.07   **Contribution of whole exome sequencing in Parkinson's disease: A review of WES in 929 patients by Guillaume Cogan, France**

P01.15   **Towards a molecular definition of human midbrain dopaminergic neuron subtypes at the single cell level**

P01.19   **Update on PD GUT metagenome**

P01.31   **Genetic findings of the Rostock International Parkinson's Disease (ROPAD) Study**

LBP01.18   **Genome-wide association identifies novel etiological insights associated with Parkinson's disease in African and African admixed populations**

LBP01.23   **Association of diet with gut microbiome in patients with Parkinson's disease**

Poster Tour 2: Electrophysiology, brain physiology, dopamine receptors
Host: Nathalie Van Den Berge (Denmark)

P07.01   **Impact of α-synuclein pathology on corticostriatal synapses in Parkinson's disease**

P08.07   **Functional assessment of dopaminergic neurons derived from human lineage-restricted undifferentiated stem cells in a rat Parkinsonian model**

P09.05   **Identification of new RXR-Nr4a (Nur) nuclear receptor complex selective compounds for Parkinson's disease**

P10.02   **Alpha-synuclein-induced nigrostriatal degeneration and pramipexole treatment lead to compulsive behaviours and abnormal frontostriatal plasticity**

P10.05   **Globus pallidus contribution to motor behaviour in normal and Parkinson's disease states: Optogenetic studies in murine models**

P10.07   **Impact of alpha-synuclein overexpression on electrophysiological properties of the locus coeruleus neurons**

Poster Tour 3: Neuroprotection, cell death and protein misfolding
Host: Mark Cookson (USA)

P02.04   **Male sex bias in Parkinson's disease is linked to an accelerated age-dependent neuromelanin accumulation**

P02.07   **Function and neuroprotective potential of Flcn knockout in Parkinson's disease**

P03.04   **Assessment of phosphorylated α-synuclein deposits in the skin and GI tract in prodromal Parkinson's disease**

P03.06   **Super-resolution microscopy informs on the molecular architecture of alpha-synuclein inclusions in model systems and in the human brain**

P11.02   **Novel noninvasive gene therapy for Parkinson's disease using viral encoded single-chain antibody treatment**

P11.07   **Regenerating dopaminergic neural circuits in Parkinson's disease through transplantation of super-resistant human neurons**

Poster Tour 4: Mitochondria, oxidative stress, inflammation, pathogenesis
Host: Kim Tieu (USA)

P04.05   **Stratifying people with sporadic Parkinson's disease by pathological mechanism in patient-derived fibroblasts**

P04.08   **Investigating the role of alpha-synuclein in neuronal innate immunity and its role in the interferon response pathway**

P04.14   **Bruton's Tyrosine Kinase (BTK) is a druggable therapeutic target for neuroprotection in Parkinson's disease**

POSTER TOURS
Wednesday, July 5, 2023

P04.15 **β-Glucocerebrosidase-1 (GBA1) signalling in immune cells inhibits inflammasome activation in Parkinson's disease**

P04.17 **Microvascular changes and blood-brain barrier alterations in a progressive mouse model of synucleinopathy**

P04.20 **Immune signaling through the gut-brain axis in a Drosophila model of PD**

P04.33 **Uncovering the interaction between gut microbial factors and GBA1 mutations in the pathogenesis of Parkinson's disease**

Poster Tour 5: Self-management, empowerment and Inter professional teams
Host: Anjan Chatterjee (USA)

P22.03 **Salutogenesis among people living with diagnosed Parkinson's disease**

P22.10 **Gaitkeeping: A Parkinson's telehealth training program**

P22.16 **Patient experience and treatment satisfaction with continuous subcutaneous infusion of foslevodopa/foscarbidopa for treatment of advanced Parkinson's disease**

P22.18 **Investigating pain catastrophizing to improve treatment of pain and psychological distress in Parkinson's disease**

P23.02 **A missing piece of the Parkinson's puzzle: The critical role of the dietitian in the care of people living with Parkinson's disease (PD)**

P23.05 **ParkinsonNet Luxembourg – A multidisciplinary network adjusted to the healthcare environment in Luxembourg**

P23.07 **All hands on deck! Development and implementation of a nurse-driven, rehab-focused, in-person or telehealth interdisciplinary team (IDT) clinic for Veterans with PD and other movement disorders**

Poster Tour 6: Rehabilitation sciences
Host: Indu Subramanian (USA)

P25.10 **Talk the Walk: Dual tasking with walking and visual-verbal processing is more difficult for persons with Parkinson than for young and older adults**

P25.15 **CO-OP feasible and promising for facilitating goal attainment in adults with Parkinson's disease: findings of a randomised controlled feasibility trial**

P25.19 **Effectiveness of transcranial direct current stimulation (tDCS) on clinical perceived pain and pain processing features in Parkinson's disease (PD) patients**

P25.29 **Long-term effects of a 6-month brisk walking and balance program on physical performance and health-related quality of life in people with Parkinson disease: A randomized controlled trial**

P25.31 **Gait impairments in Parkinson's disease**

P25.36 **Clinical practice guideline for the physical therapist management of Parkinson disease: An American physical therapy association and academy of neurologic physical therapy collaboration for quality improvement**

Poster Tour 7: Surgical therapy and Neuroimaging
Host: Daniel Martinez (Mexico)

P36.05 **Improvement in quality-of-life and motor function during daily clinical practice using a directional DBS system**

P36.06 **Real-world outcomes in USA using DBS systems with directionality and multiple independent current control**

P41.01 **Cerebral glucose consumption and synaptic density in patients with Lewy body diseases, as measured with [18F]FDG and [11C]UCB-J PET**

POSTER TOURS
Wednesday, July 5, 2023

DAY 1

P41.10 **Neuroinflammation is elevated in people with Parkinson's disease with higher risk of developing dementia: Baseline findings from the NET-PDD (NEuroinflammation and Tau aggregation in Parkinson's Disease Dementia) study**

LBP36.01 **Preclinical safety and efficacy of dopamine neuron progenitor cells derived from PD donor induced pluripotent stem cells**

Poster Tour 8: Clinical trials: Design, outcomes
Host: Richard Gordon (Australia)

P38.30 **Characterizing the frequency of clinically reportable variants in major genes established in Parkinson's disease (PD) in a large American cohort**

P38.38 **Parkinson's disease drug therapies in the clinical trial pipeline: 2020-2022**

P38.39 **Ten years of drug repurposing for Parkinson's: The international linked clinical trials project**

LBP38.09 **Pharmacological neuromodulation with intracerebroventricular administration of anaerobic dopamine for Parkinson's disease**

LBP38.27 **Redesigning Parkinson's disease care: rationale, methods and baseline data from the PRIME-UK Parkinson's randomised controlled trial**

LBP38.31 **NLX-112 has favorable safety, tolerability and efficacy against levodopa-induced dyskinesia (LID) in a randomized, double-blind, placebo-controlled, proof-of-concept Ph2A study**

Poster Tour 9: E-health, Progression, Cognition, and Sleep disorders
Host: Dawn Bowers (USA)

P28.07 **Machine learning-based prediction of cognitive decline in early Parkinson's disease using multimodal features**

P29.01 **Cognitive behavioral therapy for anxiety in Parkinson's disease induces functional brain changes**

P29.02 **Jumping to conclusions (JtC) and its association with psychosis and impulsivity in early stages of Parkinson's disease**

P30.23 **Extending the BRAIN keyboard tapping test: To detect cognitive decline in a large community cohort of older Australians**

P31.01 **Continuous dopaminergic stimulation to improve sleep disorders in Parkinson's disease with insomnia: Results from the Apomorphee study on subcutaneous night-time only apomorphine infusion**

P31.05 **Keyboard tapping performance in people with subjective REM sleep behaviour disorder**

P40.02 **A 20-second home-based test helps detect prodromal Parkinson's in a community sample of older Australians**

Poster Tour 10: Advancing Research via collaboration and capacity building
Host: Dayne Beccano-Kelly (UK)

P46.03 **The Canadian Open Parkinson Network (C-OPN): A multimodal biorepository connecting the Canadian Parkinson's community around the world**

P46.04 **Parkinson community plays a critical role in new brain health initiative**

P46.07 **Transforming Parkinson's Care in Africa (TraPCAf): A newly funded research grant**

P47.05 **Medication experiences of people with Parkinson's disease**

LBP47.06 **In their own words: Fears of people with Parkinson disease**

POSTER TOURS
Thursday, July 6, 2023

5:15 PM – 6:30 PM

Presenters of featured posters will be present during poster tours to explain their work.
Tour sign up is required (see sheets in back of Exhibit Hall).

Poster Tour 11: Pathology
Host: Michela Deleidi (France)

P05.01   **Novel antibodies against oligomeric alpha synuclein**

P05.03   **Activating beta-glucocerebrosidase by exploiting its transporter LIMP-2**

P05.07   **Heterozygous GBA N370S mutation does not uniformly reduce GCase activity or cause lysosomal dysfunction in iPSC-derived neurons**

P05.09   **Neuropathological alterations in subjects initially diagnosed by polysomnography with isolated REM sleep behavior disorder**

P05.12   **Single molecule array assay for phosphorylated alpha-synuclein detection in cerebrospinal fluid**

P05.14   **Reciprocal effects of alpha-synuclein aggregation and lysosomal homeostasis in synucleinopathy models**

Poster Tour 12: Animal and Cellular models #1
Host: Yvette Wong (USA)

P06.11   **A high-content analysis pipeline for quantifying the autophagy-lysosomal pathway in IPSC-derived cortical neurons carrying Parkinson's disease associated mutations**

P06.22   **Modeling PRKN/PARK2-associated Parkinson's disease**

P06.41   **Healthy human iPSC-derived astrocytes rescue the degenerative phenotype of p.A53T-αSyn iPSC-derived neurons generated from Parkinson's disease patients**

P06.42   **A novel autoimmune alpha-synuclein-induced model of Parkinson's disease**

P06.43   **Modelling human brain-wide pigmentation induces Parkinson-like pathology and transcriptomic alterations in vivo**

P06.48   **Exploring the role of the lysosomal lipid flippase ATP10B in the nigrostriatal dopaminergic pathway of rats**

P06.54   **Investigating the role of astrocytes and microglia in driving neurodegeneration in Parkinson's disease using an hiPSC-based in vitro model**

Poster Tour 13: Animal and Cellular models #2
Host: Cristina Miguelez (Spain)

P06.06   **Establishment of a 3D iPSC-based neurovascular model to investigate Parkinson's disease pathophysiology**

P06.08   **Exacerbation of alpha-synuclein pathology by B-lymphocyte depletion**

P06.28   **Cell autonomous role of leucine-rich repeat kinase in dopaminergic neuron survival**

P06.35   **Modulation of the gut microbiota modifies Parkinson's disease-like pathology in transgenic neuromelanin-producing mice**

P06.36   **IPSC-derived human midbrain-striatal assembloid for Parkinson's disease modeling**

P06.57   **Age-related elevations in type-I interferon signalling control brain-gut transmission in the α-synuclein pre-formed fibril model of Parkinson's disease**

LBP06.02   **Combining vectorized antibody and miRNA lowering strategies for synucleinopathies**

POSTER TOURS
Thursday, July 6, 2023

DAY 2

Poster Tour 14: Exercise, Nutrition and Quality of Life
Host: Alfonso Fasano (Canada)

P13.14 **Utilizing the Parkinson's foundation five domains of exercise professional competencies to map five criteria for exercise education: A pilot study**

P13.16 **An exploration of service users perceptions of the Parkinson's beat program**

P16.11 **Prevalence and nature of self-reported visual complaints in people with Parkinson's disease – Use of the screening visual complaints questionnaire**

P26.02 **Objective measures of gut dysfunction in Parkinson's disease**

P27.06 **Does musculoskeletal pain impact physical activity in people with Parkinson disease?**

Poster Tour 15: Palliative Care and Advanced Planning
Host: Dan Weintraub (USA)

P18.01 **Parkinson's and palliative care – Are there different needs for women?**

P18.02 **Continuous subcutaneous apomorphine infusion for the management of Parkinson's disease at the end-of-life**

P18.03 **Terminal care for parkinsonian residents in French nursing homes: A 10-year longitudinal retrospective study**

P18.04 **The effect of a multidisciplinary blended learning program on palliative care knowledge for health care professionals involved in the care for people with Parkinson's disease**

P18.05 **Feasibility of a nurse-led advance care planning and care coordination intervention in Parkinson's disease – Results of a multicenter European study**

P18.08 **Symptoms at the end of life in patients with Parkinson's disease**

Poster Tour 16: Health Accessibilty, Intimacy, and Non-motor manifestations
Host: Julia Wood (USA)

P19.10 **www.PregSpark.com, introducing the International PregnancieS and Parkinson's Registry, an initiative of the Radboud UMC in co-creation with PWP**

P20.01 **Approach to the management of sexual and intimate problems in patients with motor and non-motor manifestations of Parkinson's disease**

P27.08 **The hormonal impact on symptoms in women with Parkinson's**

P27.10 **Apathy, gender and quality of life among Mexican people living with Parkinson's disease: An underrecognized non-motor symptom**

LBP19.07 **Comprehensive survey data set of women with Parkisnon's by women with Parkinson's**

Poster Tour 17: Biomarkers, neuroimaging and pharmcological therapy
Host: Jon B Toledo (USA)

P34.02 **The influence of gut microbiota as a potential regulator of amino acid metabolism and its' novel correlations in Parkinson's pathogenesis**

P34.06 **Assessing the biomarker potential of LRRK2 and GCase in Parkinson's disease monocytes**

P34.19 **Imaging presynaptic terminal integrity in parkinsonism: New findings from the 18F-SynVesT-1 tracer**

P35.02 **May apomorphine be helpful for the axial symptoms of Parkinson's disease?**

P35.07 **Astrocytic networks as a novel therapeutic target in Parkinson's disease**

P35.15 **Passive immunization reduces propagation of alpha-synuclein pathology along gut-brain axis**

LBP35.01 **Discovery and development of a small molecule inhibitor targeting alpha-synuclein pathology**

POSTER TOURS
Thursday, July 6, 2023

Poster Tour 18: Public Education & Campaigns
Host: Laura Volpicelli-Daley (USA)

P43.03   **Onda PK: A radio show in Spanish about women and PD**

P43.12   **WPC partner series with Womens Parkinson's Project - Unmet needs of women living with Parkinson's disease: The gaps & controversies**

P43.13   **Adapting and replicating a multidisciplinary model of Parkinson's care, rehabilitation and support developed in India to the Kenyan context**

P43.16   **Global mentor/mentee program for Organizations: A pilot project of allied health education for community volunteers in Africa**

P43.24   **Providing authentic learning experiences about Parkinson's disease: Bringing humanity into the classroom-phase II**

P44.01   **The PD avengers: A patient-led, global alliance demanding change in how the disease is seen and treated, adding urgency to the cause of ending Parkinson's**

Poster Tour 19: Living well with Parkinson's
Host: Hanneke Kalf (Netherlands)

P45.05   **BC brain wellness program ... Brain wellness beyond all boundaries: From idea to implementation**

P45.13   **Education and exercise support for individuals newly diagnosed with Parkinson disease and their care partners**

P45.14   **Evaluating a cross-national multisectoral OPTIM-PARK intervention for people with Parkinson's disease and their family carers in the community: A feasibility study**

P45.15   **Coordinated care and individualised communication in Parkinson´s disease: Four perspectives on the meaningfulness of a cross-sectoral intervention**

P45.23   **The importance of single peer support relationships for women with Parkinson's**

P45.27   **HerStory: An opera film showcasing the creative talents of people living with Parkinson's**

Poster Tour 20: Public education & awareness
Host: Marie Fuzzati (France)

P43.01   **Parkinson's disease emergency care (PDEC)**

P43.06   **Optimizing hospital care for people with Parkinson's: A new professional education course detailing best practices in inpatient hospitalizations, emergency department visits, and outpatient procedures**

P43.11   **Raising the voices of women with Parkinson's**

P43.15   **Eradicating neurophobia through expert patient tutors: The Parkinson's perspective**

P43.18   **Results from a multi-country survey on advanced Parkinson's treatment knowledge, experience and information**

P47.01   **Promoting "custom" Parkinson's medication orders in the hospital improves timely administration**

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launched first Tour de Parkinson program supporting cyclists in their journey to Barcelona!

The World Parkinson Coalition, together with Parkinson advocates from around the world launched its first Tour de Parkinson program this year. Nearly 60 cyclists, from 7 countries who live with PD or care for someone with PD, cycled a collective 3,000 km from across Europe to reach Barcelona in time to attend the **6th World Parkinson Congress**.

We honor these Parkinson's champions for their hard work and perseverance for this physical feat, but also in raising awareness about Parkinson's, exercise, and the WPC. We tip our hats to them ans look to them for inspiration for our next adventure.

Tour de Parkinson

BIKE TO BARCELONA

We have everything you need to **live better** with Parkinson's.

Our **Helpline** can help by answering questions and providing educational resources.

Email Helpline@Parkinson.org
In English and Español

Interact with us and the Parkinson's community at
www.PDConversations.org
www.PDConversations.org/Espanol

www.Parkinson.org
www.Parkinson.org/Espanol

Visit us at Booth 601 in the Exhibit Hall

Parkinson's Foundation

Better Lives. Together.
Mejores Vidas. Juntos.

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POSTER AREA

CLINICAL RESEARCH VILLAGE

8 — 7 — 6
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PARTNERS AREA

WPC BOOTH

TULIP GARDEN

YOPD VILLAGE

LUNCH BOXES

| 604 | 704 |
| 603 | 703 |

803

LUNCH BOXES

| 1004 | 1104 |
| 1003 | 1103 |

| 1204 | 1304 |
| 1203 | 1303 |

LUNCH BOXES

| 1403 | 1504 |
| | 1503 |

BOOK NOOK

601

| 801 | 902 |
| | 901 |

| 1001 | 1101 |

| 1201 | 1302 |
| | 1301 |

| 1402 | 1502 |
| 1401 | 1501 |

BUDDIES CORNER

LUNCH BOXES

| 402 | 502 |
| 401 | 501 |

600

1000

1200

LUNCH BOXES

ENTRANCE /EXIT

EXHIBITORS

ABBVIE   Booth #1000

1 North Waukegan Road
North Chicago, Illinois 60064
USA
Tel: +1 224-221-6346
www.abbvie.com

AbbVie is a global, research-driven biopharmaceutical company committed to developing advanced therapies for some of the world's most complex and critical conditions. AbbVie's mission is to use its expertise and unique approach to innovation to improve treatments across four therapeutic areas: immunology, oncology, virology and neuroscience.

AMNEAL   Booth #1404

400 Crossing Blvd, 3rd Floor
Bridgewater, New Jersey 08807
USA
Tel: +1 908-332-2743
www.amneal.com

At Amneal, we are committed to people living with Parkinson's disease. We believe that every dose and every detail makes a difference—and that together, with patients, care partners, healthcare providers, and advocacy, we can achieve so much more.

BOSTON SCIENTIFIC   Booth #1200

25155 Rye Canyon Loop
Valencia, California 91355
USA
Tel: +1 661-949-4345
www.dbsandme.com

Boston Scientific is dedicated to advancing Deep Brain Stimulation (DBS) technology by developing meaningful, industry-leading solutions and partnering with healthcare providers to improve the quality of life for patients.

AMERICAN PARKINSON DISEASE ASSOCIATION (APDA)   Booth #1101

PO Box 61420
Staten Island, NY 10306
USA
Tel: +1 718-737-8151
www.apdaparkinson.org

Founded in 1961, the American Parkinson Disease Association (APDA) works tirelessly every day to provide the support, education, and research to help everyone impacted by Parkinson's disease live life to the fullest through a nationwide grassroots network of Chapters and Information & Referral Centers.

BEATHEALTH   Booth #1401

630 Avenue du Professeur Emile Jeanbrau
Montpellier   34090
France
Tel: +33 61 73 72 242
www.beathealth.eu

BeatMove is a patented and clinically validated walking aid which records the walk cadence and plays music that is synchronized to it. This allows a stabilization of the walk, a reduction in the number of falls, fear of falling, apathy, pain and more generally an improvement in quality of life.

CHARCO NEUROTECH LTD   Booth #600

Wellington House, East Rd
Petersfield, Cambridge CB1 1BH
UK
Tel: +44 20 8164 0844
charconeurotech.com

EXHIBITORS

COMFORT LINEN   Booth #1504

632 Robson Drive
Kamloops, British Columbia V2E 2B7
Canada
Tel: +1 403-389-6226
www.comfortlinen.com

Comfort Linen is a global online retailer of a friction-reducing sleep system comprised of a garment and bed sheet. Re-positioning becomes smooth and easy thereby allowing a more restful sleep. It is especially helpful to people coping with pain, mobility issues, Parkinson's Disease, stroke, post surgery and other conditions.

CUE2WALK INTERNATIONAL B.V.   Booth #1501

Lulofsstraat 55 Unit 26
The Hague 2521 AL
Netherlands
Tel: +31 64 405-8059
www.cue2walk.nl

Cue2Walk offers a Smart Cueing device to help people with Parkinson's overcome Freeze of Gait. A simple wearable that allows patients to stay active by application of Smart Technology. The award-winning Medical Device was developed in close cooperation with researchers, medical professionals, and people with Parkinson.

DAVIS PHINNEY FOUNDATION FOR PARKINSON'S   Booth #801

357 S McCaslin Blvd #105
Louisville, Colorado 80027
USA
Tel: +1 866-358-0285
www.davisphinneyfoundation.org

The Davis Phinney Foundation creates programs, tools, re-sources, and experiences that provide inspiration and informa-tion aimed at changing how people live with Parkinson's. Their living well programs include the Every Victory Counts® suite of resources, Ambassador Leadership Program, Healthy Parkin-son's Communities™ initiative, extensive online educational content, and quality-of-life research.

CONVATEC   Booth #1201

Unomedical A/S, Aaholmvej 1-3
Osted 4320 Lejre
Denmark
Tel: +45 819-47135
www.convatec.com/infusion-care

Convatec Infusion Care specializes in manufacturing subcuta-neous infusion sets since the 1980s and is the world's largest manufacturer of subcutaneous infusion sets today. Each year, we provide patients with millions of sets for subcutaneous drug delivery. These are used in treatment areas including Diabetes, Parkinson's Disease, Pain Management and more.

CURE PARKINSON'S   Booth #604

120 New Cavendish Street
London W1W 6XX
UK
Tel: +44 0207-487-3892
www.cureparkinsons.org.uk

We're here for the cure. Cure Parkinson's is working with urgency to investigate new treatments to slow, stop or reverse Parkinson's. Our funding and innovative approach has created a dynamic programme of clinical trials of drugs each with the potential to modify the progression of the disease.

FUERTE ES LA VIDA PARKINSON NO LIMITS   Booth #603

Calle Cardón 34
Corralejo 38770
Spain
Tel: +34 696-980-220
www.parkinsonnolimits.com

The nonprofit association Fuerte es la Vida Parkinson No Limits, organizes therapeutic and wellness vacations for People with Parkinson's and their family (or friends) in Fuerteventura, Canary Islands. The activities offered during the vacation are personalized and are part of the Parkinson No Limits Method. They are all done outdoors.

EXHIBITORS

GYROGEAR LTD.   Booth #1502

90A High Street
Berkhamsted
Hertfordshire, HP4 2BL
UK
Tel: +011-65-9616-0294
www.gyrogear.co

GyroGear has developed the most advanced hand tremor stabilizer globally, the GyroGlove. This intelligent glove can provide instantaneous relief to the 200 million people globally with Parkinson's Disease and Essential Tremor. Wear it, turn it on and regain that magical stability in your life.

INTERNATIONAL PARKINSON AND MOVEMENT DISORDER SOCIETY (MDS)   Booth #1402

555 E. Wells St., Suite 1100
Milwaukee, Wisconsin 53212
USA
Tel: +1 414-276-2145
www.movementdisorders.org

More than 11,000 clinicians, scientists and other healthcare professionals dedicated to improving care for some of the most challenging disorders through education and research.

IOS PRESS: JOURNAL OF PARKINSON'S DISEASE   Booth #704

Nieuwe Hemweg 6B
Amsterdam 1013BG
Netherlands
Tel: +31 620-437949
www.journalofparkinsonsdisease.com

IOS Press: Journal of Parkinson's Disease is a dedicated forum for original research in basic and translational study and clinical medicine, to expedite our understanding and treatment of PD. The journal is international, multidisciplinary and aims to promote progress in epidemiology, etiology, genetics, molecular correlates, pathogenesis, pharmacology, psychology, diagnosis and treatment.

JAPAN SELFCARE INSTITUTE®   Booth #402

2F, 2-10-29 Kanda Jimbocho
Chiyoda-ku, Tokyo 101-0051
Japan
Tel: +81 45-905-3365
www.japan-selfcare-i.jp

Exhibited at WPC 2019 as the sole distributor of the ultrasound head stimulator "Ultra-Ma". It is used in specified clinical trial of Lewy body dementia in Japan. The reported data shows improvement in Parkinson's disease related motor functions. Ultra-Ma has been introduced in Japan for treatment in clinics.

LSVT GLOBAL   Booth #902

4720 North Oracle Road, Suite 100
Tucson, Arizona 85705
USA
Tel: +1 888-438-5788
www.lsvtglobal.com

LSVT Global pioneered innovative, scientifically-validated therapies that restore and maintain voice (LSVT LOUD®) and movement (LSVT BIG®) in people with Parkinson's. We have trained over 60,000 therapists from 83 countries who positively impact the lives of people they treat. We provide exercise videos and virtual exercise classes supporting treatment gains.

MEDTRONIC   Booth #901

1800 Pyramid Place
Memphis, Tennessee 38132
USA
Tel: +33 67 82 14 124
www.medtronic.com

We lead global healthcare technology, boldly attacking the most challenging problems. Our Mission — to alleviate pain, restore health, and extend life — unites a global team of 90,000+ people, and our technologies transform the lives of two people every second, every hour, every day. Expect more from us.

EXHIBITORS

NEUROMO   Booth #1301

Carrer d'Osi
Barcelona 08034
Spain
Tel: +1 003 466-416-1933
www.a-champs.com

Empowering lives with innovative home-based training. Our interactive system enhances cognitive and motor skills simultaneously, empowering individuals with neurological impairments to actively participate in life. Join us on our mission to unlock potential and foster independence.

ORBIT HEALTH   Booth #501

Am Kartoffelgarten 14
Munich N/A
Germany
Tel: +49 1607-564836
orbit.health

Orbit Health's mission is to empower people living with Parkinson's (PwP) to lead a quality life. Its AI-powered solution Neptune automatically tracks symptoms and enables PwP and their healthcare teams to learn about how daily activities and treatments may affect motor states to ultimately personalize care.

PARKINSON & MOVEMENT DISORDER ALLIANCE   Booth #1204

7739 E Broadway, #352
Tucson, Arizona 85710
USA
Tel: +1 800-256-0966
www.pmdalliance.org

PMD Alliance is a nonprofit organization on a mission to empower people impacted by movement disorders with tools, inspiration, and meaningful connections. We create and deliver free resources across the Movement Disorder Care & Support Ecosystem©—to people living with the disease, their families, support group leaders, and healthcare providers.

PARKINSON'S ASSOCIATION MENTOR PROGRAM   Booth #1104

PO Box 1633
Solana Beach, California 92075
USA
Tel: +1 619-373-5476
mentors.parkinsonsassociation.org

If you are living with or are struggling with Parkinson's, or you are a care partner, and need someone to talk to, the Parkinson's Association Mentor Program is the place for you. Find a mentor, and get guidance from someone who has walked in your shoes.

PARKINSON'S EUROPE   Booth #703

Lynwood House, Crofton Road
Orpington, Kent BR6 8QE
UK
Tel: +1 796-206-2978
www.epda.eu.com

Parkinson's Europe is the leading voice for Parkinson's in Europe. We provide trusted information, share good practices, raise awareness and improve understanding of the condition, as well as facilitate research collaboration. Our vision is that people with Parkinson's have access to the highest standards of treatment, support, and care.

PARKINSON'S FOUNDATION   Booth #601

200 SE 1st Street
Miami, Florida 33131
USA
Tel: +1 800-473-4636
parkinson.org

The Parkinson's Foundation makes life better for people with Parkinson's disease (PD) by improving care and advancing research toward a cure. In everything we do, we build on the energy, experience and passion of our global Parkinson's community.

EXHIBITORS

PARKINSON'S UK   Booth #1001

215 Vauxhall Bridge Road
London SW1V 1EJ
UK
Tel: +44 790-424-5146
www.parkinsons.org.uk

Parkinson's UK is here for everyone affected by Parkinson's. It's the largest European charitable funder of Parkinson's research. Driven by people with Parkinson's, scientists and supporters, fundraisers and families, carers and clinicians. Working together to improve lives and find a cure.

PD AVENGERS   Booth #1302

2593 Grant Street
Vancouver, British Columbia V5K 3G6
Canada
Tel: +1 778-233-6173
www.pdavengers.com

PD Avengers is a non-profit, global alliance of people with Parkinson's, our partners and friends, standing together demanding change in how the disease is seen and treated. We add urgency to research, wellness and advocacy by uniting people and organizations to the cause of ending Parkinson's.

PORTABILES HEALTHCARE TECHNOLOGIES   Booth #1103

Henkestr. 91
Erlangen 91052
Germany
Tel: +49 9131-974991
www.portabiles-hct.de

Portabiles HealthCare Technologies — medical apps made in Germany. Our patented, CE-labeled medical devices facilitate remote patient monitoring for therapy planning and clinical trials with a combination of wearable sensors and a smartphone-app. For patients the solutions allow an individualized coaching based on physiotherapeutic exercises and tips for daily living.

ROCK STEADY BOXING   Booth #401

6847 Hillsdale Ct
Indianapolis, Indiana 46250
USA
Tel: +1 317-676-6606
www.rocksteadyboxing.org

Rock Steady Boxing is an international non-profit organization that trains fitness and rehab professionals to lead boxing-based exercise specifically for people with Parkinson disease.

RUNE LABS   Booth #1304

649 Irving St
San Francisco, California 94122
USA
Tel: +1 860-305-5926
www.runelabs.io

Rune Labs is a software and data analytics company for precision neurology. StrivePD is the company's care delivery ecosystem for Parkinson's disease, enabling patients and clinicians to better manage Parkinson's by providing access to dashboards summarizing a range of patient-data, and by connecting patients to clinical trials.

SENSE4CARE   Booth #502

Tirso De Molina, 36 OF18
Cornellà de Llobregat 8940
Spain
Tel: +93 492-3959
www.sense4care.com

Sense4Care is a leader MedTech company developing and producing wearable medical devices based on the identification of human movement patterns, especially in Parkinson's Disease. The solution for Parkinson STAT-ON™ can replace evaluating methods used to date for digital medical reports automatically generated by our device.

STROLLL LTD   Booth #1003

Office 3 Trent Business Park
Easter Avenue, Lichfield
Staffordshire
United Kingdom
WS13 6RN
Tel: +1 787-250-6709
www.strolll.co

Strolll's Reality DTx® is a digital therapeutics software solution for commercially available AR glasses that can transform physio and rehabilitation for people living with neurological disorders.

SYMBYX BIOME   Booth #1203

2/50 Yeo street
Sydney 2089
Australia
Tel: +61 2 8066 9966
www.symbyxbiome.com

SYMBYX is a world leader in non-pharmaceutical, medically-approved therapies for reducing Parkinson's symptoms. Our laser light devices are available without prescription for home and clinic user markets. We have published +5 peer-reviewed, trials showing very encouraging safety and efficacy results. Our Canadian RCT is ongoing with results expected in October.

THE MICHAEL J. FOX FOUNDATION FOR PARKINSON'S RESEARCH   Booth #803

Grand Central Station, P.O. Box
New York, NY 10163-4777
USA
Tel: +1 212-509-0995
www.michaeljfox.org

The Michael J. Fox Foundation is dedicated to finding a cure for Parkinson's disease through an aggressively funded research agenda and to ensuring the development of improved therapies for those living with Parkinson's today.

UCB PHARMA / NOVARTIS   Booth #1403

Allée de la Recherche 60
1070 Brussels
Belgium
Tel: +32 2559 9999
www.ucb.com

UCB and Novartis have partnered on a Parkinson's research project, combining our expertise and aiming to bring disease-modifying therapies to people living with Parkinson's Disease.

UPI – ACTIVATOR WALKING POLES   Booth #1303

19 Hillcroft Drive
Toronto, Ontario M9B 4X4
Canada
Tel: +1 877-499-7999
www.urbanpoling.com

Urban Poling is an international education center and distributor of the high-performance ACTIVATOR® Poles; an evidence-based, patented tool that is revolutionizing rehabilitation. The award-winning ACTIVATOR® Program has been called a game changer for those living with Parkinson's Disease; improving posture, balance and gait re-training.

WALK WITH PATH   Booth #1503

Vesterbrogade 26
Copenhagen, 1620
Denmark
Tel: +44 797 684-2669
www.walkwithpath.com

Walk With Path is a mobility company dedicated to providing simple solutions to solve daily mobility challenges. Path Finder is a laser cueing shoe attachment that provides step synchronized cueing to alleviate and prevent freezing of gait.

See walkwithpath.com for more details.

WORLD PARKINSON COALITION®

Booth #605

1359 Broadway, Suite 1509
New York, NY 10018
USA
Tel: +1 212-923-4700
www.worldpdcoalition.org

The World Parkinson Coalition® works with nearly 200 organizations globally to connect and inspire members of the Parkinson's community. Its main focus is organizing and hosting the triennial World Parkinson Congress where it brings together some of the world's most respected movement disorder specialists, neuroscientists, nurses, rehab specialists, people with Parkinson's and care partners to learn about the latest scientific discoveries, medical practices, and care initiatives for PD.

ORGANIZATIONAL PARTNER TABLES

BRIAN GRANT FOUNDATION — Table #3

650 NE Holladay Street
Portland, Oregon 97232
USA
Tel: +1 503-274-9382
briangrant.org

The Brian Grant Foundation empowers people impacted by Parkinson's to lead active and fulfilling lives.

DANCE FOR PD®, A PROGRAM OF MARK MORRIS DANCE GROUP — Table #2

3 Lafayette Ave
Brooklyn, NY 11217
USA
Tel: +1 718-624-8400
danceforparkinsons.org

Dance for PD® offers internationally-acclaimed in-person and online dance classes for people with Parkinson's through a network of partners in 28 countries. Dance for PD®, a program of Mark Morris Dance Group, empowers participants to build confidence, community and physical skills while experiencing the joys and research-backed benefits of dance.

FEDERACIÓN ESPAÑOLA DE PÁRKINSON — Table #4

Paseo de la Ermita del Santo, 5
Madrid 28011
Spain
Tel: +34 914-345-371
www.esparkinson.es

Federación Española de Párkinson is the only national umbrella organization about Parkinson's in Spain. With more than 25 years of experience, we have been able to bring together nearly 70 members, which are local Parkinson's associations located all around Spain. All together, they represent around 13.000 people living with Parkinson's.

INTERNATIONAL TABLE TENNIS FEDERATION FOUNDATION (ITTF FOUNDATION) — Table #8

Richard-Wagner-Str. 10
Leipzig 4109
Germany
Tel: +49 34199-992944
ittffoundation.org/home

Table tennis 4all.4a better life, used as tool to promote development, health, peace, connecting people, implementing/supporting projects and empowering as models; for people with Parkinson and other diseases, to do it universal, inclusive, as a healthy activity with multiple benefits for physical-mental-social health, 2improve their daily life.

NPO U60 CHALLENGED SUPPORTERS — Table #5

5-1-205, 2-Chou
Sakai, Osaka N/A
Japon
Tel: +81 090-4496-3010

We provide assistance to younger PD patients under 60. We start a new challenge with NPO TENBIN. Goal is a society where everyone has appropriate knowledge about PD and can respect and cooperate with each other. We challenge to use puppet shows and movies as a means to do so.

PARKINSON'S DISEASE NURSE SPECIALIST ASSOCIATION (PDNSA) — Table #6

Bronllys Hospital
Powys LD3 0LU
UK
Tel: +44 187-471-2595
www.pdnsa.org

The PDNSA is a national organisation for nurses who care for people living with Parkinson's disease. We raise awareness to improve quality of life through education. We are based in the UK with international membership including supporting mentorship in sub Saharan Africa.

ORGANIZATIONAL PARTNER TABLES

PING PONG PARKINSON — Table #1

175 Tompkins Avenue
Pleasantville, NY 10520-3413
USA
Tel: +1 914 -557-6092
pingpongparkinson.org

We didn't conquer Parkinson, but we conquered the fear of Parkinson. Mission to create a global sports movement that is inclusive and supportive of people with a Parkinson diagnosis. The first and only world table tennis championship organizers dedicated to raising awareness of the benefits.

POWER FOR PARKINSON'S® — Table #7

5555 N Lamar St. L121
Austin, Texas 78751
USA
Tel: +1 512-815-3324
www.powerforparkinsons.org

Our mission is to provide free fitness, dance, and singing classes for people with Parkinson's Disease and their care partners in the Austin, Texas area and around the world.
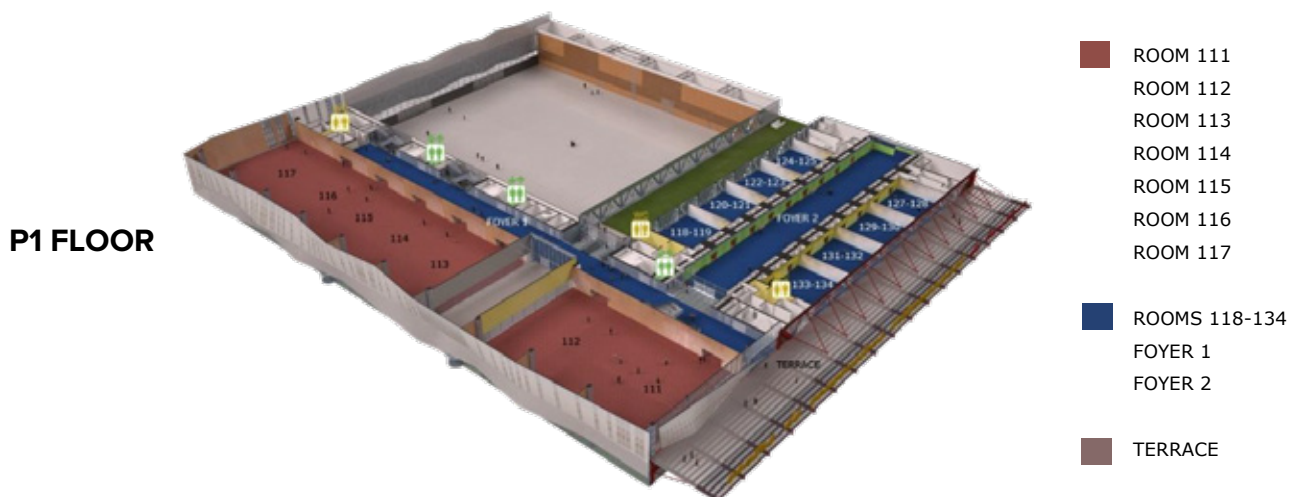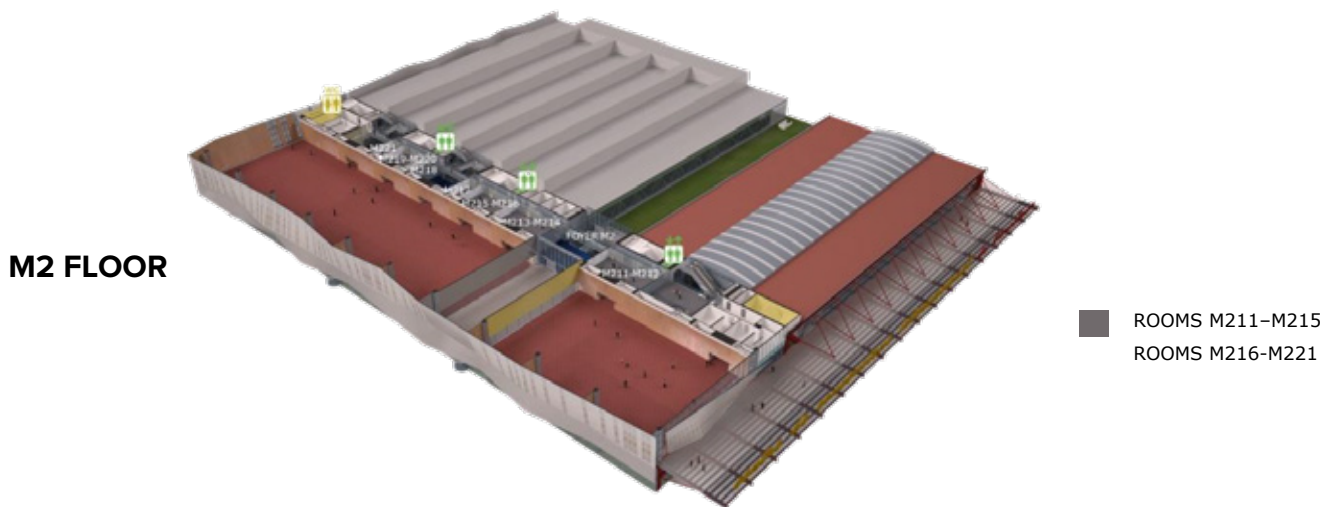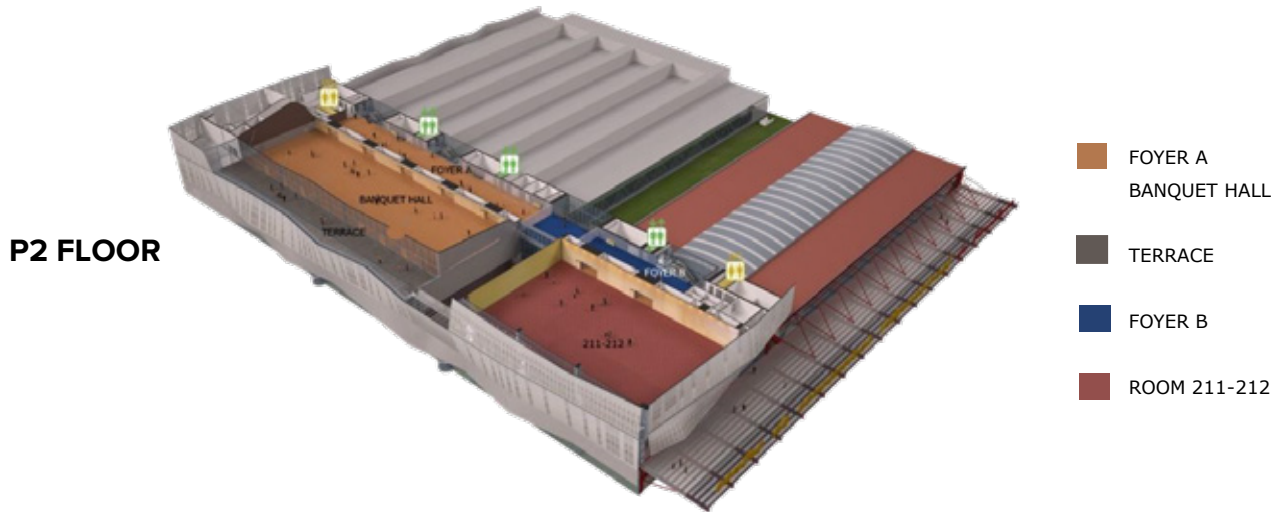

The **WPC Buddies Program** is an initiative to strengthen the global Parkinson's community by connecting **World Parkinson Congress** registrants with each other before the Congress even begins!

This is an opportunity for community members to engage in meaningful conversation with someone on the other side of the world, or just next door.

BARCELONA INTERNATIONAL CONVENTION CENTRE (CCIB)

The 6th World Parkinson Congress will be held in the Barcelona International Convention Centre located at Plaça de Willy Brandt, 11-14, 08019 Barcelona, Spain. To find out more about the Congress location, please visit https://ccib.es.

P2 FLOOR

- FOYER A
- BANQUET HALL
- TERRACE
- FOYER B
- ROOM 211-212

M2 FLOOR

- ROOMS M211–M215
- ROOMS M216-M221

P1 FLOOR

- ROOM 111
- ROOM 112
- ROOM 113
- ROOM 114
- ROOM 115
- ROOM 116
- ROOM 117
- ROOMS 118-134
- FOYER 1
- FOYER 2
- TERRACE

M1 FLOOR
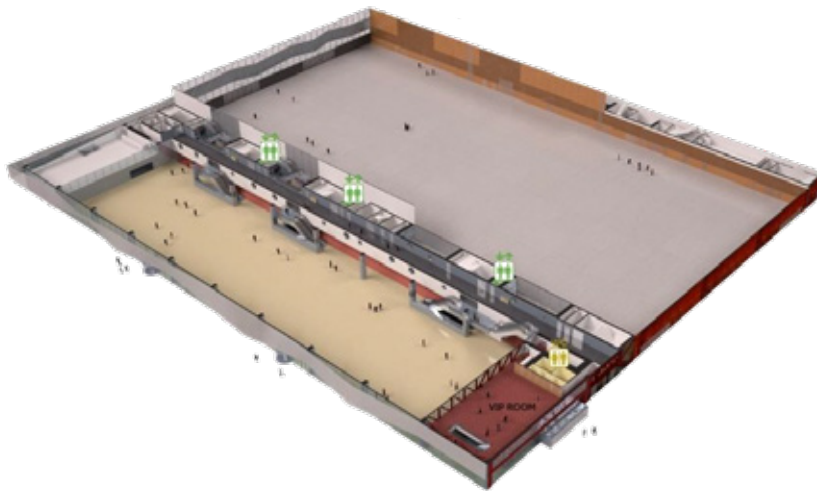
TERRACE

VIP ROOM

P0 FLOOR

MULTI-PURPOSE ROOM TOTAL
AREA 1
AREA 2
AREA 3
AREA 4
AREA 5
AREA 6
AREA 7
AREA 8

ENTRANCE HALL

FOYER 0

Be Inspired.

WPC 2023
video competition

WATCH THE VIDEOS FROM THE COMPETITION AT
WORLDPDCONGRESS

PARKINSON'S DISEASE GLOSSARY

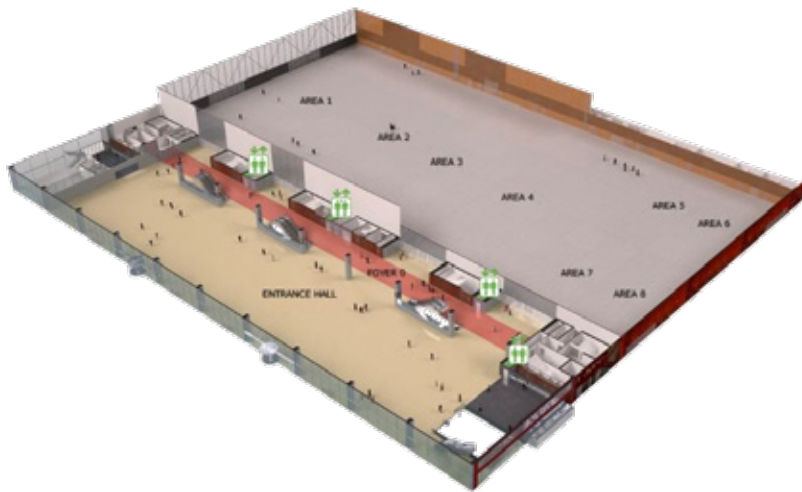*A guide to the scientific language of Parkinson's disease*

Acetylcholine: One of the chemical neurotransmitters in the brain and other areas of the central and peripheral nervous system. It is highly concentrated in the basal ganglia, where it influences movement. It is located in other regions of the brain as well, and plays a role in memory. Drugs that block acetylcholine receptors (so-called anticholinergics) are utilized in the treatment of PD.

Agonist: A chemical or drug that can activate a neurotransmitter receptor. Dopamine agonists, such as pramipexole, ropinirole, bromocriptine and apomorphine, are used in the treatment of PD.

Aggregate: A whole formed by the combination of several elements. In Parkinson's disease, there is a clumping of many proteins inside neurons, including α-synuclein. Levy bodies are a kind of aggregate found in PD.

Akinesia: Literally, means loss of movement also described as a difficulty with initiating voluntary movements. It is commonly used interchangeably with bradykinesia, however bradykinesia means slow movement.

Alpha-synuclein (α-synuclein): A protein present in nerve cells where it can be found in their cell body, their nucleus and their terminals. The accumulation and aggregation of this protein is a pathologic finding in PD. The first genetic mutation found in PD was discovered in the gene for α-synuclein (SNCA), and was called PARK1. α-synuclein also accumulates in multiple system atrophy (MSA) and in Lewy Body Disease. α-synuclein appears to play a key role in the pathogenesis of PD.

Alexander Technique: This technique is a form of complementary therapy, pioneered at the turn of the century by FM Alexander. The principal aim is to help improve health by teaching people to stand and move more efficiently.

Amygdala: An almond-shaped nucleus located deep in the brain's medial temporal lobe in animals. It is involved in fear and anxiety responses, and in the formation of memories involving emotion.

Anticholinergics: A type of medication that interferes with the action of acetylcholine. It is sometimes used in PD to restore the balance between dopamine and acetylcholine in the striatum. They are not recommended for use in the elderly because they can cause confusion. Examples include:
- benztropine mesylate
- procyclidine hydrochloride
- biperiden hydrochloride
- trihexyphenidyl hydrochloride
- orphenadrine citrate

Apathy: Lack of interest, enthusiasm, or concern.

Astrocytes: They are a major support cells in the brain. Among other things, they secrete growth factors that help neurons grow and communicate. They can also pump glutamate, a neurotransmitter that, in excess, can cause neurotoxicity.

Ataxia: Inability to coordinate voluntary muscle movements; unsteady movements and staggering gait.

Autonomic Nervous System (ANS): Part of the peripheral nervous system, consisting of sympathetic and parasympathetic nerves that control involuntary actions, in particular the heartbeat, smooth muscle (such as bladder and blood vessels), the digestive system, and glands.

Autonomic Dysfunction: Any abnormal functioning of the autonomic nervous system resulting in problems with bodily functions such as bowel and bladder control, blood pressure control, sweating, drooling, and so forth.

Autophagy: The segregation and disposal of damaged organelles within a cell. This is a normal physiological process in the body. It maintains normal functioning by protein degradation and turnover of the destroyed cell organelles for new cell formation. During cellular stress the process of Autophagy is increased. Cellular stress is caused when there is deprivation of nutrients and/or growth factors. Thus autophagy may provide an alternate source of intracellular building blocks and substrates that may generate energy to enable continuous cell survival. Dysfunctional autophagy can lead to the building of damaged organelles and misfolded proteins in the cell.

Autosomal recessive: A mode of inheritance of genetic traits located on the autosomes that only manifests when two copies of a mutated gene (two alleles) are present. In order for a particular trait to be expressed, both parents must have the particular mutated allele or gene, and both must pass it to the offspring who then manifests the genetic disease. Some genetic forms of PD are autosomal recessive, such as from the genes known as parkin, PINK1 and DJ1. In some cases, the gene of interest is missing. In others, there are abnormalities and if two different abnormalities of the same gene are inherited, that can result in recessive inheritance.

Axon: A nerve fiber that carries electrical impulses from the nerve cell body to other neurons. Thick axons tend to be through the brain and spinal cord; they are surrounded by a protective fatty sheath called myelin (in multiple sclerosis the myelin is damaged). Thin axons tend to be unmyelinated. In PD, α-synuclein is deposited in long, thin axons, and these are called Lewy neurites.

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Basal Ganglia: Clusters of neurons that include the caudate nucleus, putamen, globus pallidus and substantia nigra which are located deep in the brain and play an important role in movement. Cell death in the substantia nigra contributes to Parkinsonian signs. The subthalamic nucleus is now also often considered part of the basal ganglia because it connects with other regions of the basal ganglia.

Blood brain barrier: The separating membrane between the blood and the brain; a tight physical barrier that normally keeps immune cells, and some chemicals and drugs out of the brain.

Bradykinesia: Literally, means slowness of movement. It is commonly (but erroneously) used synonymously with akinesia and hypokinesia. Bradykinesia is a clinical hallmark of Parkinsonism.

Brain stem: The part of the brain between the cerebral hemispheres and the spinal cord. The three parts of the brain stem are the medulla oblongata, pons, and midbrain. The brain stem is a vital structure that is a passageway between the brain and spinal cord, and it contains neurons involved in sleep and wakefulness, as well as the main centers that command vital functions such as respiration and heart function. The substantia nigra, which is damaged in Parkinson's, is located in the midbrain of the brain stem.

Calcium: An essential mineral. Calcium is important for neurological "signaling" and is involved in many chemical reactions within neurons and in mitochondria function. Calcium overload in substantia nigra has been postulated as one mechanism that could contribute to death of these neurons.

Carbidopa: A drug given with levodopa. Carbidopa blocks the enzyme dopa decarboxylase, thereby preventing levodopa from being metabolized to dopamine. Because carbidopa does not penetrate the blood brain barrier, it only blocks levodopa metabolism in the peripheral tissues and not in the brain, thereby reducing side effects, but increasing the effectiveness of levodopa.

Carer/ Care Partner: A name used to describe anyone who provides help or support of any kind to a relative or friend.

Caudate nucleus: A nucleus located in the basal ganglia important in learning and memory. It is one component of the basal ganglia called the striatum. The other component is the putamen.

Cerebellum: Part of the hindbrain; controls smooth movements. When damaged, it results in ataxia.

Cerebrospinal fluid (CSF): A watery fluid generated within the brain's ventricles. CSF circulates to bathe the brain and spinal cord to cushion these from physical impact. Small amounts can be harvested in humans by lumbar puncture to measure chemicals coming from the brain.

Chronic: (opposite: acute) Chronic diseases are of long duration. Chronic diseases are typically of subtle onset and slow worsening over time. The term does not imply anything about the severity of a disease.

Clinical Trials: Refers to those research studies that involve human volunteers and are conducted to add to our understanding of certain diseases or to determine whether a drug may be effective in treating a disease.

Central Nervous System (CNS): consists of the brain, brain stem and spinal cord.

Cognition: Mental processes including attention, remembering, producing and understanding language, solving problems and making decisions.

Cognitive: Relating to mental activity such as thinking, reasoning, making judgments and remembering.

Complementary therapies: These are non-medical treatments, which many people use in addition to conventional medical treatments, such as the Alexander technique, acupuncture, aromatherapy, music and art therapies, reflexology, and osteopathy.

Computed tomography (CT): A medical imaging method employing computer processing to produce images seen as slices through the tissue. This presentation of images is known as tomography.

Continuous Dopaminergic Stimulation (CDS): A therapeutic concept for the management of Parkinson's disease that proposes that continuous (as opposed to discontinuous or pulsatile) stimulation of striatal dopamine receptors will delay or prevent the onset of levodopa-related motor complications.

Deep Brain Stimulation (DBS): A surgical treatment that involves the implantation of a medical device (electrical stimulator) that acts as a brain pacemaker sending electrical impulses to the specific area in which the electrode was inserted. In Parkinson's patients, the device is typically inserted in either the subthalamic nucleus or the globus pallidus, less often in the thalamus or pedunculopontine nucleus, depending upon the specific problem.

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Dementia: A decline in cognitive function due to damage or disease in the brain beyond what might be expected from normal aging. Areas particularly affected include memory, attention, judgment, language, planning and problem solving.

- Alzheimer's disease dementia: The most common form of dementia, typically presents with difficulty in remembering names and events. May also initially include apathy and depression, and later impaired judgment, disorientation, confusion, behavior changes and difficulty speaking, swallowing and walking. Associated with abnormal deposits of the protein fragment beta-amyloid (plaques) and twisted strands of the protein tau (tangles) as well as brain nerve cell damage and death.
- Dementia with Lewy bodies (DLB): Similar, but not identical, symptoms as in Alzheimer's dementia. DLB commonly has a greater occurrence of sleep disturbances, well-formed visual hallucinations, and muscle rigidity. Associated with aggregation of α-synuclein in the cerebral cortex. Lewy bodies are also a pathologic hallmark in Parkinson's disease. The relationship of DLB and PD remains to be resolved.
- Parkinson's dementia: Presents similarly to Alzheimer's dementia or dementia with Lewy bodies, but is typically preceded by clinical Parkinson's disease. Associated with α-synuclein aggregates that more likely begin in the brain stem, including the substantia nigra.

Dendrites: (from Greek meaning, "tree") Nerve fibers that project from the nerve cell body. Branches of dendrites are the receiving fibers of signals coming to the neuron from other neurons and convert these chemical signals into electrical ones to the nerve cell body.

Depression: Causes feelings of sadness and/or a loss of interest in activities once enjoyed. It can decrease one's ability to function in daily activities. Depression can be a clinical symptom of PD.

Disease modification: Treatments or interventions that affect the underlying pathophysiology of the disease and have a beneficial outcome on the course of a disease, for example Parkinson's.

Dopa decarboxylase inhibitors: Drugs (such as carbidopa) that inhibit the metabolism of levodopa to form dopamine. By inhibiting dopa decarboxylase only in the peripheral organs (not the Central Nervous System), levodopa concentration is increased and more can enter the brain. These drugs are particularly useful in Parkinson's when used with levodopa.

Dopamine: A small chemical molecule that is one of the brain's neurotransmitters. Among other brain regions, it is found in cells within the substantia nigra. These cells project to the striatum in the basal ganglia. Deficiency of dopamine in the striatum due to the death of cells in the substantia nigra causes symptoms of Parkinsonism.

Dopamine agonist: A compound that activates dopamine receptors, other than dopamine. Examples include, bromocriptine mesylate (Parlodel), pergolide (Permax), pramipexole (Mirapex), ropinirole hydrochloride (Requip), piribedil, cabergoline, apomorphine (Apokyn), rotigotine (Neupro patch) and lisuride. These act like dopamine, but are not actually dopamine. They can be used in both the early and late stages of Parkinson's disease. They are the second most powerful type of anti-Parkinson medication after levodopa. They can cause side effects such as sleepiness, sleep attacks, ankle swelling, hallucinations and impulse control problems, more commonly than levodopa does.

Dopaminergic pathways: Neural pathways in the brain which utilize dopamine as their neurotransmitter. There are four major groups: the nigrostriatal, mesocortical, mesolimbic and tuberoinfundibular pathways.

- Nigrostriatal: Connects the substantia nigra to the striatum. Involved heavily in Parkinson's.
- Mesocortical: Connects the ventral tegmental area (adjacent to the substantia nigra) to the cerebral cortex. Closely associated with the mesolimbic pathway. Can cause hallucinations and schizophrenia if not functioning properly.
- Mesolimbic: Connects ventral tegmental area to nucleus accumbens, amygdala & hippocampus and prefrontal cortex. Along with the mesocortical pathway, is involved in memory, motivation, emotional response, reward and addiction.
- Tuberoinfundibular: from hypothalamus to pituitary gland involved in hormonal regulation, maternal behavior (nurturing), pregnancy and sensory processes.

Drug Repurposing: Repurposing generally refers to studying drugs that are already approved to treat one disease or condition to see if they are safe and effective for treating other diseases.

Dyskinesia: Abnormal involuntary movements; also sometimes called hyperkinesia.

Dystonia: Characterized by persistent or intermittent contractions of opposing muscles causing abnormal movements or postures. It should not be confused with dyskinesia.

Freezing of Gait (FOG): The sudden brief inability to walk or to continue walking.

GABA (gamma amino butyric acid): The principal inhibitory neurotransmitter in human brain. GABA neurons are rich in the striatum, globus pallidus, substantia nigra and cerebellum.

GBA (Glucocerebrosidase): An enzyme found within the lysosome of cells. Mutations in the GBA gene are associated with Parkinson's disease.

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GDNF: Glial Cell line derived nerve growth factor. See growth factors.

Gene therapy: The insertion of genes into an individual's cells and tissues to treat hereditary diseases where deleterious mutant alleles can be replaced with functional ones. The genes are usually placed within a non-pathogenic virus, which serves as the vector to penetrate the cells. Gene therapy can also be used to correct non-genetic deficiencies such as the loss of dopamine in Parkinson's, to modify the function of a group of cells (e.g. convert an excitatory structure to one that is inhibitory) or to provide a source of growth factors.

Genotype: The collection of genetic material in an organism that gives rise to its characteristics.

Glia (Glial cells): Non-neural cells, commonly called neuroglia or simply glia (Greek for "glue"), that maintain homeostasis, form myelin, and provide support and protection for the brain's neurons. Astrocytes are one kind of glial cells.

Globus pallidus: A major part of the basal ganglia involved in movement control. It is split into two main parts: the internal globus pallidus (GPi), and the external globus pallidus (GPe). Deep brain stimulation of the GPi causes an increase in motor function in Parkinson's patients. Often patients also show a reduction in dyskinesia, proably because they require less levodopa.

Glucose: A simple sugar that is an important energy source in living organisms and is a component of many carbohydrates.

Glutamate: An amino acid and the main excitatory neurotransmitter in the human brain. The major input to the striatum is from the cerebral cortex and uses glutamate as a neurotransmittter. Excess glutamate can occur if the neurotransmitter is not well regulated and may causes cell death.

Glycation: The bonding of a sugar molecule to a protein or lipid molecule without enzymatic regulation.

Growth factors: Naturally occurring substances (usually proteins) that help maintain the health of neurons and encourage cell growth, proliferation and differentiation. Some growth factors are being looked at to try to promote the survival of the neural cells that are degenerating in Parkinson's.
- Glial cell line derived nerve growth factor (GDNF): Thought to promote the health of dopamine neurons.
- Brain-derived nerve growth factor (BDNF): Also supports dopamine neurons.
- Fibroblast growth factor (FGF): Studies have found a possible genetic link to Parkinson's disease on the FGF20 gene.
- Vascular endothelial growth factor-B (VEGF-B): May have neuroprotective affects in Parkinson's disease.

Gut microbiome: The complex community of microorganisms that live in the digestive tracts of humans and other animals.

Heterogeneity: Lacking uniformity in composition or character (as opposed to homogeneity, which is uniformity in composition or character).

Hippocampus: A complex neural structure (shaped like a sea horse) located in the temporal lobes of the brain; involved in memory storage, motivation and emotion as part of the limbic system.

Hoehn and Yahr scale: A commonly used system for describing how the symptoms of Parkinson's disease progress. The higher the stage, the more advanced the disease.
- Stage 0:   No signs of disease.
- Stage 1:   Unilateral symptoms only.
- Stage 1.5: Unilateral and axial (midline) involvement.
- Stage 2:   Bilateral symptoms. No impairment of balance.
- Stage 2.5: Mild bilateral disease with recovery on pull test.
- Stage 3:   Balance impairment. Mild to moderate disease. Physically independent.
- Stage 4:   Severe disability, but still able to walk or stand unassisted.
- Stage 5:   Needing a wheelchair or bedridden unless assisted.

Hyperkinesia: An abnormal increase in movement and/or muscle activity; sometimes used synonymously with dyskinesia.

Idiopathic: Arising from an unknown cause.

Idiopathic Parkinson's disease: This term is used to describe the common type of Parkinson's disease to distinguish it from other forms of Parkinsonism (also termed "Sporadic PD").

Impulse control disorder (ICD): A set of psychiatric disorders characterized by an inability to control one's actions, in particular those that might bring harm to oneself or others. Common ICDs in patients receiving dopamine agonists are pathologic gambling, compulsive eating, compulsive shopping and hypersexuality.

Interdisciplinary care: Multiple healthcare professionals collaborating to provide care with a common perspective, often involving joint consultations.

Leucine rich repeat kinase 2 (LRRK2): A protein created by the LRRK2 gene which when mutated can lead to Parkinson's. Several different mutations in the LRRK2 gene have been found to cause Parkinson's disease, but there may also be variants within the general population that do not necessarily cause disease.

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Levodopa (L-DOPA): A chemical that is the precursor to dopamine. It can pass through the blood-brain barrier (whereas dopamine cannot). Once it has entered the central nervous system, L-dopa is converted into dopamine by aromatic L-amino acid decarboxylase (DOPA decarboxylase/DDC). L-DOPA is also converted into dopamine within the peripheral nervous system, but this is usually blocked by employing peripherally-active dopa decarboxylase inhibitors to avoid unwanted effects.

Lewy bodies: A pathologic hallmark of Parkinson's disease and dementia with Lewy bodies. First described by Frederic Lewy, Lewy bodies are seen microscopically as inclusions in neurons in several brain regions, including the substantia nigra and locus ceruleus. One protein seen is α-synuclein in an aggregated form. Aggregates of this protein in axons are called Lewy neurites.

Magnetic resonance imaging (MRI): A noninvasive medical imaging technique to visualize detailed internal structure and limited function of the body. MRI provides much greater contrast between the different soft tissues of the body than computed tomography (CT), making it especially useful in neurological (brain), musculoskeletal, cardiovascular and oncological (cancer-related) imaging.

MAO (monoamine oxidase): A family of enzymes with two subtypes: MAO-A and MAO-B. These catalyze the oxidation of amine molecules (replacing the amine group with an oxygen molecule.)
- MAO A inhibitors: Drugs that inhibit the MAO-A enzyme, which is responsible for the metabolism of dietary tyramine. MAO-A inhibitors can cause tyramine-induced hypertension, the so-called "cheese effect" because tyramine can be found in high concentrations in some soft cultured cheeses.
- MAO B inhibitors: These drugs (e.g. selegiline, rasagiline) inhibit the breakdown of dopamine via MAO-B enzyme and do not cause the "cheese effect" of hypertension.

MPTP (N-methyl-4-phenyl-1,2,3,6-tetrahydropyridine): A neurotoxin precursor of MPP+ that is taken up in dopamine nerve terminals. MPP+ damages the dopamine cells. MPTP is catalyzed to MPP+ by MAO-B. MPTP has been widely used to create an animal model of Parkinsonism by depleting substantia nigra dopamine neurons.

Microbiome: The collection of microbes (bacteria, viruses, fungi) and their genetic material that live outside an area of the human body. See gut microbiome.

Microglia: A type of glial cell; it provides the first immune defense mechanism in the brain and central nervous system.

Micrographia: The tendency to have very small handwriting due to difficulty with fine motor movements in Parkinson's disease.

Mild Cognitive Impairment (MCI): A decline in memory or intellectual functioning that is not as severe as that found in dementia.

Mitochondria: A spherical or elongated organelle in the cytoplasm of nearly all eukaryotic cells, containing genetic material and many enzymes important for cell metabolism, including those responsible for the conversion of food to usable energy. It consists of two membranes: an outer smooth membrane and an inner membrane arranged to form cristae.

Mitophagy: The selective degradation of mitochondria by autophagy. See Mitochondria and Autophagy.

Motor skills: The degree of control or coordination provided by brain control of the skeletal muscles.

Motor symptoms: Symptoms that involve movement, coordination, physical tasks or mobility. These include, among others: resting tremor, bradykinesia, rigidity, postural instability, freezing, micrographia, mask-like expression, unwanted accelerations, stooped posture, dystonia, impaired motor dexterity and coordination, speech problems, difficulty swallowing, muscle cramping, and drooling of saliva. See non-motor symptoms.

Movement Disorder Specialist (MDS): A neurologist that has special interest in and extra training and experience with movement disorders such as Parkinson's disease.

Multiple System Atrophy (MSA): A less common degenerative neurological disorder that causes symptoms similar to Parkinson's disease but with more widespread damage to the central nervous system. Other systems involved besides the basal ganglia include the cerebellum and autonomic systems.

Neuroinflammation: The swelling of the tissue in the nervous system. It could be initiated in response to a number of things including infection, traumatic brain injury, toxic metabolites, or autoimmunity. Microglia are the immune cells activated in response to these cues.

Neurology: A branch of medicine dealing with the diagnosis and treatment of disorders of the nervous system.

Neuromelanin: The dark pigment made from oxidized metabolites of monoamine neurotransmitters including dopamine and norepinephrine, found in neurons enriched with these amines, namely the substantia nigra and locus ceruleus, respectively. Neuromelanin gives the substantia nigra (Latin for "black substance") its black appearance.

Neuromodulator: A chemical substance other than a neurotransmitter, released by a neuron at a synapse and either enhances or dampens their activities.

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Neurologist: A doctor who specializes in the diagnosis, care and treatment of disorders of the brain or nervous system.

Neuroplasticity: The ability of the brain to change and form new connections even with aging. It involves neurons regenerating anatomically or functionally after partial injury, or changing (such as by making more numerous or more effective connections) in response to training and experience.

Neuron: A nerve cell that is the fundamental unit of the brain and nervous system. Neurons transmit information through electro-chemical signals.

Neuroprotection: Mechanisms within the nervous system that would protect neurons from dying due to a degenerative disease or from other types of injury.

Neuroprotective: Serving to protect neurons from injury or de-generation or an effect that may result in salvage, recovery or re-generation of the nervous system, its cells, structure and function.

Neuroscience: The scientific study of the nervous system that deals with the anatomy, biochemistry, molecular biology, and physiology of neurons and neural circuits.

Neurotransmitter: A chemical messenger in the nervous system that permits communication between two neuronal cells, often but not always across a synapse. The neurotransmitter is usually released from the nerve terminals on the axons. Examples of neurotransmitters include dopamine, acetylcholine, adrenaline, noradrenaline, serotonin, glutamate, and GABA.

Objective measurements: The repetition of a unit amount that maintains its size, within an allowable range of error, no matter which instrument, intended to measure the variable of interest, is used and no matter who or what relevant person or thing is measured.

Occupational therapist: Occupational therapists are concerned with assessing a person's home or work situation and then devising ways to make them more manageable and less hazardous. They can also advise on aids and equipment and leisure activities.

Olfactory dysfunction: An impaired ability to detect odors, impaired sense of smell. Thought to be an early sign of Parkinson's disease but can occur in many situations not related to Parkinson's.

Organoid: A miniature, simplified version of an organ that shows realistic micro-anatomy. They are derived from tissue, embryonic stem cells, or induced pluripotent stem cells.

Oxidative stress: See Reactive Oxidative Species.

Parkin: A protein that is generated by the Parkin gene. With homozygous (both alleles affected) Parkin mutations (PARK2 gene), Parkinson's disease develops. It is the most common cause of juvenile onset PD.

Parkinsonism: A group of neurological diseases whose features include slowness and paucity of spontaneous movement (bradykinesia), rest tremors, rigidity of the muscles, loss of postural reflexes, flexed posture and freezing of gait.

Pathogenesis: The underlying biologic mechanism responsible for a disease.

Peripheral Nervous System: The nervous system outside the brain and spinal cord.

Phenotype: The observable characteristics of an organism or person, such as appearance, development and behavior. Determined by the interaction between the genotype and the en-vironment.

Phosphorylation: A process that modifies proteins by add-ing one or more phosphates. For proteins that function as enzymes, this results in activating or deactivating their function.

PINK-1: An abbreviation for the name of a gene that encodes a particular serine/threonine kinase found in mitochondria that stops stress related cell destruction. With homozygous (both alleles affected) PINK-1 mutations, juvenile or early onset Parkinson's disease can develop. Lack of PINK-1 causes an overload of calcium in mitochondria and indirectly cell death. The substantia nigra is particularly sensitive to PINK-1 mutations.

Physiotherapist: Physiotherapists use physical means such as exercise and manipulation to help prevent or reduce stiffness in joints and restore muscle strength. They can also advise on aids and equipment to help with movement problems.

Placebo: A simulated or inert form of treatment without known proven benefit on a symptom or a disease. A pill serving as a placebo is colloquially called a "sugar pill." Placebos are employed in controlled clinical trials along with the active drug being tested; patients and health professionals involved in the trial do not know who receives the placebo or the drug. The dif-ference in responses between the two drugs is considered the true effect of the active drug. Surgical trials can also utilize a placebo arm in which sham or simulated surgery is performed in the control group. Sometimes placebos provide benefit; it is called a placebo effect. The mechanism of how placebos provide benefit may be associated with release of dopamine in the brain when patients believe that they receive an effective drug.

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Positron emission tomography (PET): A medical imaging technique in which radioactive isotopes that emit gamma rays are used. The radioactive substance is incorporated into a chemically active compound (a radiotracer, which could be a substrate for an enzyme or a ligand that binds to neurotransmitter receptors) utilized by an organ in the body. The emitted gamma rays are detected by a special camera/scanner. These radioactive strikes on the camera are analyzed by a computer to produce an image to localize where that ligand is located in the organ being studied. Fluorodeoxyglucose (FDG) measures regional metabolism of glucose (sugar); fluorodopa (F-DOPA) is taken up in dopamine nerve terminals. The amount of uptake serves as a measure of the integrity of these nerve terminals. Other radiotracers may bind to neurotransmitter receptors (including those for dopamine) or to inflammatory cells, etc.

Postural instability: Difficulty with balance.

PPMI — Parkinson's Progression Markers Initiative: a study launched in 2010 by Michael J Fox Foundation to find biomarkers for PD; s a landmark observational clinical study to comprehensively evaluate people with Parkinson's disease and those at greater risk of developing the disease, as well as healthy controls.

Prodromal: Referring to the period before the classic manifestation of a disease leading to diagnosis.

Protein: 1. A class of food necessary for the growth and repair of the body tissues—sources of proteins include fish, meat, eggs and milk. 2. Large biomolecules or macromolecules consisting of long chains of amino acid residues. Within organisms, proteins catalyze metabolic reactions (enzymes), replicate DNA, and transport molecules.

PwP: Person with Parkinson's.

Receptor: A protein structure typically embedded in the cell membrane with which neurotransmitters and drugs interact.

REM (rapid eye movement) sleep behavior disorder (RBD): A sleep disorder that involves movement and abnormal behavior during the sleep phase with rapid eye movements — the stage of sleep in which dreaming occurs. In normal sleep, muscles are paralyzed during dreaming, except for the eye movements. In RBD, muscles are not paralyzed so that the dreamer acts out his or her dreams. RBD is common in people with Parkinson's disease or Multiple System Atrophy.

Rigidity: A special type of muscle stiffness, which is one of the main symptoms of Parkinson's disease. The muscles tend to pull against each other instead of working smoothly together.

Schwab and England Activities of Daily Living (ADL) Scale: An estimation of the abilities of a person's degree of independence. The person (or a family member) can self-assess this as:

- 100% — Completely independent. Able to do all chores without slowness, difficulty or impairment.
- 90% — Completely independent. Able to do all chores with some slowness, difficulty or impairment. May take twice as long to complete.
- 80% — Independent in most chores. Takes twice as long. Conscious of difficulty and slowing.
- 70% — Not completely independent. More difficulty with chores. 3 to 4 times longer to complete chores for some. May take large part of day for chores.
- 60% — Some dependency. Can do most chores, but very slowly and with much effort. Errors, some impossible.
- 50% — More dependent. Help with 1/2 of chores. Difficulty with everything.
- 40% — Very dependent. Can assist with all chores but few alone.
- 30% — With effort, now and then does a few chores alone or begins alone. Much help needed.
- 20% — Nothing alone. Can do some slight help with some chores. Severe invalid state
- 10% — Totally dependent, helpless.
- 0% — Vegetative functions such as swallowing, bladder/bowel function are not functioning. Bedridden.

Seed amplification assays: Can detect teeny amounts of misfolded protein. A synuclein SAA pegs sporadic Parkinson's disease with high sensitivity. Its sensitivity is lower in familial PD, or if sense of smell is normal. The assay also detects mixed pathology in people with Alzheimer's.

Serotonin: A neurotransmitter that regulates mood, appetite, and sleep. It also has some cognitive functions, including memory and learning. The serotonin-containing neurons are in the brain stem. Serotonin is reduced in PD.

Shaking palsy: Prior term for Parkinson's disease.

Side effects: A reaction to drugs, which is additional to the intended therapeutic actions. These unwanted extra effects are called side effects. Side effects vary in their severity from person to person, and often disappear when the body becomes used to a particular drug.

Stem cells: Biological cells found in all multicellular organisms, that can divide (through mitosis) and differentiate into diverse specialized cell types and can self-renew to produce more

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stem cells. They are a potential line of treatment in Parkinson's, either by directly replacing the old nigrostriatal neuronal cells or by creating growth factor releasing cells. Problems have arisen due to the inability to stop growth, which may cause tumor growth.

Striatum: A large cluster of nerve cells that are part of the basal ganglia. The striatum consists of two sectors: the caudate nucleus and the putamen. It controls movement, balance, and walking; the striatum receives nerve inputs from many parts of the brain including dopamine neurons from the substantia nigra and glutamate neurons from the cerebral cortex. Acetylcholine and GABA neurons are located within the striatum. GABA neurons also send signals outside the striatum. The striatum contains the largest concentration of dopamine and acetylcholine in the brain.

Substantia nigra: (Latin for black substance). A brain structure located in the midbrain that plays an important role in movement. Parts of the substantia nigra appear darker than neighboring areas due to high levels of neuromelanin in dopaminergic neurons. The substantia nigra is the site of the brain's major collection of dopamine neurons, which project their axons to the striatum, the so-called nigrostriatal pathway. These neurons slowly die in PD. The substantia nigra is part of the basal ganglia; the other parts of the basal ganglia include the striatum (caudate nucleus, putamen), globus pallidus, and subthalamic nucleus. The substantia nigra is made up of two parts: the pars compacta and the pars reticulata.
- Pars compacta: The part of the substantia nigra primarily involved in Parkinson's. It contains dopamine neurons, and it is black due to the high concentration of neuromelanin within these neurons. (Parkinson's disease is characterized by the death of dopaminergic neurons in the substantia nigra pars compacta.)
- Pars reticulata: Part of the substantia nigra that serves both as the location of dendrites from the pars compacta, receiving nerve signals to the substantia nigra and also as an output, conveying signals to numerous other brain structures. These output neurons are mainly GABAergic neurons.

Subthalamic nucleus (STN): A small lens-shaped nucleus involved in movement control. As suggested by its name, the subthalamic nucleus is located below the thalamus. It is part of the basal ganglia. It receives input from the cerebral cortex and from the globus pallidus interna. It sends its output mainly to the globus pallidus externa and substantia nigra pars reticulata. It is a component of the "indirect pathway" within the basal ganglia. It is "overactive" in PD due to loss of inhibitory incoming fibers. It is a common target in deep brain stimulation for PD.

Synapse: The narrow space between two neurons (axon to dendrite) or between a neuron and a muscle. Axons release neurotransmitters at the nerve terminal. The neurotransmitter crosses the synapse to activate or inhibit another nerve cell by acting on a receptor on the dendrite.

Syndrome: A group of symptoms that tend to occur together and which reflect the presence of a specific disorders or diseases. Parkinson syndrome, also called Parkinsonism, comprise a group of disorders with symptoms and signs in common, such as bradykinesia, rigidity, tremor, loss of postural reflexes, flexed posture and freezing of gait. A person with Parkinsonism does not need to have all of these but must have bradykinesia according to one diagnostic criterion. Disorders that fall within Parkinson syndrome include Parkinson's disease, atypical Parkinsonism, Parkinson Plus Syndromes, drug-induced Parkinsonism, and normal pressure hydrocephalus.

Synucleinopathy: A class of neurodegenerative disease resulting from pathological accumulation of α-synuclein in neurons (Parkinson's, Lewy Body Dementia) or a kind of glia cells called oligodendrocytes (Multiple System Atrophy).

Thalamus: A midline paired symmetrical structure situated between the cerebral cortex and brain stem, both in terms of location and neurological connections. It is composed of many regions with distinct functions. For example, some thalamic regions relays sensory signals to the cerebral cortex, other relay signals from the basal ganglia to the cerebral cortex, and others relay motor signals from the cortex to the spinal cord and brain stem.

Toxicity: The degree to which a chemical substance or a particular mixture of substances can damage an organism.

T.R.A.P.: Acronym for four primary Parkinson's disease symptoms:
- Tremor: Shaking of limb (usually hands) while they are at rest.
- Rigidity: Muscle stiffness and resistance to movement.
- Akinesia/bradykinesia: Difficulty initiating voluntary body movements/Slowed ability to start and continue movements.
- Postural instability: Loss of postural stability can cause falls and produce a feeling of unsteadiness.

Transcranial Magnetic Stimulation: A method in which a changing magnetic field is used to cause electric current to flow to a small region of the brain.

PARKINSON'S DISEASE GLOSSARY

Translation: A step in protein biosynthesis wherein the genetic code transferred from DNA to messenger RNA (mRNA) is decoded to allow the formation of a protein molecule. The process is preceded by transcription of the DNA into the mRNA.

Tyrosine: An amino acid used by cells to synthesize proteins. It is also the precursor of dopamine.

Ubiquitin: A small regulatory protein that is composed of 76 amino acids. It is involved in the degradation of damaged proteins. In Parkinson's disease, it is believed that accumulation of damaged proteins "choke" the cell, leading to the eventual death of the cell.

Unified Parkinson's Disease Rating Scale (UPDRS): A rating scale used to measure the severity of Parkinson's disease. The UPDRS can follow a person's worsening over time and also measure improvement with various treatments. The UPDRS is made up of the following sections:
• Part I: Evaluation of mentation, behavior, motivation and mood
• Part II: Self-evaluation of the activities of daily life (ADLs) including speech, swallowing, handwriting, dressing, hygiene, falling, salivating, turning in bed, walking, cutting food
• Part III: Clinician-scored motor evaluation
• Part IV: Measures some of the adverse effects (such as motor complications of "off" states and dyskinesias) of levodopa therapy in Parkinson's disease
The UPDRS has been modified by the Movement Disorder Society to include more non-motor features of PD. This new version is called MDS-UPDRS.

Ventral Tegmental Area (VTA): A group neurons located in the midbrain next to the substantia nigra and involved in cognition and motivation, including reward and addiction.

Vesicle: An organelle in a cell that separates some molecules from the rest of the cell. In nerve terminals, the vesicles are called synaptic vesicles. They store neurotransmitters, which are released into the synapse when the nerve fires.

Wearable devices: Devices worn on the body, incorporating computers, electronics, software and/or sensors, often used to measure some aspect of function or physical manifestation, for example: activity trackers, accelerometers, gyroscopes, etc.

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