

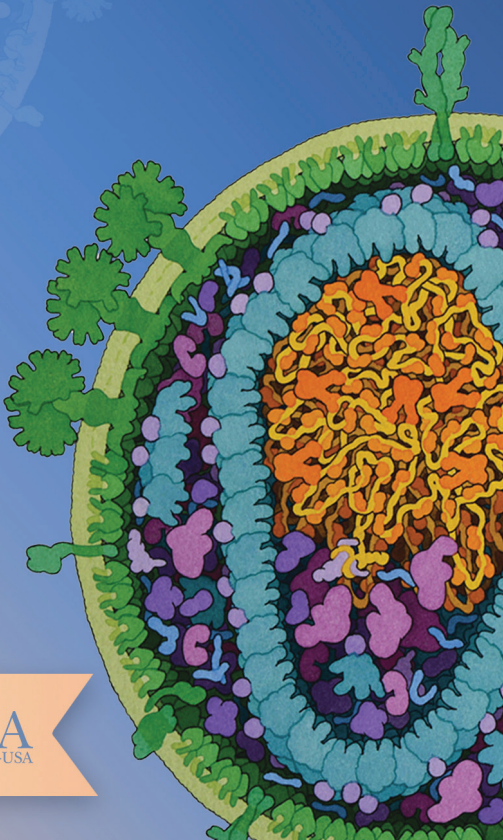
PROGRAM AND INFORMATION GUIDE

virtual

CROI 2021

Conference on Retroviruses
and Opportunistic Infections

MARCH 6-10, 2021



IAS-USA
International Antiviral Society-USA

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WELCOME TO vCROI 2021

Welcome to vCROI 2021! The COVID-19 pandemic has changed the world for all of us in so many ways. Over the past year, we have had to put some of our HIV research on hold, learned to do our research in different ways using different tools, to communicate with each other in virtual formats, and to apply the many lessons in HIV research, care, and community advocacy to addressing the COVID-19 pandemic. Scientists and community stakeholders who have long been engaged in the endeavor to end the epidemic of HIV have pivoted to support and inform the unprecedented progress made in battle against SARS-CoV-2. Most importantly, we have learned that intensive global collaboration can and does result in rapid and profound scientific innovation.

In spite of the some of the delays in HIV research and pivot to addressing COVID-19, we are delighted to present the most critically important advances in our understanding of the basic, clinical, and epidemiologic science, prevention, and new data on public health aspects of HIV, hepatitis viruses, and SARS-CoV-2.

The many talented speakers at vCROI 2021 will present the advances, but there is still much work ahead. We hope that all of you will not only watch both the live and on-demand presentations, but actively participate in the discussions through the chat functions. Deliberation and discussion of the science presented at CROI is what makes CROI so important in moving our field forward. We thank our researchers and clinicians for including their work and our audience for your active participation.

We hope that we can all be together for CROI in Denver for CROI 2022!

OVERVIEW

The Conference on Retroviruses and Opportunistic Infections (CROI) was established in 1993 to provide a forum for basic scientists and clinical investigators to present, discuss, and critique their investigations into the epidemiology and biology of human retroviruses and associated diseases. The synergy of basic science and clinical investigation has been a major contributor to the success of the meeting. CROI has facilitated the presentation of important discoveries in the field, thereby accelerating progress in HIV and AIDS research. As always, the best and most consequential original research will define the science at *virtual* CROI 2021 (vCROI 2021), which will include research in HIV, hepatitis viruses, SARS-CoV-2, and other viral infections and their related conditions. vCROI 2021 will include 4.5 hours per day of live (real-time) interactive and engaging sessions, as well as on-demand sessions, in a variety of formats.

CONTINUING MEDICAL EDUCATION

Accreditation Statement

The International Antiviral Society—USA (IAS—USA) is accredited by the Accreditation Council for Continuing Medical Education (ACCME) to provide continuing medical education for physicians.



The IAS—USA designates this blended activity for a maximum of 46 *AMA PRA Category 1 Credits™*. Physicians should claim only the credit commensurate with the extent of their participation in the activity.

A blended activity refers to an activity that consists of both live content to participate in real-time and prerecorded content to watch on-demand.

ABIM MOC Points

Successful completion of this CME activity, which includes participation in the evaluation component, enables the participant to earn up to 46 MOC points in the American Board of Internal Medicine's (ABIM) Maintenance of Certification (MOC) program. Eligible participants will earn MOC points equivalent to the amount of CME credits claimed for the activity. It is the CME activity provider's responsibility to submit participant completion information to ACCME for the purpose of granting ABIM MOC credit.



Objectives

After participating in vCROI 2021, participants will be able to:

- Describe basic-science research advances in HIV, hepatitis viruses, SARS-CoV-2, and other viral infections and their related conditions
- List the most recent findings from clinical trials in the field of HIV and the implications of these data for state-of-the-art treatment strategies
- Describe current epidemiologic data on the prevalence of HIV infection, transmission, treatment, and linkage to and retention in care in populations worldwide; the implications of these data for public-health program planning; and current advances in biobehavioral prevention

Statement of Need

Since HIV was identified, the scientific response to the global pandemic has been a coordinated effort among basic-science researchers, clinical investigators, health care practitioners, epidemiologists, and community leaders to move information and potential treatment options from research to clinical trials and out to affected communities as quickly as possible. Researchers working in HIV/AIDS and its complications founded CROI in 1993 as a science-focused forum for exchanging current research findings among their international peers. CROI continues to focus on scientific exchange, providing an environment in which basic science researchers, translational researchers, clinical investigators, epidemiologists, and public health experts meet to present and discuss the latest research into research in HIV, hepatitis viruses, SARS-CoV-2, and other viral infections and their related conditions.

Claiming CME Credits, ABIM MOC Points, or a Certificate of Participation

For information on how to claim CME Credits, ABIM MOC Points, or a Certificate of Participation, visit the [CROI CME](#) webpage.

CONFERENCE SUPPORT

CROI is largely supported by the registration fees of participants. In addition, the IAS–USA seeks grant support from ineligible companies, particularly from companies with competing products, in the interest of objective, balanced, and scientifically rigorous activities. The Accreditation Council for Continuing Medical Education (ACCME) defines ineligible companies as “those whose primary business is producing, marketing, selling, re-selling, or distributing healthcare products used by or on patients.” The ACCME previously referred to these entities as commercial interests. These companies have no input in or control over the selection of faculty or content of the presentations.

vCROI 2021 has, to date, received grant support commitments from the following ineligible companies:

PLATINUM LEVEL SUPPORT

Gilead Sciences, Inc.
Janssen Therapeutics
Merck & Co., Inc.
ViiV Healthcare

BRONZE LEVEL SUPPORT

AbbVie Inc.
Hologic, Inc.
Theratechnologies Inc.

Additional Support

Cepheid

VIRTUAL PLATFORM

To access the Virtual Platform, log into your account on the [CROI Conference](#) website. In addition to live and on-demand content, the CROI 2021 Platform has many features to enhance your experience, including:

- Watch and participate in live and on-demand sessions
- Find information about speakers and other CROI participants
- Contact and chat with other CROI participants
- Set up Zoom-like meetings within the Platform for up to 50 CROI participants at a time
- Add sessions to your personal calendar
- Receive the latest updates about the CROI program
- Post opportunities for employment, post-doctoral positions, and internships

New this year: Meet Up! New Investigators in basic science, clinical research, epidemiology, and public health as well as community members, educators, and advocates can meet in designated virtual **chat rooms in the networking section of the platform that are open 24/7**. These rooms are informal and not moderated or hosted. These scholarship recipients are invited to stop by and chat throughout the conference.

For additional information on how to maximize your virtual conference experience, visit the [Guide for User Experience](#) webpage.

ON-DEMAND CONTENT AND WEBCASTS

Unique this year, only registered attendees will have access to the meeting content (including presentation webcasts) during and up to 6 months after the conference. Unlike previous years, access to on-demand presentations and materials will not be available to the public until 6 months after the conference. Additional details will be available on the [CROI](#) website after the conference ends.

SCHEDULE AT A GLANCE

virtual CROI 2021 Schedule at a Glance

	TIME	SATURDAY, MARCH 6, 2021	SUNDAY, MARCH 7, 2021	MONDAY, MARCH 8, 2021
LIVE PROGRAM	10:00 AM EST START	W-1 PROGRAM COMMITTEE WORKSHOP FOR NEW INVESTIGATORS AND TRAINEES (10:00 – 14:00)	OPENING SESSION (10:00 – 12:05) MARTIN DELANEY PRESENTATION <i>VACCINE NATIONALISM IS KILLING US: HOW INEQUITIES IN RESEARCH AND ACCESS TO SARS-CoV-2 VACCINES WILL PERPETUATE THE PANDEMIC</i> BERNARD FIELDS LECTURE <i>NEUTRALIZING ANTIBODIES AGAINST CORONAVIRUSES</i> N'GALY-MANN LECTURE <i>LESSONS FROM THE CONCURRENT HIV/AIDS AND COVID-19 PANDEMICS: A TWO-WAY STREET</i>	PLENARY P-1 IMAG P-2 DISPA TO CO
	11:15 AM EST			CONCUR ABSTRAC O-1 HIV/ INTE IMM
	12:20 PM EST		CONCURRENT WORKSHOPS (12:20 – 2:20) W-2 FRONTIERS IN LABORATORY TECHNOLOGIES W-3 CLINICAL TRIAL DESIGN AND ANALYSIS W-4 CASE TRACING AND CASE MANAGEMENT: COVID-19 WORKSHOP	O-2 HIV T NEW DRUG ANTI O-3 COM COVI O-4 IDEN OPPO
	1:30 PM EST			CONCUR (1:30 – 2: I-1 SARS- POPU I-2 CASE- GAIN THERA I-3 CONT. EPIDE SQUE
	2:30 PM EST END			
ON-DEMAND PROGRAM	ALL SCIENCE SPOTLIGHTS™ ARE RELEASED ON MARCH 6, 2021, AND ARE AVAILABLE THROUGHOUT THE CONFERENCE			
	SYMPOSIA ARE RELEASED EACH DAY AT 12:01 AM EST			ON-DEMA (RELEASE S-1 NAVI S-2 INNA AGAIN S-3 TUBE TO PR AND I AND C S-4 EFFEC COVID

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MONDAY, MARCH 8, 2021	TUESDAY, MARCH 9, 2021	WEDNESDAY, MARCH 10, 2021
<p>PLENARY SESSION (10:00 – 11:00) UNIFYING VIRAL LIFE CYCLES DISPARITIES IN HEALTH: FROM HIV TO COVID-19 AND BEYOND</p> <p>CONCURRENT ORAL ABSTRACT SESSIONS (11:15 – 1:15) HIV HOST AND CELLULAR INTERACTIONS: VIROLOGY, IMMUNOLOGY, AND PATHOGENESIS HIV TREATMENT AND PREVENTION: OPPORTUNITIES TO OPTIMIZE DRUG DOSING, ADHERENCE, AND RETROVIRAL THERAPY IMPLICATIONS OF HIV AND COVID-19 IDENTIFYING DISPARITIES AND OPPORTUNITIES IN HIV</p> <p>CONCURRENT INTERACTIVE SESSIONS (1:30 – 2:30) COVID-2 EVOLUTION IN POPULATIONS AND INDIVIDUALS DATA-BASED DISCUSSION ON WEIGHT LOSS IN HIV AND ANTIRETROVIRAL THERAPY CONTACT TRACING IN CONTROLLING OUTBREAKS: IS THE JUICE WORTH THE SQUEEZE?</p>	<p>PLENARY SESSION (10:00 – 11:00) P-3 HIV-1 bnAbs: LOOKING AHEAD P-4 SUSTAINED DELIVERY AND LONG-ACTING AGENTS FOR PREVENTION OF HIV</p> <p>CONCURRENT ORAL ABSTRACT SESSIONS (11:15 – 1:15) O-5 SARS-CoV-2 VS HOST: VIROLOGY, IMMUNOLOGY, AND PATHOGENESIS O-6 NEW WEAPONS AGAINST SARS-CoV-2 AND HIV O-7 TUBERCULOSIS AND HEPATITIS O-8 COVID EPIDEMIOLOGY AND ITS IMPACT ON HIV CARE AND PREVENTION O-9 PREVENTION 2021</p> <p>CONCURRENT INTERACTIVE SESSIONS (1:30 – 2:30) I-4 HIV-1 AND SARS-CoV-2: DURABILITY OF HOST IMMUNE RESPONSES FROM VACCINATION OR INFECTION I-5 FROM DAILY PILLS TO MONTHLY SHOTS FOR HIV PREVENTION AND TREATMENT: CAN EFFICACY BE TRANSLATED INTO EFFECTIVENESS? I-6 PrEP SCALE-UP TO MEET UNAIDS 2030 GOAL: IT JUST ISN'T POSSIBLE— OR IS IT?</p>	<p>PLENARY SESSION (10:00 – 11:00) P-5 ELITE CONTROLLERS: A MODEL FOR A FUNCTIONAL CURE OF HIV-1 INFECTION P-6 HIV TREATMENT IN PREGNANCY: BEYOND PREVENTION OF VERTICAL TRANSMISSION</p> <p>CONCURRENT ORAL ABSTRACT SESSIONS (11:15 – 1:15) O-10 HIV RESERVOIRS O-11 BRAIN CONNECTIONS, MALIGNANCIES, AND TUMOR VIRUSES O-12 MATERNAL AND CHILD HIV AND SARS-CoV-2 O-13 INNOVATIONS AND CHALLENGES IN TESTING, PREVENTION, AND CARE</p> <p>CONCURRENT INTERACTIVE SESSIONS (1:30 – 2:30) I-7 SARS-CoV-2 AND THE HOST IMMUNE RESPONSE: GOOD VS BAD IMMUNITY I-8 COVID-19 CLINICAL CONTROVERSIES I-9 COVID-19 DISPARITIES: HOW CAN THEY HELP MOVE THE NEEDLE FORWARD?</p>
REFERENCE		
<p>ON-DEMAND SYMPOSIA (RELEASED EACH DAY AT 12:01 AM) S-5 IMMUNE-MEDIATING KILLING OF HIV RESERVOIRS: OPPORTUNITIES AND OBSTACLES S-6 NOVEL ANTIVIRAL STRATEGIES AND HOW TO DEPLOY THEM S-7 COVID-19: FAR MORE THAN JUST THE LUNGS S-8 WHAT DOES PrEP DELIVER?</p>	<p>ON-DEMAND SYMPOSIA (RELEASED EACH DAY AT 12:01 AM) S-9 NEW FINDINGS AND UNSETTLED CONTROVERSIES IN CENTRAL NERVOUS SYSTEM INFECTION AND DISEASE S-10 ADOLESCENTS, YOUTH, AND PrEP S-11 FOCUS ON THE LIVER: NEW INSIGHTS INTO MANAGEMENT AND CONTROL OF LIVER DISEASE S-12 COVID-19 VACCINE: FROM EFFICACY TO EFFECTIVENESS</p>	<p>ON-DEMAND SYMPOSIA (RELEASED EACH DAY AT 12:01 AM) S-9 NEW FINDINGS AND UNSETTLED CONTROVERSIES IN CENTRAL NERVOUS SYSTEM INFECTION AND DISEASE S-10 ADOLESCENTS, YOUTH, AND PrEP S-11 FOCUS ON THE LIVER: NEW INSIGHTS INTO MANAGEMENT AND CONTROL OF LIVER DISEASE S-12 COVID-19 VACCINE: FROM EFFICACY TO EFFECTIVENESS</p>

Last Updated on March 4, 2021

PRECONFERENCE SESSIONS

SATURDAY MARCH 6, 2021

Workshop-1 PROGRAM COMMITTEE WORKSHOP FOR NEW INVESTIGATORS AND TRAINEES

CME

10:00 AM - 2:00 PM EST

Target Audience: This workshop is directed at new investigators and trainees (eg, undergraduate students, graduate students, postdoctoral fellows, and physician fellows). Attendance is mandatory for all scholarship recipients, but the workshop is open to all CROI attendees.

Level of Knowledge: It is assumed that participants have been conducting active research in the field for fewer than 3 years.

Objectives: At the completion of the session, participants will be able to:

- Describe the current state of the art of selected areas of HIV and SARS-CoV-2 basic, epidemiologic, and clinical research
- List the leading research themes being presented at vCROI 2021
- Navigate vCROI 2021, maximize the knowledge gained, and interact with research colleagues
- Clarify their individual research interests in relation to the priorities discussed at the workshop and at vCROI 2021 overall

Conveners

Serena S. Spudich, *Yale University, New Haven, CT, USA*

Nicolas Chomont, *Université de Montréal, Montreal, Quebec, Canada*



10:00 INTRODUCTION

1 PROGRAM COMMITTEE WORKSHOP FOR NEW INVESTIGATORS AND TRAINEES

10:05 ADVANCES IN MOLECULAR VIROLOGY OF HIV AND SARS-CoV-2

Frank Kirchhoff, *Ulm University Medical Center, Ulm, Germany*



10:30 LIVE QUESTIONS AND ANSWERS

10:40 BREAK

10:50 ADVANCES IN HIV AND SARS-CoV-2 IMMUNOLOGY

Galit Alter, *Ragon Institute of MGH, MIT and Harvard, Cambridge, MA, USA*



11:15 LIVE QUESTIONS AND ANSWERS

11:25 ADVANCES IN COVID-19 TREATMENT STRATEGIES AND CONTROLLING THE EPIDEMIC

Jürgen Rockstroh, *Medizinische Universitätsklinik, Bonn, Germany*



11:50 LIVE QUESTIONS AND ANSWERS

12:00 BREAK

12:10 ADVANCES IN BIOMEDICAL PREVENTION OF HIV

Jean-Michel Molina, *University of Paris, Paris, France*



11:15 LIVE QUESTIONS AND ANSWERS

- 12:45 **ADVANCES IN HIV CURE**
Katherine J. Bar, *University of Pennsylvania, Philadelphia, PA, USA*
- 1:10 **LIVE QUESTIONS AND ANSWERS**
- 1:20 **DISCUSSION**



SUNDAY MARCH 7, 2021

OPENING SESSION

CME

10:00 AM - 12:05 PM EST

Target Audience: The Opening Session is directed at all CROI participants, researchers, and clinicians in HIV, hepatitis viruses, SARS-CoV-2, and other viral infections and their related conditions, as well as new investigators, community educators, and research trainees (eg, undergraduate students, graduate students, postdoctoral fellows, and physician fellows).

CHAIRS WELCOME TO virtual CROI 2021

Sharon L. Hillier, *University of Pittsburgh, Pittsburgh, PA, USA*



James A. Hoxie, *University of Pennsylvania, Philadelphia, PA, USA*



Elaine J. Abrams, *ICAP at Columbia University, New York, NY, USA*



The Martin Delaney Presentation is held annually in honor of pioneering HIV/AIDS activist Martin Delaney (1945–2009). It recognizes the important contributions of community advocacy and engagement in research.

Presentation Objectives: At the completion of this presentation, attendees will be able to:

- Connect the dots between the struggle for access to antiretroviral therapy for HIV/AIDS and to SARS-CoV-2 vaccines around the globe
- Identify concrete actions that scientists, affected communities, and activists can take together to ensure access to SARS-CoV-2 vaccines, avoid global endemicity of COVID-19, and prevent the emergence of viral variants that may compromise ultimate control of the SARS-CoV-2 pandemic

10:15 **INTRODUCTION TO THE MARTIN DELANEY PRESENTATION**

James Pickett, *AIDS Foundation of Chicago, Chicago, IL, USA*



2
10:20 **VACCINE NATIONALISM IS KILLING US: HOW INEQUITIES IN RESEARCH AND ACCESS TO SARS-CoV-2 VACCINES WILL PERPETUATE THE PANDEMIC**

Gregg S. Gonsalves, *Yale University, New Haven, CT, USA*



Fatima Hassan, *Health Justice Initiative, Cape Town, South Africa*



Sunday

The Bernard Fields Lecture, named in tribute to the exemplary work of the esteemed microbiologist and virologist Bernard Fields (1938–1995), is given during the Opening Session, usually by a basic scientist recognized for her or his important and relevant contributions to the fields of virology and viral pathogenesis.

10:50 INTRODUCTION TO THE BERNARD FIELDS LECTURE

James A. Hoxie, *University of Pennsylvania, Philadelphia, PA, USA*



Galit Alter, *Ragon Institute of MGH, MIT and Harvard, Cambridge, MA, USA*



3 10:55 BERNARD FIELDS LECTURE: NEUTRALIZING ANTIBODIES AGAINST CORONAVIRUSES

Pamela J. Bjorkman, *California Institute of Technology, Pasadena, CA, USA*



The N'Galy-Mann Lecture recognizes an HIV/AIDS researcher for her or his important and relevant work in the fields of epidemiology or clinical research. The lecture is named in honor of Drs Bosenge N'Galy and Jonathan Mann for their crucial, pioneering work in HIV science and care in Africa.

11:25 INTRODUCTION OF THE N'GALY-MANN LECTURE

Elaine J. Abrams, *ICAP at Columbia University, New York, NY, USA*



Tedros Adhanom Ghebreyesus, *World Health Organization, Geneva, Switzerland*



4 11:35 N-GALY-MANN LECTURE: LESSONS FROM THE CONCURRENT HIV/AIDS AND COVID-19 PANDEMICS: TWO-WAY STREET

Anthony S. Fauci, *National Institutes of Health, Bethesda, MD, USA*



Workshop-2 FRONTIERS IN LABORATORY TECHNOLOGIES

CME

12:20 PM - 2:20 PM EST

Target Audience: This session is directed at students, researchers, and clinicians who are interested in learning the hot new technologies that are influencing HIV or SARS-CoV-2 research or hold a substantial potential for research.

Level of Knowledge: It is assumed that the participants are familiar with the main technologic and data analysis approaches used in HIV and SARS-CoV-2 research.

Objectives: At the completion of the session, participants should be able to:

- Describe the utility of distinct microscopic techniques to probe viral protein structures
- Identify key features of the S antigen that are required for binding and fusion
- Describe how antibodies interfere with S antigen bioactivity

Conveners

Galit Alter, *Ragon Institute of MGH, MIT and Harvard, Cambridge, MA, USA*



Frank Kirchhoff, *Ulm University Medical Center, Ulm, Germany*

5 STRUCTURES OF SARS-CoV-2 ANTIBODIES INDUCED BY INFECTION AND mRNA VACCINES

12:20

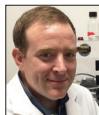
Christopher O. Barnes, *California Institute of Technology, Pasadena, CA, USA*



6 EMERGING CONCEPTS IN HIV-1 RESTRICTION

12:50

Edward Campbell, *Loyola University Chicago, Chicago, IL, USA*



7 SARS-CoV-2 SPECIFIC AND CROSS-REACTIVE T CELL RESPONSES

12:20

Daniela Weiskopf, *La Jolla Institute for Immunology, La Jolla, CA, USA*



8 ARTIFICIAL INTELLIGENCE-INSPIRED ANTIBODY ENGINEERING

1:50

Sai Reddy, *Swiss Federal Institute of Technology, Zurich, Switzerland*



Workshop-3 CLINICAL TRIAL DESIGN AND ANALYSIS

CME

12:20 PM - 2:20 PM EST

Target Audience: This session is directed at clinicians and scientists who are interested in designing or interpreting clinical and epidemiologic studies.

Level of Knowledge: It is assumed that participants are familiar with the basic design of randomized and observational clinical trials and of HIV or SARS-CoV-2 epidemiologic studies.

Objectives: At the end of the session, participants should be able to:

- Describe the basic design, strengths, and challenges of platform trials and adaptive trial designs
- Identify primary and secondary outcome measures for COVID-19 vaccine trials
- Discuss challenges occurring with numerous COVID-19 trials being conducted simultaneously, with different timelines for approval

Conveners

Susan P. Buchbinder, *San Francisco Department of Public Health, San Francisco, CA, USA*



Richard E. Chaisson, *The Johns Hopkins University, Baltimore, MD, USA*

9 MAKING SENSE OF STUDY DESIGN DIFFERENCES BETWEEN COVID-19 PLATFORM TRIALS

12:20

Lori Dodd, *National Institutes of Health, Bethesda, MD, USA*



10 DESIGN OF CURRENT AND FUTURE COVID-19 VACCINE EFFICACY TRIALS

12:50

Holly Janes, *Fred Hutchinson Cancer Research Center, Seattle, WA, USA*



1:20 LIVE QUESTIONS AND ANSWERS

**Workshop-4 CASE TRACING AND CASE MANAGEMENT:
COVID-19 WORKSHOP**

CME

12:20 PM - 2:20 PM EST

Target Audience: This session is directed at clinicians interested in SARS-CoV-2 sequencing and the management of COVID-19.

Level of Knowledge: It is assumed that the participants are familiar with general principles of infectious disease management.

Objectives: At the completion of the session, participants should be able to:

- Describe how rapid genomic sequencing of SARS-CoV-2 can impact COVID-19 identification and management
- Describe the clinical features and typical course of COVID-19 disease
- List the current treatment options for COVID-19 for different levels of disease severity
- Describe the main cornerstones of critical care for COVID-19

Conveners

Robert T. Schooley, *University of California San Diego, La Jolla, CA, USA*



David L. Thomas, *The Johns Hopkins School of Medicine, Baltimore, MD, USA*

11 RAPID GENOMIC SEQUENCING FOR MANAGEMENT OF COVID-19

12:20

Kwok-Yung Yuen, *The University of Hong Kong, Hong Kong*

**12 COVID-19: A HOSPITALISED UNWELL PATIENT WITH PNEUMONITIS**

12:50

Sanjay Bhagani, *Royal Free Hospital, London, United Kingdom*

**13 CRITICAL CARE OF COVID-19**

1:20

Janhavi Athale, *Mayo Clinic Arizona, Phoenix, AR, USA*

**1:50 LIVE QUESTIONS AND ANSWERS**

CONFERENCE DAYS

MONDAY MARCH 8, 2021

Plenary Session-1 MONDAY PLENARY SESSION

CME

10:00 AM - 11:00 AM EST

Session Hosts

Wesley Sundquist, *University of Utah, Salt Lake City, UT, USA*

Carlos del Rio, *Emory University, Atlanta, GA, USA*



1:50

WELCOME AND DAILY ROADMAP

Sharon L. Hillier, *University of Pittsburgh, Pittsburgh, PA, USA*



14

IMAGING VIRAL LIFE CYCLES

10:10

Hans-Georg Kräusslich, *Heidelberg University, Heidelberg, Germany*



15

DISPARITIES IN HEALTH: FROM HIV TO COVID-19 AND BEYOND

10:35

James E. Hildreth, *Meharry Medical College, Nashville, TN, USA*



Oral Abstract-01

HIV/SIV HOST AND CELLULAR INTERACTIONS: VIROLOGY, IMMUNOLOGY, AND PATHOGENESIS

11:15 AM - 1:15 PM EST

Oral Abstract Moderators

John M. Coffin, *Tufts University, Medford, MA, USA*

Richard A. Koup, *National Institute of Allergy and Infectious Diseases, Bethesda, MD, USA*



11:15

INTRODUCTIONS

78

DECIPHERING THE HOST NUCLEUS SUBVERSION BY HIV-1 TO REPLICATE

11:20

Viviana Scoca, Marion Louveaux, Renaud Morin, Dmitry Ershov, Jean-Yves Tinevez, **Francesca Di Nunzio**

79

HIV-1 CAPSID RETAINS ITS INTEGRITY UNTIL MINUTES BEFORE UNCOATING IN THE NUCLEUS

11:30

Chenglei Li, Ryan C. Burdick, Kunio Nagashima, Wei-Shau Hu, Vinay K. Pathak

80

TRAFFICKING OF HIV-1 ENVELOPE TO THE EHD1/MICAL-L1 TUBULAR-SORTING ENDOSOME

11:40

Lingmei Ding, Grigoriy Lerner, Boris Anokhin, Nicholas Weaver, **Paul Spearman**

81

A COMPREHENSIVE CRISPR SCREEN FOR HIV DEPENDENCY FACTORS

11:50

Vanessa R. Montoya, Abby Felton, Molly OhAinle, Michael Emerman

12:00

LIVE QUESTIONS AND ANSWERS

12:10

INTRODUCTIONS

82 EARLY bNAb THERAPY IN SHIVAD8-EO-INFECTED RHESUS MACAQUES

12:15

Joana Dias, Mangaiarkarasi Asokan, David R. Ambrozak, Lucio Gama, Jianfei HuH, Daniel C. Douek, Slim Fourati, Rafick-Pierre Sékaly, John-Paul Todd, Yoshiaki Nishimura, Malcolm A. Martin, Jeffrey D. Lifson, Amarendra Pegu, John R. Mascola, Richard A. Koup, for the Vaccine Research Center, National Institutes of Health

83 IMMUNE CORRELATES OF POSTTREATMENT CONTROL IN SHIV-INFECTED INFANT MACAQUES

12:25

Veronica Obregon-Perko, Bhruhu Yagnik, Tiffany M. Styles, Katherine M. Bricker, Gloria Mensah, Stella J. Berendam, Katharine J. Bar, George Shaw, Guido Silvestri, Genevieve Fouda, Sallie R. Permar, Rama R. Amara, Ann Chahroudi

84 SIVΔGY INFECTION INDUCES ELITE CONTROL AND RESISTANCE TO SHIV HETEROLOGOUS CHALLENGE

12:35

Khader Ghneim, Nicholas Maness, Pyone Aye, Workineh Torben, Faith Schiro, Brandon Keele, Mark Marsh, G. Lynn Law, Michael Gale, Rafick-Pierre Sékaly, James Hoxie, **Susan Pereira Ribeiro**

85 TRAPPING THE HIV-1 V3 LOOP IN A HELICAL CONFORMATION ENABLES BROAD NEUTRALIZATION

12:45



Matthias Glögl, Nikolas Friedrich, Young Do Kwon, Thomas Lemmin, Gabriele Cerutti, Jason Gorman, Liridona Maliqi, Peer Mittl, Caio Foulkes, Thomas Reinberg, Birgit Dreier, Lawrence Shapiro, Peter D. Kwong, Andreas Plückthun, Alexandra Trkola

86 AN Env-gag mRNA VACCINE PROTECTS MACAQUES FROM HETEROLOGOUS TIER-2 SHIV INFECTION

12:55



Peng Zhang, Elisabeth Narayanan, Shilei Ding, Madhu Prabhakaran, Yaroslav Tsybovsky, Richard A. Koup, Malcolm A. Martin, Johnathan Misamore, Adrian McDermott, John R. Mascola, Andrea Carfi, Andrés Finzi, Anthony S. Fauci, Paolo Lusso, for the National Institute of Allergy and Infectious Diseases

1:05 LIVE QUESTIONS AND ANSWERS

Oral Abstract-02 HIV TREATMENT AND PREVENTION: NEW OPPORTUNITIES TO OPTIMIZE DRUG DOSING, ADHERENCE, AND ANTIRETROVIRAL THERAPY
11:15 AM - 1:15 PM EST

Oral Abstract Moderators

Angela Kashuba, University of North Carolina at Chapel Hill, Chapel Hill, NC, USA

Courtney V. Fletcher, University of Nebraska Medical Center, Omaha, NE, USA

**11:15 INTRODUCTIONS****87 ISLATRAVIR PK THRESHOLD & DOSE SELECTION FOR MONTHLY ORAL HIV-1 PrEP**

11:20

Munjal Patel, Xiaowei Zang, Youfang Cao, Randolph P. Matthews, Rebeca M. Plank, Peter Sklar, Jay A. Grobler, Michael N. Robertson, Ryan Vargo

88 NEXT-GENERATION ISLATRAVIR IMPLANTS PROJECTED TO PROVIDE YEARLY HIV PROPHYLAXIS

11:30



Randolph P. Matthews, Xiaowei Zang, Stephanie Barrett, Adrian Goodey, Tycho Heimbach, Vanessa L. Weissler, Carlien Leyssens, Tom Reynders, Ryan Vargo, Yang Liu, Robert Schwab, Sylvie Rottey, Michael N. Robertson, Selwyn A. Stoch, Marian Iwamoto

- 89** **CLINICAL EVALUATION OF DRUG INTERACTIONS WITH ORAL LENACAPAVIR AND PROBE DRUGS**
11:40
Rebecca Begley, **Justin Lutz**, Hadas Dvory-Sobol, Steve West, Kristin Kawata, John Ling, Martin Rhee, Polina German
- 90** **PK AND SAFETY OF HIGH-DOSE RIFAMPICIN IN TB/HIV COINFECTED PATIENTS ON EFV OR DTG**
11:50
Christine Sekaggya-Wiltshire, Ruth Nabisere, Joseph Musaazi, Florence Aber, Brian Otaalo, Mohammed Lamorde, Paolo Denti, Rob Aarnoutse, Kelly Dooley, Derek J. Sloan
- 12:00 **LIVE QUESTIONS AND ANSWERS**
- 12:10 **INTRODUCTIONS**
- 91** **PK OF DOSE-ADJUSTED EMERGENCY CONTRACEPTION WITH EFV-BASED ART IN ACTG 5375**
12:15
Kimberly K. Scarsi, Laura M. Smeaton, Anthony T. Podany, Maxine Olefsky, Elizabeth Woolley, Elizabeth Barr, Kayla Campbell, Sivaporn Gatechompol, Jeffrey Jeppson, Sajeeda Mawlana, Khuanchai Supparatpinyo, Catherine Godfrey, Susan E. Cohn, Rosie Mngqibisa, for the AIDS Clinical Trials Group A5375 Study Team
- 92** **EMTRICITABINE TRIPHOSPHATE IN DRIED BLOOD SPOTS PREDICTS FUTURE VIREMIA IN PWH**
12:25
Mary Morrow, Samantha MaWhinney, Ryan Coyle, Stacey Coleman, Lucas Ellison, Jia-Hua Zheng, Lane Bushman, Jennifer Kiser, Peter Anderson, **Jose R. Castillo-Mancilla**
- 93** **TENOFOVIR DIPHOSPHATE TO PREDICT FUTURE VIRAEMIA IN POSTPARTUM WOMEN LIVING WITH HIV**
12:35
Jasantha Odayar, Tamsin K. Phillips, Nai-Chung Hu, Siti Kabanda, Thokozile R. Malaba, Joanna Allerton, Jennifer Norman, Marvin Hsiao, Maia Lesosky, Landon Myer
- 94** **NUCLEOSIDES AND DARUNAVIR/DOLUTEGRAVIR IN AFRICA (NADIA) TRIAL: 48 WK PRIMARY OUTCOME**
12:45
 **Nicholas Paton**, Joseph Musaazi, Cissy M. Kityo, Stephen I. Walimbwa, Anne Hoppe, Apolo Balyegisawa, Arvind Kaimal, Grace Mirembe, James Hakim, Henry Mugerwa, Abraham Siika, Barbara Castelnuovo, Agnes Kiragga, Andrew D. Kambugu, for The Nucleosides and Darunavir/Dolutegravir in Africa (NADIA) Trial Team
- 95** **RANDOMIZED TRIAL OF RESISTANCE TESTING FOR VIROLOGIC FAILURE IN SUB-SAHARAN AFRICA**
12:55
 **Mark Siedner**, Mahomed-Yunus Moosa, Suzanne McCluskey, Kevin L. Ard, Winnie Muyindike, Pravikrishnen Moodley, Jaysingh Brijkumar, Tamlyn Rautenberg, Gavin George, Rajesh T. Gandhi, Brent A. Johnson, Henry Sunpath, Mwebesa Bwana, Vincent Marconi
- 1:05 **LIVE QUESTIONS AND ANSWERS**

Oral Abstract-03 **COMPLICATIONS OF HIV AND COVID-19**
11:15 AM - 1:15 PM EST

Oral Abstract Moderators

Judith S. Currier, *University of California Los Angeles, Los Angeles, CA, USA*

Peter W. Hunt, *University of California San Francisco, San Francisco, CA, USA*



11:15 **INTRODUCTIONS**

- 96** **SHORT-COURSE ALENDRONATE FOR THE PREVENTION OF ART-ASSOCIATED BONE LOSS**
 11:20 **Tara McGinty**, Elena Alvarez-Barco, Willard Tinago, Alan Macken, Cathal O'Broin, Aoife G. Cotter, Eoin Feeney, Eoin Kavanagh, Geraldine McCarthy, Alan Landay, Sam McConkey, Peter Doran, Patrick Mallon, for APART Study Group
- 97** **PREVENTION OF CARDIOVASCULAR DISEASE IN PERSONS WITH AND WITHOUT HIV**
 11:30 **Michael J. Silverberg**, Tory Levine-Hall, Alexandra Anderson, Stacey E. Alexeeff, Jennifer O. Lam, C. Bradley Hare, Jason Flamm, Andrew Williams, Matthias Cavassini, Kendall Bryant, Michael A. Horberg, Derek D. Satre
- 98** **SEX MODIFIES THE ASSOCIATION BETWEEN INFLAMMATION AND VASCULAR EVENTS IN TREATED HIV**
 11:40 **Samuel R. Schnittman**, Gabriele B. Beck-Engeser, Judy K. Shigenaga, Haelee Ahn, Robin M. Nance, Vanessa York, Joseph A. Delaney, Susan Heckbert, David Tirschwell, Felicia C. Chow, Fran Aweeka, Carl Grunfeld, Heidi Crane, Peter W. Hunt, for the CFAR Network of Integrated Clinical Systems (CNICS) Network
- 99** **IDENTIFICATION OF UNIQUE PROTEINS PREDICTIVE OF MORTALITY AND MECHANISMS IN HIV**
 11:50 **Priscilla Hsue**, Peter Ganz, Mark Segal, Janet P. Tate, Hilary A. Tindle, Kaku So-Armah, Amy Justice, Matthew Freiberg
- 12:00 **LIVE QUESTIONS AND ANSWERS**
- 12:10 **INTRODUCTIONS**
- 100** **BIOLOGICAL PROFILES PREDICT CORONARY ARTERY DISEASE IN PWH AND RISK-MATCHED CONTROLS**
 12:15 **Padraig McGettrick**, Willard Tinago, Alejandro Garcia-Leon, Julie O'Brien, Niall Mahon, Leo Lawler, Aoife G. Cotter, John S. Lambert, Gerard Sheehan, Alan Landay, Caroline Sabin, Patrick Mallon
- 101** **12-YEAR COGNITIVE DECLINE IS ASSOCIATED WITH LUNG DISEASE, DIABETES, AND DEPRESSION**
 12:25 **Scott Letendre**, Ronald J. Ellis, Bin Tang, Donald Franklin, Ned Sacktor, Leah Rubin, Susan Morgello, J. Allen McCutchan, Christina M. Marra, Benjamin B. Gelman, Ann C. Collier, David Clifford, Robert K. Heaton
- 102** **MULTIMORBIDITY IN PEOPLE WITH HIV USING ART IN THE US: PROJECTIONS TO 2030**
 12:35 **Parastu Kasaie**, Cameron Stewart, Elizabeth Humes, Lucas Gerace, Kelly Gebo, Cynthia Boyd, Amy Justice, Peter Zandi, Richard Moore, Kate Buchacz, Viviane D. Lima, Amanda Willig, Cherise Wong, Keri N. Althoff, for the ProjEcting Age, multimoRbidity, and poLypharmacy (PEARL) model and the North American AIDS Cohort
- 103** **COVID-19 HOSPITALIZATION AMONG PEOPLE WITH HIV OR SOLID ORGAN TRANSPLANT IN THE US**
 12:45 **Jing Sun**, Rena Patel, Vithal Madhira, Amy L. Olex, Evan French, Jessica Y. Islam, Richard Moffitt, Nora Franceschini, Roslyn B. Mannon, Gregory D. Kirk, for the National COVID Cohort Collaborative
- 12:55 **LIVE QUESTIONS AND ANSWERS**

Oral Abstract-04 IDENTIFYING DISPARITIES AND OPPORTUNITIES IN HIV**11:15 AM - 1:15 PM EST****Oral Abstract Moderators****Richard E. Chaisson**, *The Johns Hopkins University, Baltimore, MD, USA***Adaora Adimora**, *The University of North Carolina at Chapel Hill, Chapel Hill, USA***11:15 INTRODUCTIONS****104 11:20 DISPARITIES IN TIMELY RECEIPT OF ART PRESCRIPTION IN HIV CARE IN THE US, 2012-2018****Jun Li**, Elizabeth Humes, David B. Hanna, Jennifer S. Lee, Keri N. Althoff, Richard Moore, Heidi Crane, Jonathan Colasanti, Michael A. Horberg, Ank Nijhawan, Gypsyamber D'Souza, Christopher T. Rentsch, Kelly Gebo, Kate Buchacz, for the North American AIDS Cohort Collaboration on Research and Design (NA-ACCORD) of IeDEA**105 11:30 GEOGRAPHIC DIFFERENCES IN TIME TO VIRAL SUPPRESSION IN THE DEEP SOUTH, 2012-2019****Aadia Rana**, David S. Batey, John Bassler, Ariann Nassel, Lauren Ostrenga, Debbie Wendell, Danita Crear, Xueyuan Wang, Melverta Bender, Emma Kay, Mariel Parman, Emily Levitan, Michael Mugavero**106 11:40 DECREASED HIV DIAGNOSES AMONG MSM OF COLOR IN THRIVE-FUNDED JURISDICTIONS, 2014-2018****Kashif Iqbal**, Xueyuan Dong, Weiming Zhu, Kenneth L. Dominguez, Mary Tanner, Athena Kourtis, Sonia Singh, Karen W. Hoover**107 11:50 GENDER-AFFIRMING SURGERY ASSOCIATED WITH HIGH VIRAL SUPPRESSION AMONG TRANSGENDER PWVH****Cristina Rodriguez-Hart**, Gagarin Zhao, Zil Goldstein, Asa Radix, Lucia Torian**12:00 LIVE QUESTIONS AND ANSWERS****12:10 INTRODUCTIONS****108 12:15 HIV TRENDS AMONG THE AMERICAN INDIAN/ALASKA NATIVES, 2014-2018****Sophie Sembajwe**, Andria Apostolou, Jeffrey McCollum, Azfar-E-Alam Siddiqi, Irene Hall, Jianmin Li, Baohua Wu**109 12:25 LOWER UPTAKE OF DOLUTEGRAVIR AMONG WOMEN OF REPRODUCTIVE POTENTIAL VS MEN—KENYA****Matthew L. Romo**, Rena Patel, Jessie Edwards, John M. Humphrey, Elizabeth A. Kelvin, Mercy Maina, Katarzyna Wyka, Kara Woos-Kaloustian, Denis Nash, for IeDEA**110 12:35 RCT OF AN ONLINE MENTAL HEALTH INTERVENTION AMONG OLDER PLWH DURING COVID-19 PANDEMIC**Jeff Berko, **Peter Mazonson**, Duncan Short, Cassidy Gutner, Maile Karris, Gregory Huhn, Lynsay MacLaren Ehui, Theoren Loo, Sarah-Marie Chan, Frank Spinelli, Andrew Zolopa**111 12:45 FEE FOR HOME DELIVERY AND MONITORING OF ART RAISES VIRAL SUPPRESSION IN SOUTH AFRICA****Ruane Barnabas**, Adam Szpiro, Xolani Ntinga, Melissa Mugambi, Meighan Krows, Torin Schaafsma, Theodore Zhao, Heidi Van Rooyen, Jared Baeten, Connie L. Celum, Andrew Bruce, Alastair Van Heerden, for the Deliver Health Study Team**12:55 LIVE QUESTIONS AND ANSWERS**

Interactive Session-01 SARS-CoV-2 EVOLUTION IN POPULATIONS AND INDIVIDUALS

1:30 PM - 2:30 PM EST

16-Description: This highly interactive session begins with a brief overview of the issue or controversy. Scientific experts will each offer their opinions or observations in a 5-minute summary, followed by a 30-minute, spirited discussion among the panel members. The moderator will bring in comments and questions from the audience. This session will address the evolution of SARS-CoV-2 vs HIV at the population level, viral and antibody evolution in populations, the origin and spread of highly transmissible variants of SARS-CoV-2, and the selection of neutralization-resistant SARS-CoV-2 mutants.

Target Audience: This session is directed at basic, translational, and clinical researchers of SARS-CoV-2, as well as interested clinicians and community members.

Level of Knowledge: It is assumed that the participants are familiar with basic concepts of virology and epidemiology.

Objectives: At the completion of the session, participants will be able to:

- Describe the roles of mutation and selection in generation of epidemiologically important mutational variants of SARS-CoV-2
- Compare the appearances and significance of genetic variations in SARS-CoV-2 and HIV
- Describe the molecular basis for increased infectivity of SARS-CoV-2 variants

Moderators

Katharine J. Bar, *University of Pennsylvania, Philadelphia, PA, USA*

John Coffin, *Tufts University, Boston, MA, USA*



- **HIV-1 Env AND SARS-CoV-2 SPIKE EVOLUTION: SIMILARITIES AND DIFFERENCES**
Bette Korber, *Los Alamos National Laboratory, Los Alamos, NM, USA*
- **SARS-CoV-2 EVOLUTION AT THE POPULATION LEVEL**
Morgane Rolland, *Walter Reed Army Institute of Research, Silver Spring, MD, USA*
- **STRUCTURE AND FUNCTION OF SARS-CoV-2 SPIKE PROTEIN VARIANTS**
Jeremy Luban, *University of Massachusetts, Worcester, MA, USA*
- **SELECTION OF NEUTRALIZATION RESISTANT SARS-CoV-2 MUTANTS**
Paul Bieniasz, *The Rockefeller University, New York, NY, USA*
- **ANTIBODY IMMUNITY TO SARS-CoV-2 501Y.V2 THROUGH VACCINATION AND INFECTION**
Penny Moore, *University of Witwatersrand, Johannesburg, South Africa*

Interactive Session-02 CASE-BASED DISCUSSION ON WEIGHT GAIN IN HIV AND ANTIRETROVIRAL THERAPY

1:30 PM - 2:30 PM EST

17-Description: This interactive session will examine current controversies about the causes and consequences of weight gain during antiretroviral therapy (ART) using a case-based format as a platform for discussion. Specific topics that will be covered include: 1) the relative contributions of particular ART drugs/classes and reversal of viral replication/inflammation to weight gain, 2) the pathophysiology of weight gain during ART, 3) the impact of ART-associated weight gain on type 2 diabetes risk, and 4) how these issues are perceived and managed in diverse populations, including children, pregnant women, and people with HIV in low-income countries.

Target Audience: This session is directed at researchers, clinicians, and translational scientists interested in metabolic complications in people with HIV.

Level of Knowledge: It is assumed that participants have a basic understanding of ART strategies and an awareness of recent studies suggesting differences in weight gain by different ART regimens.

Objectives: At the completion of the session, participants should be able to:

- Make ART treatment decisions incorporating knowledge of effects on weight and type 2 diabetes risk
- Apply these considerations to diverse populations
- Describe the basic concepts in obesity and type 2 diabetes pathogenesis

Moderator

Peter W. Hunt, *University of California San Francisco, San Francisco, CA, USA*



Panelists

Grace McComsey, *University Hospitals Cleveland Medical Center, Cleveland, OH, USA*



Sadaf Farooqi, *Cambridge University, Cambridge, United Kingdom*



Jane O'Halloran, *Washington University in St Louis, St Louis, MO, USA*



Cissy Kityo, *Joint Clinical Research Centre, Lubowa, Uganda*



Interactive Session-03 CONTACT TRACING IN CONTROLLING EPIDEMICS: IS THE JUICE WORTH THE SQUEEZE?

1:30 PM - 2:30 PM EST

18-Description: This interactive session will begin with 3 presentations by experts describing the role, methodology, and ethical issues of contact tracing. Following the presentations, there will be a moderated discussion and responses to comments and questions from the audience.

Target Audience: This session is directed at researchers, clinicians, public health practitioners, program managers, and students interested in the role of contact tracing in epidemics.

Level of Knowledge: It is assumed that the participants are familiar with epidemics and methods for their control.

Objectives: At the end of the session, participants should be able to:

- Describe contact tracing as an epidemic control strategy
- List enablers and challenges for effective contact tracing
- Identify similarities and differences in contact tracing for different types of infectious diseases
- Describe available digital contact tracing tools and risks and benefits of their use

Moderator

Wafaa El-Sadr, *Columbia University, New York, NY, USA*



- **THE ROLE OF CONTACT TRACING IN EPIDEMIC CONTROL: FACILITATORS AND BARRIERS**
Chi-Chi Udeagu, *New York City Department of Health and Mental Hygiene, New York, NY, USA*
- **CONTACT TRACING FOR HIV AND SEXUALLY TRANSMITTED INFECTIONS**
Matthew Golden, *University of Washington, Seattle, WA, USA*
- **CONTACT TRACING GOES VIRAL: VALUE AND ETHICS OF DIGITAL CONTACT TRACING**
Jeffrey Kahn, *Johns Hopkins University, Baltimore, MD, USA*



ON-DEMAND SYMPOSIA RELEASED ON MONDAY, MARCH 8, 2021

Symposium-01 NAVIGATING TO THE NUCLEUS

Target Audience: This session is directed at HIV researchers and trainees and physicians with an interest in learning about recent advances in understanding several of the key steps in the first half of the HIV life cycle, particularly those mediated by the viral capsid, and in learning more about the emerging promise of capsid inhibitors for HIV treatment.

Level of Knowledge: It is assumed that the participants are familiar with the basic steps of the first half of the HIV life cycle (reverse transcription, nuclear entry, and integration).

Objectives: At the completion of this session, participants will be able to:

- List different roles for the viral capsid in the first half of the HIV viral life cycle
- Describe current views on the process of capsid trafficking and uncoating
- Evaluate the therapeutic potential of inhibiting capsid functions
- Identify key remaining research questions that will help to advance the field

Conveners

John M. Coffin, *Tufts University, Medford, MA, USA*

Wesley I. Sundquist, *University of Utah School of Medicine, Salt Lake City, UT, USA*



19 LIVE-CELL IMAGING: CAPSID TRAFFICKING TO THE NUCLEUS

Barbara Müller, *University of Heidelberg, Heidelberg, Germany*



20 LIVE-CELL IMAGING OF HIV-1 NUCLEAR IMPORT, UNCOATING, AND PROVIRUSES

Vinay K. Pathak, *National Cancer Institute, Frederick, MD, USA*



21 VISUALIZATION OF HIV-1 CAPSID-DEPENDENT REPLICATION IN VITRO

Barbie Ganser-Pornillos, *University of Virginia, Charlottesville, VA, USA*



22 LENACAPAVIR (GS-6207): FIRST CLINICALLY ACTIVE LONG-ACTING INHIBITOR OF HIV CAPSID

Tomas Cihlar, *Gilead Sciences, Foster City, CA, USA*



Symposium-02 INNATE IMMUNE DEFENSES AGAINST HIV-1 AND SARS-CoV-2

Target Audience: This session is directed at scientists and clinicians interested in innate immune defense mechanisms against SARS-CoV-2 and viral countermeasures.

Level of Knowledge: It is assumed that the participants are familiar with basic principles of innate antiviral immunity.

Objectives: At completion of the session, participants will be able to:

- Describe the origin and pathogenicity of zoonotic coronaviruses
- List innate antiviral mechanisms and evasion strategies of SARS-CoV-2
- Recognize clinical perspectives of interferon therapy against SARS-CoV-2

Conveners

Galit Alter, *Ragon Institute of MGH, MIT and Harvard, Cambridge, MA, USA*

Frank Kirchhoff, *Ulm University Medical Center, Ulm, Germany*



23 FROM GENOME TO FUNCTION: PHENOTYPIC CHARACTERISATION OF PANDEMIC SARS-CoV-2
Volker Thiel, *University of Bern, Bern, Switzerland*



24 IMMUNE EVASION STRATEGIES BY SARS-CoV-2: NSP1 AND BEYOND
Konstantin Sparrer, *Ulm University, Ulm, Germany*



25 SHARED VULNERABILITIES AND DIFFERENT COUNTERMEASURES OF HIV AND SARS-CoV-2
Eric O. Freed, *National Cancer Institute, Frederick, MD, USA*



26 IMMUNE RESPONSES TO SARS-CoV-2
Akiko Iwasaki, *Yale University, New Haven, CT, USA*



Symposium-03 TUBERCULOSIS: NEW APPROACHES TO PREVENTION AND TREATMENT AND ISSUES FOR PREGNANT WOMEN AND CHILDREN

Target Audience: This session is directed at researchers, clinicians, and trainees who are interested in tuberculosis prevention and treatment in pregnant women, children, and people with HIV.

Level of Knowledge: It is assumed that participants are familiar with the basics of tuberculosis prevention and treatment.

Objectives: At the completion of the session, participants should be able to:

- Describe the progress in developing long-acting injectable drugs for the treatment and prevention of tuberculosis
- Identify the clinical, pharmacologic, and safety challenges for the treatment and prevention of tuberculosis in pregnant women with HIV
- Describe challenges and progress in preventing and treating tuberculosis in HIV-positive and HIV-exposed children
- Describe the impact of COVID-19 on the global tuberculosis pandemic with specific emphasis on people with HIV

Conveners

Constance A. Benson, *University of California San Diego, San Diego, CA, USA*

Richard E. Chaisson, *Johns Hopkins University, Baltimore, MD, USA*



- 27 THE POTENTIAL OF LONG-ACTING INJECTABLE DRUGS FOR PREVENTION AND TREATMENT OF TUBERCULOSIS**
Eric Nuermberger, *Johns Hopkins University, Baltimore, MD, USA*


- 28 PREGNANCY, HIV, AND TUBERCULOSIS: CURRENT PRACTICES AND RESEARCH OPPORTUNITIES**
Jyoti S. Mathad, *Cornell University, New York, NY, USA*


- 29 ADVANCES IN PEDIATRIC TUBERCULOSIS PREVENTION AND TREATMENT**
Nicole Salazar-Austin, *Johns Hopkins University, Baltimore, MD, USA*


- 30 IMPACT OF COVID-19 PANDEMIC ON HIV AND TUBERCULOSIS: WHO PERSPECTIVE**
Soumya Swaminathan, *World Health Organization, Geneva, Switzerland*



Symposium-04 EFFECT OF HIV ON COVID, EFFECT OF COVID ON HIV

Target Audience: This session is directed at the breadth of the audience at CROI interested in HIV and COVID-19.

Level of Knowledge: It is assumed that the participants are familiar with the overall pathogenesis, epidemiology, and clinical features of HIV and of COVID-19.

Objectives: At the completion of the session, participants should be able to:

- Describe risk factors for acquisition of SARS-CoV-2 and for COVID-19
- Describe risk factors for morbidity and mortality from COVID-19 and in particular among persons with HIV
- Identify the effects of COVID-19 on health systems overall and on HIV programs in particular
- Describe examples of experiences "on the ground" on efforts to mitigate the potential deleterious effects of COVID-19 on HIV programs and on the lives of people with HIV

Conveners

François Dabis, *University Bordeaux Segalen, Bordeaux, France*

Wafaa M. El-Sadr, *Columbia University, New York, NY, USA*



- 31 DOES HIV IMPACT COVID-19 SUSCEPTIBILITY OR SEVERITY?**
Julia Del Amo, *Ministry of Health, Madrid, Spain*


- 32 THE IMPACT OF COVID-19 ON THE HIV PANDEMIC WORLDWIDE**
Andrew D. Kambugu, *Infectious Diseases Institute-Makerere University, Kampala, Uganda*


- 33 THE IMPACT OF COVID-19 BEYOND HIV**
Helen Bygrave, *International AIDS Society, Geneva, Switzerland*


- 34 FEAR AND COVID-19: EXPERIENCES ON THE GROUND**
Francois Venter, *Wits Reproductive Health and HIV Institute, Johannesburg, South Africa*



TUESDAY MARCH 9, 2021

Plenary Session-2 TUESDAY PLENARY SESSION

CME

10:00 AM - 11:00 AM EST

Session Hosts

Peter W. Hunt, *University of California San Francisco, San Francisco, CA, USA*



Sharon L. Hillier, *University of Pittsburgh, Pittsburgh, PA, USA*

10:00 WELCOME AND DAILY ROADMAP

Elaine J. Abrams, *ICAP at Columbia University, New York, NY, USA*



36 HIV-1 bNAb: LOOKING AHEAD

10:10 **Marina Caskey**, *The Rockefeller University, New York, NY, USA*



37 SUSTAINED DELIVERY AND LONG-ACTING AGENTS FOR PREVENTION OF HIV

10:35

Linda-Gail Bekker, *University of Cape Town, Cape Town, South Africa*



Oral Abstract-05 SARS-CoV-2 VS HOST: VIROLOGY, IMMUNOLOGY, AND PATHOGENESIS

11:15 AM - 1:15 PM EST

Oral Abstract Moderators

Wesley I. Sundquist, *University of Utah School of Medicine, Salt Lake City, UT, USA*



Guido Silvestri, *Emory University, Atlanta, GA, USA*

11:15 INTRODUCTIONS

112 IFITM PROTEINS PROMOTE SARS-CoV-2 INFECTION IN HUMAN LUNG CELLS

11:20

Caterina Prelli Bozzo, Rayhane Nchioua, Meta Volcic, Daniel Sauter, Jan Muench, Konstantin Sparrer, Frank Kirchhoff

113 SARBECOVIRUS ORF6 PROTEINS ANTAGONIZE INTERFERON SIGNALING

11:30

Izumi Kimura, Keiya Uriu, Yoriyuki Konno, Daniel Sauter, So Nakagawa, Kei Sato, for the Institute of Molecular Virology, Ulm University Medical Center

114 SEVERE COVID-19 IS FUELED BY DISRUPTED GUT BARRIER INTEGRITY

11:40

Leila B. Giron, Harsh Dweep, Xiangfan Yin, Han Wang, Mohammad Damra, Aaron R. Goldman, Clovis S. Palmer, Hsin-Yao Tang, Maliha W. Shaikh, Netanel F. Zilberstein, Qin Liu, Andrew Kossenkov, Ali Keshavarzian, Alan Landay, Mohamed Abdel-Mohsen



115 SARS-CoV-2 PERSISTS IN INTESTINAL ENTEROCYTES UP TO 7 MONTHS AFTER SYMPTOM RESOLUTION

11:50

Minami Tokuyama, Mark S. Ladinsky, Divya Jha, Francesca Cossarini, Alexandra E. Livanos, Jason Reidy, Michael Tankelevich, Gustavo Martinez-Delgado, Pamela J. Bjorkman, Saurabh Mehandru

12:00 LIVE QUESTIONS AND ANSWERS

12:10 INTRODUCTIONS

- 116 COVID-19 OUTCOME: INSIGHTS FROM QUANTIFICATION OF VIREMIA AND NEUTRALIZING ANTIBODY**
12:15
Jana L. Jacobs, Brittany Staines, William Bain, Priscila Da Silva Castanha, Asma Naqvi, Valerie F. Boltz, Ernesto T. Marques, Thomas Denny, Christopher Woods, Alison Morris, Mary F. Kearney, Mark S. Ladinsky, Pamela J. Bjorkman, Georgios D. Kitsios, John W. Mellors
- 117 CHARACTERIZATION AND EPITOPE MAPPING OF SARS-CoV-2-SPECIFIC CELLS**
12:25
Kristin L. Boswell, Phillip A. Swanson, Giune Padilla, Adrian McDermott, Martin R. Gaudinski, Richard A. Koup
- 118 BARICITINIB LOWERS INFLAMMATION AND PATHOLOGY IN SARS-CoV-2-INFECTED RHESUS MACAQUES**
12:35
Timothy Hoang, Maria Pino, Arun Boddapati, Elise Viox, Carly E. Starke, Amit Upadhyay, Sanjeev Gumber, Susan Pereira Ribeiro, Rafick-Pierre Sékaly, Rebecca Levit, Jacob Estes, Thomas H. Vanderford, Raymond Schinazi, Steven Bosinger, Mirko Paiardini
- 119 ONE DOSE OF COVID-19 mRNA VACCINE IN SARS-CoV-2-EXPERIENCED PEOPLE MAY BE SUFFICIENT**
12:45
 Marie I. Samanovic-Golden, Amber M. Cornelius, Trishala Karmacharya, Jimmy Wilson, Sophie L. Gray-Gaillard, Joseph M. Allen, Sara W. Hyman, Ramin S. Herati, **Mark Mulligan**, for the NYU Infectious Diseases with Public Health Importance (IDPHI) Study Team
- 120 SARS-CoV-2 RECRUITS A HAEM METABOLITE TO EVADE ANTIBODY IMMUNITY**
12:55
 **Annachiara Rosa**, Valerie E. Pye, Carl Graham, Luke Muir, Jeffrey Seow, Kevin W. Ng, Nicola J. Cook, Chloe Rees-Spear, Mariana Silva dos Santos, James I. MacRae, Marit J. van Gils, George Kassiotis, Laura E. McCoy, Katie J. Doores, Peter Cherepanov
- 1:05 **LIVE QUESTIONS AND ANSWERS**




Oral Abstract-06 NEW WEAPONS AGAINST SARS-CoV-2 AND HIV
11:15 AM - 1:15 PM EST

Oral Abstract Moderators

Joseph J. Eron, *University of North Carolina at Chapel Hill, Chapel Hill, NC, USA*

Douglas D. Richman, *University of California San Diego, La Jolla, CA, USA*



- 11:15 **INTRODUCTIONS**
- 121 BAMLANIVIMAB PREVENTS COVID-19 MORBIDITY AND MORTALITY IN NURSING-HOME SETTING**
11:20
 **Myron S. Cohen**, Ajay Nirula, Mark Mulligan, Richard Novak, Mary Marovich, Alexander Stemer, Andrew C. Adams, Andrew E. Schade, Jack Knorr, Jay L. Tuttle, Janelle Sabo, Paul Klekotka, Lei Shen, Daniel M. Skovronsky, for the BLAZE-2 Study Team (Lilly/NIAID/CoV-2)
- 122 BAMLANIVIMAB+ETESEVIMAB FOR TREATMENT OF COVID-19 IN HIGH-RISK AMBULATORY PATIENTS**
11:35
 **Michael Dougan**, Ajay Nirula, Robert L. Gottlieb, Masoud Azizad, Bharat Mocherla, Peter Chen, Gregory Huhn, Andrew C. Adams, Andrew E. Schade, Janelle Sabo, Dipak R. Patel, Paul Klekotka, Lei Shen, Daniel M. Skovronsky, for the BLAZE-1 Investigators
- 123 CASIRIVIMAB WITH IMDEVIMAB ANTIBODY COCKTAIL FOR COVID-19 PREVENTION: INTERIM RESULTS**
11:40
 **Meagan P. O'Brien**, Eduardo Forleo Neto, Kuo-Chen Chen, Flonza Isa, Ingeborg Heirman, Neena Sarkar, Divya Ramesh, Myron S. Cohen, Ruanne Barnabas, Christopher B. Hurt, Dan H. Barouch, Katharine J. Bar, Gary Herman, George D. Yancopoulos, David M. Weinreich

- 124 11:50 POTENT NEUTRALIZING ANTIBODIES FOR SEVERE COVID-19: A RANDOMIZED CLINICAL TRIAL**
Carlijn Jordans, Arvind Gharbharan, Corine H. Geurts van Kessel, Jeroen J. Van Kampen, Barry Rockx, Bart Haagmans, Francis Swaneveld, Yvonne Mueller, Peter Katsikis, Marion Koopmans, Bart J. Rijnders, Casper Roxk, for the CONCOVID Trial Network
- 12:00 LIVE QUESTIONS AND ANSWERS**
- 12:10 INTRODUCTIONS**
- 125 12:15 ESTIMATING WITHIN-HOST RO FOR SARS-CoV-2 AND IMPLICATIONS FOR ANTIVIRAL THERAPY**
Ruian Ke, Ruy M. Ribeiro, Alan S. Perelson
- 126 12:25 PHASE IIA PROOF-OF-CONCEPT TRIAL OF NEXT-GENERATION MATURATION INHIBITOR GSK3640254**
Christoph Spinner, Franco B. Felizarta, Giuliano Rizzardini, Patrick Philibert, Essack Mitha, Pere Domingo, Christoph Stephan, Michelle DeGrosky, Veronica Bainbridge, Joyce Zhan, Teodora Pene Dumitrescu, Jerry L. Jeffrey, Samit R. Joshi, Max Lataillade, for 208132 Study Team
- 127 12:35 POTENT ANTIVIRAL ACTIVITY OF LENACAPAVIR IN PHASE 2/3 IN HEAVILY ART-EXPERIENCED PWH**
Sorana Segal-Maurer, Antonella Castagna, Mezgebe Berhe, Gary Richmond, Peter J. Ruane, Gary I. Sinclair, Krittaecho Siripassorn, Ya-Pei Liu, Nicolas Margot, Hadas Dvory-Sobol, Robert H. Hyland, Martin Rhee, Jared Baeten, Diana Brainard, Edwin DeJesus
- 128 12:45 ACTIVITY AND RESISTANCE CHARACTERIZATION OF THE HIV CAPSID INHIBITOR LENACAPAVIR**
Laurie VanderVeen, Nicolas Margot, Vidula Naik, Martin Rhee, Christian Callebaut
- 129 12:55 RESISTANCE PROFILE OF MK-8507, A NOVEL NNRTI SUITABLE FOR WEEKLY ORAL HIV TREATMENT**
Tracy L. Diamond, Ming-Tain Lai, Meizhen Feng, Min Xu, Nancy A. Sachs, Daria Hazuda, Ernest Asante-Appiah, Jay A. Grobler
- 1:05 LIVE QUESTIONS AND ANSWERS**

Oral Abstract-07 TUBERCULOSIS AND HEPATITIS

11:15 AM - 1:15 PM EST

Oral Abstract Moderators

Constance A. Benson, *University of California San Diego, San Diego, CA, USA*

Robert T. Schooley, *University of California San Diego, La Jolla, CA, USA*



11:20 INTRODUCTIONS

130 11:15 RIFAPENTINE +/- MOXIFLOXACIN FOR PULMONARY TUBERCULOSIS IN PEOPLE WITH HIV

April Pettit, Payam Nahid, Patrick P. Phillips, Andrew Vernon, Ekaterina Kurbatova, Rodney Dawson, Ian Sanne, Ziyaad Waja, Lerato Mohapi, Wadzanai Samaneka, John Johnson, Susan Dorman, Richard E. Chaisson, Susan Swindells, for the TBTC Study 31/ACTG 5349 Study Team

131 11:30 HIGH-DOSE RIFAMPICIN FOR HIV-ASSOCIATED TB MENINGITIS: A PHASE II RANDOMISED TRIAL

Fiona Cresswell, David Meya, Enock Kagimu, Daniel Grint, Lindsey te Brake, John Kasibante, Emily Martyn, Morris Rutakingirwa, Lillian Tugume, Kenneth Ssebambulidde, Elin Svensson, Rob Aarnoutse, Ananta Bangdiwala, Alison Elliott, David Boulware, for the Rift Study

- 132** **BICTEGRAVIR CONCENTRATIONS AND VIROLOGIC RESPONSES IN PLWH RECEIVING 1HP FOR LTBI**
11:40
Hsin-Yun Sun, Chih-Ning Cheng, Ya-Ting Lin, Wen-Chun Liu, Yu-Chung Chuang, Shu-Wen Lin, Ching-Hua Kuo, Chien-Ching Hung
- 133** **A CLUSTER RANDOMIZED TRIAL OF CONTACT TRACING IN HOUSEHOLDS OF INDEX PATIENTS WITH TB**
11:50
Neil A. Martinson, Limakatso Lebina, Emily Webb, Andrew Ratsela, Jonathan Golub, Zama Bosch, Kegaugetswe P. Motsomi, Peter MacPherson
- 12:00 **LIVE QUESTIONS AND ANSWERS**
- 12:10 **INTRODUCTIONS**
- 134** **A CLUSTER RANDOMIZED TRIAL OF TARGETED UNIVERSAL TESTING FOR TB IN CLINICS**
12:15
 **Limakatso Lebina**, Bareng A. Nonyane, Ribka Berhanu, Pren Naidoo, Zameer Brey, Anthony Kinghorn, Siphon Nyathi, Katherine Young, Harry Hausler, Lucy Conell, Leisha Genade, Neil A. Martinson, for the TUTT Team
- 135** **A SIMPLE AND SAFE APPROACH TO HCV TREATMENT: FINDINGS FROM THE A5360 (MINMON) TRIAL**
12:25
Sunil S. Solomon, Sandra Wagner-Cardoso, Laura M. Smeaton, Leonard Sowah, Chanelle Wimbish, Gregory Robbins, Irena Brates, Nelson Cheinquer, Anchalee Avihingsanon, Donald Anthony, Benjamin Linas, Susanna Naggie, David Wyles, Mark S. Sulkowski
- 136** **HEPATOCELLULAR CARCINOMA AND HBV VIREMIA IN HIV/HBV-COINFECTED PERSONS IN NA-ACCORD**
12:35
H. Nina Kim, Craig W. Newcomb, Dena M. Carbonari, Edward R. Cachay, M John Gill, Mark Hull, Jay R. Kostman, Joseph K. Lim, Michael J. Silverberg, Michael A. Horberg, Angel Mayor, Mari M. Kitahata, Marina B. Klein, Vincent Lo Re, for the North American AIDS Cohort Collaboration on Research and Design (NA-ACCORD) of IeDEA
- 137** **UPRISING CIRCULATION OF HBV-COMPLEX PROFILES WITH HBsAg VACCINE-ESCAPE MUTATIONS**
12:45
Lorenzo Piermatteo, Mohammad Alkhatib, Ada Bertoli, Lavinia Fabeni, Miriam Lichtner, Massimo Marignani, Caterina Pasquazzi, Nerio Iapadre, Giustino Parruti, Giuseppina Cappiello, Massimo Andreoni, Loredana Sarmati, Francesca Ceccherini-Silberstein, Valentina Svicher, Romina Salpini
- 12:55 **LIVE QUESTIONS AND ANSWERS**

Oral Abstract-08 COVID EPIDEMIOLOGY AND ITS IMPACT ON HIV CARE AND PREVENTION

11:15 AM - 1:15 PM EST

Oral Abstract Moderators

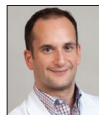
Susan P. Buchbinder, San Francisco Department of Public Health, San Francisco, CA, USA

James McIntyre, Anova Health Institute, Johannesburg, Gauteng, South Africa



- 11:15 **INTRODUCTIONS**
- 138** **PHYLOGENETIC ANALYSIS OF THE TIMING OF SARS-CoV-2 INTRODUCTIONS INTO WASHINGTON STATE**
11:20
Diana M. Tordoff, Alex Greninger, Pavitra Roychoudhury, Joshua T. Herbeck
- 139** **FROM TESTING TO MORTALITY: COVID-19 AND THE INVERSE CARE LAW IN SWITZERLAND**
11:30
Julien Riou, Radoslaw Panczak, Christian Althaus, Christoph Junker, Damir Perisa, Katrin Schneider, Matthias Egger

- 140** **SEX/GENDER DIFFERENCES IN TESTING, PRESENTATION, AND OUTCOMES OF SARS-CoV-2 INFECTION**
11:40
Eileen P. Scully, Grant Schumock, Martina Fu, Eili Klein, Sabra L. Klein, Karen Bandeen-Roche, Brian Garibaldi, Amita Gupta, for the CROWN Registry Team
- 141** **RACIAL DISPARITIES IN COVID-19 POSITIVITY AMONG PEOPLE LIVING WITH HIV IN THE US**
11:50
Jessica Y. Islam, Vithal Madhira, Jing Sun, Amy L. Olex, Gregory D. Kirk, Nora Franceschini, Rena Patel
- 12:00 **LIVE QUESTIONS AND ANSWERS**
- 12:10 **INTRODUCTIONS**
- 142** **HIV AND COVID-19 INPATIENT OUTCOMES: A MATCHED RETROSPECTIVE MULTICENTRE ANALYSIS**
12:15
Ming J. Lee, Colette Smith, Sarah Fidler, Lynsey C. Goodwin, Lisa Hamzah, Sarah Lawrence, Rebecca Marchant, Adrian Palfreeman, Manish Pareek, Kyle Ring, Luke Snell, John Thornhill, Marie Williamson, Achyuta Nori, for the RECEDE-C19 Study Group
- 143** **CHANGES IN HIV TESTING SERVICES AFTER COVID-19 IN 11 SUB-SAHARAN AFRICAN COUNTRIES**
12:25
Bakary Drammeh, Anindya Dee, Arielle Lasry, Amy Medley, Tiffany Aholou, Randy Yee, Helen Dale, Sarah Porter, Jonathan Mwangi, Mahesh Swaminathan, Ismelda Pietersen, Veronica Muntanga, Judith Shang, Shirish Balachandra, Stephanie Behel
- 144** **DRAMATIC DECLINE IN PUBLIC SECTOR HIV/STI TESTING DURING SARS-CoV-2 PANDEMIC, OREGON**
12:35
Timothy W. Menza, Amy Zlot, Jillian Garai, Sarah Humphrey, Josh Ferrer
- 145** **COVID-19 IMPACT ON INDEX TESTING SERVICES IN 5 HIGH HIV PREVALENCE INDIAN DISTRICTS**
12:45
Ajay K. Enugu, Jalpa Thakkar, Subash Ghosh, Rose Pollard, Allison M. McFall, Canjeevaram K. Vasudevan, Easter Thamburaj, Aditya Singh, Shruti H. Mehta, Sunil S. Solomon
- 12:55 **LIVE QUESTIONS AND ANSWERS**

Oral Abstract-09 PREVENTION 2021**11:15 AM - 1:15 PM EST****Oral Abstract Moderators****Raphael J. Landovitz**, *University of California Los Angeles, Los Angeles, CA, USA***Landon Myer**, *University of Cape Town, Cape Town, South Africa*

- 11:15 **INTRODUCTIONS**
- 146** **IMPACT OF VAGINAL STIs ON bNAb PROTECTION IN MACAQUES**
11:20
David A. Garber, Sundaram A. Vishwanathan, Patricia Guenther, Chunxia Zhao, James Mitchell, Shanon Ellis, Marcos Manganare, Michael Seaman, Michel Nussenzweig, Walid Heneine, Janet McNicholl
- 147** **PHASE 1 PK, SAFETY, AND ACCEPTABILITY STUDY OF 3-MONTH DAPIVRINE VAGINAL RINGS**
11:30
Albert Liu, Clara Dominguez Islas, Holly Gundacker, Craig Hoesley, Ariane Van der Straten, Craig Hendrix, May Beamer, Cindy Jacobson, Tara McClure, Tanya Harrell, Katherine Bunge, John Steytler, Jeremy Nuttall, Jeanna Plper, Mark Marzinke

148 INCIDENCE OF HIV INFECTION WITH DAILY OR ON-DEMAND ORAL PrEP WITH TDF/FTC IN FRANCE

11:40

Jean-Michel Molina, Jade Ghosn, Constance Delaugerre, Gilles Pialoux, Christine Katlama, Laurence Slama, Claire Pintado, Michel Ohayon, Hannane Mouhim, Lambert Assoumou, Bruno Spire, Mohamed Ben Mechlia, Daniela Rojas Castro, Dominique Costagliola, for the ANRS Prevenir Study Group

149 IMPACT OF COMMON SIDE EFFECTS ON PrEP PERSISTENCE DURING PREGNANCY IN SOUTH AFRICA

11:50

Dvora L. Joseph Davey, Rufaro Mvududu, Nyiko Mashele, Maia Lesosky, Linda-Gail Bekker, Pamina M. Gorbach, Thomas J. Coates, Landon Myer, for the PrEP-PP Study Team

12:00 LIVE QUESTIONS AND ANSWERS**12:10 INTRODUCTIONS****150 COST-EFFECTIVENESS OF LONG-ACTING PrEP AMONG MSM/TGW IN THE US**

12:15

Anne M. Neilan, Raphael J. Landovitz, Mylinh H. Le, Beatriz Grinsztejn, Kenneth Freedberg, Marybeth McCauley, Nattanicha Wattananimitgul, Myron S. Cohen, Andrea Ciaranello, David Paltiel, Rochelle P. Walensky

151 SOCIAL NETWORKS PREDICT PrEP UPTAKE IN SEARCH STUDY IN RURAL KENYA AND UGANDA

12:25

Catherine A. Koss, Joshua R. Nugent, Lillian B. Brown, James Ayieko, Jane Kabami, Mucunguzi Atukunda, Edwin D. Charlebois, Florence Mwangwa, Gabriel Chamie, Craig Cohen, Elizabeth A. Bukusi, Maya L. Petersen, Moses R. Kamya, Diane V. Havlir, Laura B. Balzer

152 HSV-2 ACQUISITION IN A RANDOMIZED TRIAL OF CONTRACEPTIVE METHODS AMONG AFRICAN WOMEN

12:35

Nelly R. Mugo, Renee Heffron, Helen V. Rees, Caitlin Scoville, Charles Morrison, Athena Kourtis, Elizabeth A. Bukusi, Mags Beksinka, Neena M. Philip, Ivana Beesham, Jen Deese, Vinodh Edward, Deborah Donnell, Jared Baeten, for the ECHO Trial Consortium

153 LABORATORY ANALYSIS OF HIV INFECTIONS IN HPTN 083: INJECTABLE CAB FOR PrEP

12:45



Mark Marzinke, Beatriz Grinsztejn, Jessica Fogel, Estelle M. Piwowar-Manning, Brett Hanscom, Lara Coelho, Myron S. Cohen, Alex R. Rinehart, James F. Rooney, Adeola Adeyeye, Peter Anderson, Marybeth McCauley, **Raphael J. Landovitz**, Susan Eshleman, for the HPTN 083 Study Team

12:55 LIVE QUESTIONS AND ANSWERS

Interactive Session-04 HIV-1 AND SARS-CoV-2: DURABILITY OF HOST IMMUNE RESPONSES FROM VACCINATION OR INFECTION CME

1:30 PM - 2:30 PM EST

38-Description: This highly interactive session begins with a brief overview of the issue or controversy. The scientific experts each offer opinions or observations in a 5-minute summary, followed by a 30-minute, spirited discussion among the panel members. The moderator will bring in comments and questions from the audience. This session will address the waning immunity in SARS-CoV-2–infected populations, T-cell immunity in SARS-CoV-2, population-level immunity, programming durable immunity, and pathological B-cell activation during SARS-CoV-2 infection.

Target Audience: This session is directed at basic scientists, clinicians, and epidemiologists interested in HIV and SARS-CoV-2 immunity.

Level of Knowledge: It is assumed that the participants are familiar with SARS-CoV-2 infection- and vaccine-induced immunity.

Objectives: At the conclusion of the session, participants should be able to:

- Describe the importance of durability of immunity in natural infection and vaccination
- Describe the remarkable differences in durability of various vaccines
- Describe knowledge on vaccine approaches to enhance durability to SARS-CoV-2

Moderators

Galit Alter, *Ragon Institute of MGH, MIT and Harvard, Cambridge, MA, USA*

Guido Silvestri, *Emory University, Atlanta, GA, USA*



- **HUMORAL RESPONSES AGAINST THE SARS-CoV-2 SPIKE**
Andrés Finzi, *University of Montreal, Montreal, Canada*



- **T-CELL IMMUNITY IN SARS-CoV-2 NATURAL INFECTION AND FOLLOWING VACCINATION**
Julie McElrath, *Fred Hutchinson Cancer Research Center, Seattle, WA, USA*



- **LONGITUDINAL ANTIBODY RESPONSES TO SARS-CoV-2 AND EMERGING VARIANTS**
Katie Doores, *King's College London, London, United Kingdom*



- **PROGRAMMING DURABLE IMMUNITY**
Robert Seder, *Vaccine Research Center, Bethesda, MD, USA*



- **PATHOLOGICAL B-CELL ACTIVATION DURING SARS-CoV-2 INFECTION**
Ignacio Sanz, *Emory University, Atlanta, GA, USA*



Interactive Session-05 FROM DAILY PILLS TO MONTHLY SHOT FOR HIV PREVENTION AND TREATMENT: CAN EFFICACY BE TRANSLATED INTO EFFECTIVENESS?

CME

1:30 PM - 2:30 PM EST

39-Description: This panel discussion will address the challenges of long-acting agents for HIV prevention and treatment at the clinic and population levels. The panel will present insights into the use of these agents, the latest information on pharmacokinetic and drug resistance considerations, and perspectives on implementation considerations from US and global physicians.

Target Audience: This session is directed at practicing clinicians involved in treatment and prevention of HIV.

Level of Knowledge: It is assumed that the participants are familiar with the basic information, including the results of relevant prevention and treatment clinical trials such as Discover, HPTN 083, ATLAS, and FLAIR.

Objectives: At the completion of the session, participants will be able to:

- Identify the challenges in implementing long-acting antiretroviral therapies (LA-ART) for HIV treatment and prevention
- Describe the pharmacokinetics of LA-ART, the concept of the "tail," and the implications for drug resistance
- List the populations that will benefit most from the use of LA-ART for treatment and prevention

Moderators

Carlos del Rio, *Emory University, Atlanta, GA, USA*

Diane Havlir, *University of California San Francisco, San Francisco, CA, USA*



Panelists

Francois Venter, *Ezintsha School of Clinical Medicine, Johannesburg, South Africa*



Nittaya Phanuphak, *Institute of HIV Research and Innovation, Bangkok, Thailand*



Charles Flexner, *The Johns Hopkins University, Baltimore, MD, USA*



Hyman Scott, *San Francisco Department of Public Health, San Francisco, CA, USA*



Interactive Session-06 PrEP SCALE-UP TO MEET UNAIDS 2030 GOAL: IT JUST ISN'T POSSIBLE—OR IS IT?

CME

1:30 PM - 2:30 PM EST

40-Description: This interactive discussion will highlight the challenges that need to be overcome to achieve the 2030 UNAIDS targets. Opportunities and challenges to meeting these goals via a singular focus on antiretroviral treatment for people with HIV (ie, absent biomedical prevention scale-up) or in partnership with biomedical prevention will be highlighted, using recent randomized clinical trial data on treatment as prevention (TasP) programs, and recent programmatic accomplishments in pre-exposure prophylaxis (PrEP) scale-up as starting points for discussion.

Target Audience: This session is directed at clinicians, policy makers, public health officials, non-governmental organizations, and stakeholders and consumers of HIV treatment and prevention services.

Level of Knowledge: It is assumed that the participants are familiar with data supporting HIV treatment as prevention, data supporting efficacy and safety of, and implementation challenges associated with, HIV PrEP, and global HIV epidemiology and resource constraints.

Objectives: At the completion of the session, participants should be able to:

- Identify the opportunities for and barriers to reaching the UNAIDS 2030 goals
- Describe the current status and limitations of TasP as an HIV prevention strategy given recent randomized controlled trial data
- Describe the successes and challenges of PrEP scale-up in well-resourced and resource-constrained contexts

SETTING THE STAGE: UNAIDS 2030 GOALS AND CURRENT STATE OF THE EPIDEMIC

Moderator: Sheena McCormack, *University College London, London, United Kingdom*



• **PrEP IMPLEMENTATION IN SUB-SAHARAN AFRICA**

Panelist: Elizabeth Irungu, *Jomo Kenyatta University of Agriculture and Technology, Juja, Kenya*



• **CHALLENGES TO PrEP SCALE-UP**

Panelist: Mark Dybul, *Georgetown University, Washington, DC, USA*



ON-DEMAND SYMPOSIA RELEASED ON
TUESDAY MARCH 9, 2021

Symposium-05

**IMMUNE-MEDIATING KILLING OF HIV
RESERVOIRS: OPPORTUNITIES AND OBSTACLES**

CME

Target Audience: This session is directed at scientists and clinicians who are interested in understanding why immune responses cannot eradicate HIV during antiretroviral therapy (ART).

Level of Knowledge: It is assumed that the participants are familiar with the concepts of HIV persistence and innate and adaptive immune responses against HIV.

Objectives: At the completion of this session, participants will be able to:

- Identify intrinsic cellular mechanisms that contribute to the resistance of reservoir cells to immune-mediated killing
- Identify the reasons that CD8 T cells do not efficiently eliminate infected cells during ART
- Describe novel strategies to circumvent this resistance, including the disruption of B-cell follicles
- Describe the changes in innate immune pressure on HIV over time, and how this impacts virus rebound

Conveners

Nicolas Chomont, *Université de Montréal, Montreal, Quebec, Canada*

Katharine J. Bar, *University of Pennsylvania, Philadelphia, PA, USA*



42 HOW TO GENERATE GOOD KILLERS BY INITIATING ART (NOT TOO) EARLY?

Lydie Trautmann, *Oregon Health Sciences University, Portland, OR, USA*



43 BREAKING THE B-CELL FOLLICLE BARRIER TO ELIMINATE VIRAL RESERVOIRS

Afam Okoye, *Oregon Health Sciences University, Portland, OR, USA*



41 INTRINSIC RESISTANCE OF RESERVOIR CELLS TO IMMUNE KILLING

R. Brad Jones, *Weill Cornell Medicine, New York, NY, USA*



44 TYPE I INTERFERON RESISTANCE OF REBOUND HIV-1

Beatrice H. Hahn, *University of Pennsylvania, Philadelphia, PA, USA*



Symposium-06

NOVEL ANTIVIRAL STRATEGIES AND HOW TO DEPLOY THEM

CME

Target Audience: This session is directed at clinicians and translational scientists engaged in the treatment of HIV, SARS-CoV-2, or both infections.

Level of Knowledge: It is assumed that the participants are familiar with currently available antiviral therapy for each of these pandemic viral infections.

Objectives: At the completion of the session, participants should be able to:

- Describe available 2-drug antiretroviral combinations and the data that support their use
- Identify the novel antiretroviral agents in clinical development and understand their mechanisms of action
- Discuss antiretroviral agents in use and in development for prevention and treatment of HIV infection in neonates and infants
- Describe the antiviral agents active against SARS-CoV-2 in clinical development and list their mechanisms of action

Conveners

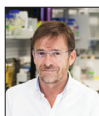
Joseph J. Eron, *University of North Carolina at Chapel Hill, Chapel Hill, NC, USA*

Huldrych F. Günthard, *University Hospital Zurich, Zurich, Switzerland*



45 TRIPLE DRUG ART, DUAL ART, OR JUST ART?

Jose R. Arribas, *Hospital Universitario La Paz, IdiPAZ, Madrid, Spain*



46 NOVEL ANTIRETROVIRAL THERAPIES IN CLINICAL DEVELOPMENT

Alexandra L. Calmy, *University Hospital Geneva, Geneva, Switzerland*



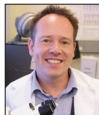
47 ARVs AND ART FOR NEWBORNS AND INFANTS: A LAST FRONTIER

Moherndran Archary, *University of KwaZulu-Natal, Durban, South Africa*



48 GOT ANYTHING FOR THIS COUGH? NEW ANTIVIRALS FOR TREATMENT OF SARS-CoV-2

Davey M. Smith, *University of California San Diego, San Diego, CA, USA*



Symposium-07 COVID-19: FAR MORE THAN JUST THE LUNGS

CME

Target Audience: This session is directed at clinicians and investigators with an interest in the broad spectrum of clinical manifestations of COVID-19 in adults and children.

Level of Knowledge: It is assumed that participants are familiar with general concepts of the human vasculature and inflammation and have a general understanding of central nervous system and cardiac disease.

Objectives: At the conclusion of the session, participants should be able to:

- Describe the concept of how SARS-CoV-2 interacts with the endothelium and how this may underlie COVID-19 disease manifestations and provide opportunities for therapeutic interventions
- Describe the main pathogenic and clinical features of multisystem inflammatory syndrome and its management in children

- Describe the current understanding of the pathogenesis and main clinical features of neurologic complications of COVID-19 and potential long-term neurologic and neuropsychiatric complications
- Describe the current thinking about the pathogenesis and clinical features of cardiac complications of COVID-19 as well as their potential impact for long-term health

Conveners

Serena S. Spudich, *Yale University, New Haven, CT, USA*

Peter Reiss, *Amsterdam University Medical Centers, Amsterdam, Netherlands*



49 SINGLE VASCULAR CELL HETEROGENEITY IN HEALTH AND DISEASE: A COVID-19 UPDATE

Peter Carmeliet, *University of Leuven, Leuven, Belgium*



50 BODY ON FIRE: MULTISYSTEM INFLAMMATORY SYNDROME IN CHILDREN

Elizabeth A. Whittaker, *Imperial College London, London, United Kingdom*



51 THINK ABOUT IT: NEUROLOGIC MANIFESTATIONS OF COVID-19

Benedict D. Michael, *University of Liverpool, Liverpool, United Kingdom*



52 COVID-19: CONCERNS OF THE HEART

Valentina O. Puntmann, *Goethe University, Frankfurt, Germany*



Symposium-08 WHAT DOES PrEP DELIVER?

CME

Target Audience: This session is directed at researchers, clinicians, and advocates interested in biomedical prevention of HIV infection via preexposure prophylaxis (PrEP).

Level of Knowledge: It is assumed that participants have a knowledge of PrEP modalities, including old and emerging ones.

Objectives: At the completion of the session, participants will be able to:

- Describe key barriers and facilitators to PrEP initiation, adherence, and persistence in different populations worldwide, including key populations
- Describe PrEP programs and unique issues for young women and adolescent girls in South Africa
- Identify key aspects of community, pharmacy, and clinic PrEP delivery models as exemplified by the SEARCH study in East Africa
- Describe the key drivers of PrEP cost effectiveness in terms of populations, drugs, and delivery models

Conveners

Connie L. Celum, *University of Washington, Seattle, WA, USA*

Monica Gandhi, *University of California San Francisco, San Francisco, CA, USA*



53 YOUNG WOMEN: ADHERENCE, EFFECT, AND RETENTION

Thesla Palanee-Phillips, *Wits Reproductive Health and HIV Institute, Johannesburg, South Africa*



54 CHALLENGES AND OPPORTUNITIES IN IMPLEMENTING PrEP IN KEY POPULATIONS
Gregorio A. Millett, *amfAR, Washington, DC, USA*



55 MODELS OF DELIVERING PrEP IN EAST AFRICA: INNOVATIONS AND LESSONS LEARNED
Moses R. Kanya, *Makerere University College of Health Sciences, Kampala, Uganda*



56 INCORPORATING INJECTABLE PrEP AND NEWER FORMULATIONS INTO LMIC
Yogan Pillay, *Clinton Health Access Initiative, South Africa*



WEDNESDAY MARCH 10, 2021

Plenary Session-3 WEDNESDAY PLENARY SESSION

CME

10:00 AM - 11:00 AM EST

Session Hosts

Nicolas Chomont, *Université de Montréal, Montreal, Canada*

Elaine J. Abrams, *ICAP at Columbia University, New York, NY, USA*



10:00 WELCOME AND DAILY ROADMAP

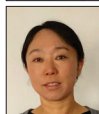
James A. Hoxie, *University of Pennsylvania, Philadelphia, PA, USA*



57 ELITE CONTROLLERS: A MODEL FOR A FUNCTIONAL CURE OF HIV-1 INFECTION

10:10

Xu Yu, *Ragon Institute of MGH, MIT and Harvard, Cambridge, MA, USA*



58 HIV TREATMENT IN PREGNANCY: BEYOND PREVENTION OF VERTICAL TRANSMISSION

10:35

Shahin Lockman, *Brigham and Women's Hospital, Boston, MA, USA*



Oral Abstract-10 HIV RESERVOIRS

11:15 AM - 1:15 PM EST

Oral Abstract Moderators

Douglas D. Richman, *University of California San Diego, La Jolla, CA, USA*

Katharine J. Bar, *University of Pennsylvania, Philadelphia, PA, USA*



11:15 INTRODUCTIONS

154 INFECTED CELLS ARE CLONOTYPICALLY DIVERSE IN BLOOD & LYMPH NODES SINCE FIEBIG STAGE I

11:20

Pierre Gantner, *Supranee Buranapraditkun, Marion Pardons, Amélie Pagliuzza, Rémi Fromentin, Julie Mitchell, Eugene Kroon, Suteeraporn Pinyakorn, Merlin Robb, Nittaya Phanuphak, Jintanat Ananworanich, Denise C. Hsu, Sandhya Vasan, Lydie Trautmann, Nicolas Chomont*

155 EVOLUTIONARY DYNAMICS OF HIV RESERVOIR CELLS VIA A NOVEL SINGLE-CELL MULTIOMICS ASSAY

11:30

Kevin B. Einkauf, *Matthew Osborn, Ce Gao, Elizabeth Parsons, Chenyang Jiang, Xiaodong Lian, Xiaoming Sun, Jane E. Blackmer, Eric S. Rosenberg, Xu Yu, Mathias Lichterfeld*

156 NONINVASIVE PLASMA GLYCOMIC AND METABOLIC BIOMARKERS OF POSTTREATMENT HIV CONTROL

11:40

Leila B. Giron, *Clovis S. Palmer, Qin Liu, Xiangfan Yin, Emmanouil Papisavvas, Mohammad Damra, Aaron R. Goldman, Hsin-Yao Tang, Rowena Johnston, Karam Mounzer, Alan Landay, Luis J. Montaner, Jeffrey Jacobson, Jonathan Li, Mohamed Abdel-Mohsen*

157 PD-1 BLOCKADE ENHANCES THERAPEUTIC BENEFITS OF VACCINE IN A CHRONIC SIV/MACAQUE MODEL

11:50

Sheikh A. Rahman, *Bhruhu Yagnik, Alexander P. Bally, Kristen N. Morrow, Wang Shelly, Thomas H. Vanderford, Gordon J. Freeman, Rafi Ahmed, Rama R. Amara*

12:00 **LIVE QUESTIONS AND ANSWERS**12:10 **INTRODUCTIONS****158 TYPE I INTERFERON-ASSOCIATED GENE EXPRESSION PREDICTS TIME TO VIRAL REBOUND ON TI**

12:15

Penny Zacharopoulou, Emanuele Marchi, Ane Ogbe, Nicola Robinson, Helen Brown, Mathew Jones, Lucia Parolini, Matthew Pace, Nicholas Grayson, Pontiano Kaleebu, Helen V. Rees, Sarah Fidler, Goulder Philip, Paul Klenerman, John Frater

159 HIV-1 PROVIRUS CANNOT BE REACTIVATED IN PATIENTS ON TREATMENT WITH ART AND DASATINIB

12:25

Lorena Vigón, Paula Martínez-Román, Juan Ambrosioni, Antonio Navarro, Adam Spivak, Miguel Cervero, Jose M. Miro, Paula Prieto, Christoph Wyen, Christian Hoffmann, José Alcamí, Verónica Briz, Vicente Planelles, María Rosa López-Huertas, **Mayte Coiras**

160 DURABLE HIV-1 ANTIBODY PRODUCTION IN HUMANS AFTER AAV8-MEDIATED GENE TRANSFER

12:35

Joseph P. Casazza, Evan M. Cale, Sandeep Narpala, Laura Novik, Galina V. Yamshchikov, Bob C. Lin, Janardan P. Pandey, Adrian McDermott, Mario R. Roederer, Alejandro Balazs, David Baltimore, Richard A. Koup, Julie E. Ledgerwood, John R. Mascola, for the VRC603 Team

161 A PLACEBO-CONTROLLED AT1 TRIAL OF HTI VACCINES IN EARLY TREATED HIV INFECTION

12:45



Lucia Bailon, Anuska Llano, Samandhy Cedeño, Miriam B. Lopez, Yovaninna Alarcon, Pep Coll, Àngel Rivero, Anne R. Leselbaum, Ian McGowan, Devi SenGupta, Bonaventura Clotet, Christian Brander, Jose Molto, **Beatriz Mothe**, for the AELIX-002 Trial Group

12:55 **LIVE QUESTIONS AND ANSWERS****Oral Abstract-11 BRAIN CONNECTIONS, MALIGNANCIES, AND TUMOR VIRUSES**

11:15 AM - 1:15 PM EST

Oral Abstract Moderators

Dennis L. Kolson, *University of Pennsylvania, Philadelphia, PA, USA*

Ronald T. Mitsuyasu, *University of California Los Angeles, Los Angeles, CA, USA*

11:15 **INTRODUCTIONS****162 NEURON DAMAGE AND RESERVOIR ARE SECONDARY TO HIV TRANSCRIPTS DESPITE SUPPRESSIVE ART**

11:20

Kazuo Suzuki, John Zaunders, Angelique Levert, Shannen Butterly, Zhixin Liu, Takaomi Ishida, Chin-Shiou Huang, Thomas Gates, Caroline Rae, Lauriane Jugé, Lucette A. Cysique, Bruce Brew

163 3T BRAIN MRS REVEALS DISTINCT METABOLITE PATTERNS OF ART INITIATION DURING ACUTE HIV

11:30

Napapon Sailasuta, Torie Tsuei, Carlo Sacdalan, Eugene Kroon, Kultida Poltavee, Nittaya Phanuphak, Shayanne Martin, Jintanat Ananworanich, Victor Valcour, Sandhya Vasan, Mantana Pothisri, Netsiri Dumrongpisutikul, Serena S. Spudich, Robert Paul, for the SEARCH 010/RV254 Study Team

164 EFFECTS OF HIV AND AGING ON FUNCTIONAL CONNECTIVITY AND ANATOMY

11:40

Patrick H. Lockett, Kayla Hannon, John J. Lee, Robert Paul, Joshua S. Shimony, Karin L. Meeker, Sarah Cooley, Beau M. Ances

165 DIVERGENT AND SELF-REACTIVE IMMUNE RESPONSES IN THE CNS OF COVID-19 PATIENTS

11:50



Eric Song, Christopher Bartley, Ryan Chow, Thomas Ngo, Ruoyi Jiang, Colin Zamecnik, Ravi Dandekar, Lindsay McAlpine, Serena S. Spudich, Joseph DeRisi, Akiko Iwasaki, Samuel Pleasure, Michael Wilson, **Shelli F. Farhadian**, for the Yale IMPACT Team

12:00 LIVE QUESTIONS AND ANSWERS**12:10 INTRODUCTIONS****166 CHROMOSOMAL COPY NUMBER ALTERATIONS IN ANAL PRECANCERS FROM PEOPLE WITH HIV**

12:15

Tinaye Mutetwa, Rosa Karlic, Jane Houldsworth, Anne M. Bowcock, Michael M. Gaisa, Yuxin Liu, Paz Polak, Keith Sigel

167 POMALIDOMIDE AND LIPOSOMAL DOXORUBICIN FOR KAPOSI SARCOMA +/- OTHER KSHV DISEASES

12:25

Ramya Ramaswami, Kathryn Lurain, Anaida Widell, Priscila Goncalves, Irene Ekwede, William D. Figg, Cody Peer, Ralph Mangusan, Jomy George, Seth Steinberg, Denise Whitby, Thomas S. Uldrick, Robert Yarchoan

168 VAGINAL pH PREDICTS CERVICAL INTRAEPITHELIAL NEOPLASIA-2 REGRESSION IN HIV+ WOMEN

12:35

Katherine G. Michel, Christine Colie, Robert Burk, L. Stewart Massad, Cuiwei Wang, Charbel Moussa, Gypsyamber D'Souza, Lisa Rahangdale, Lisa Flowers, Joel Milam, Joel Palefsky, Howard Minkoff, Howard Strickler, Seble Kassaye

169 WILMS' TUMOR 1 IS OVEREXPRESSED IN KAPOSI SARCOMA AND IS REGULATED BY VFLIP/K13

12:45

Ayana Morales, Caitlyn Genovese, Matthew Bott, Julio Alvarez, Sung Soo Mun, Jennifer Totonchy, Jesus Delgado, Stephanie Chang, Maite Ibáñez de Garayo, David Scheinberg, Paul Rubinstein, Thomas Campbell, Margaret Borok, Susan Krown, Ethel Cesarman

170 INFLAMMASOME ACTIVATION IN PATIENTS WITH KSHV-ASSOCIATED DISORDERS

12:55

Ramya Ramaswami, Silvia Lage, Kathryn Lurain, Joseph Rocco, Maura Manion, Robert Yarchoan, Irini Sereti

1:05 LIVE QUESTIONS AND ANSWERS
Oral Abstract-12 MATERNAL AND CHILD HIV AND SARS-CoV-2
11:15 AM - 1:15 PM EST
Oral Abstract Moderators

Landon Myer, *University of Cape Town, Cape Town, South Africa*

Hermione Lyall, *Imperial College Healthcare National Health Service Trust, London, United Kingdom*

**11:15 INTRODUCTIONS****171 COVID-19 INFECTION IN HIGH-RISK SOUTH AFRICAN PREGNANCIES WITH AND WITHOUT HIV**

11:20

Liesl De Waard, Eduard J. Langenegger, Kobie Erasmus, Tian Van der Merwe, Nicolene Du Toit, Chane Paulsen, Nontando S. Nkangana, Susanna E. Olivier, Sonja Schell, Magriet Van Niekerk, Jantjie J. Taljaard, Angela Dramowski, Cathy A. Cluver, Adrie Bekker

172 CHARACTERISATION OF SARS-CoV-2-INFECTED CHILDREN DEVELOPING NEUTRALISING ANTIBODIES

11:30

Alessandra Ruggiero, Nicola Cotugno, Bonfante Francesco, Maria Raffaella Petrarà, Giuseppe R. Pascucci, Veronica Santilli, Emma Manno, Carlo Concato, Giulia Linardos, Daniele Donà, Carlo Giaquinto, Petter Brodin, Paolo Rossi, Anita De Rossi, Paolo Palma

173 PEDIATRIC AND ADOLESCENT HIV TESTING AND DIAGNOSIS IN THE CONTEXT OF COVID-19

11:40

Jessica M. Gross, Susan Hrapcak, Emilia Rivadeneira, Meena Srivastava, Michael Grillo, Gurpreet Kindra, Jacobus Olivier, Maria Deus, Nelly Honwana, Esther Nazziwa, Madina Apolot, Magdalene Mayer, Amy Medley

174 DOLUTEGRAVIR-BASED ART IS SUPERIOR TO NNRTI/PI-BASED ART IN CHILDREN AND ADOLESCENTS

11:50

Anna Turkova, for the ODYSSEY/PENTA-20 Trial Team

12:00 LIVE QUESTIONS AND ANSWERS**12:10 INTRODUCTIONS****175 DOLPHIN2 FINAL RESULTS DOLUTEGRAVIR VS EFAVIRENZ IN LATE PREGNANCY TO 72W POSTPARTUM**

12:15

Thokozile R. Malaba, Irene Nakatudde, Kenneth Kintu, Tao Chen, Sabrina Bakeera-Kitaka, Lucy Read, Helen Reynolds, Angela Colbers, Kelly Byrne, Duolao Wang, Catriona Waitt, Catherine Orrell, Mohammed Lamorde, Landon Myer, Saye Khoo

176 ANTEPARTUM WEIGHT GAIN AND ADVERSE PREGNANCY OUTCOMES IN IMPAACT 2010

12:25

Risa M. Hoffman, Lauren Ziemba, Sean Brummel, Lameck Chinula, Teacler G. Nematadzira, Frances Nakayiwa, Jeff Stringer, Chelsea Krotje, Patrick Jean-Philippe, Anne Coletti, Rebecca Zash, Roger Shapiro, Paul Sax, Judith S. Currier, Shahin Lockman

177 SAFETY/EFFICACY OF DTG VS EFV, TDF VS TAF IN PREGNANCY/POSTPARTUM: IMPAACT 2010 TRIAL

12:35



Lameck Chinula, Sean Brummel, Lauren Ziemba, Katie McCarthy, Benjamin Johnston, Nahida Chakhtoura, Patrick Jean-Philippe, Lynda Stranix-Chibanda, Violet Korutaro, Haseena Cassim, Fairlie Lee, Gaerolwe Masheto, Paul Sax, Judith S. Currier, Shahin Lockman

178 ADVERSE PREGNANCY OUTCOMES AMONG HIV-INFECTED WOMEN EXPOSED TO ISONIAZID IN BRIEF-TB

12:45

Amita Gupta, Michael Hughes, Jorge T. Leon-Cruz, Anchalee Avihingsanon, Noluthando Mwelase, Patrice Severe, Ayotunde Omoz-Oarhe, Gaerolwe Masheto, Laura Moran, Constance A. Benson, Richard E. Chaisson, Susan Swindells, for the ACTG 5279 BRIEF TB Trial

12:55 LIVE QUESTIONS AND ANSWERS**Oral Abstract-13 INNOVATIONS AND CHALLENGES IN TESTING, PREVENTION, AND CARE**

11:15 AM - 1:15 PM EST

Oral Abstract Moderators

Jonathan Mermin, Centers for Disease Control and Prevention, Atlanta, GA, USA

Wafaa M. El-Sadr, Columbia University, New York, NY, USA

**11:15 INTRODUCTIONS****179 PrEP USE DURING ACUTE HIV INFECTION IN A COMMUNITY SETTING COMPROMISES HIV DIAGNOSIS**

11:20

Donn J. Colby, Suteeraporn Pinyakorn, Ratchapong Kanaprach, Sasiwimol Ubolyam, Tippawan Pankam, Kultida Poltavee, Eugene Kroon, Carlo Saccalan, Nitiya Chomchey, Jintanat Ananworanich, Siriawat Akapirat, Sandhya Vasani, Nittaya Phanuphak, Mark de Souza, for the RV254/SEARCH010 Research Group

- 180** **A CLUSTER-RANDOMIZED TRIAL OF TRADITIONAL HEALERS DELIVERING HIV TESTING IN UGANDA**
11:30
Radhika Sundararajan, Juliet Mwanga-Amumpaire, Matthew Ponticciello, Myung Hee Lee, Steffanie Strathdee, Winnie Muyindike, Denis Nansera, Rachel King, Daniel Fitzgerald
- 181** **HIV SELF-TESTING TO OPTIMIZE FACILITY TESTING: A CLUSTER-RANDOMIZED TRIAL IN MALAWI**
11:40
Kathryn Dovel, Sundeep Gupta, Christian Stillson, Misheck Mphande, Kelvin Balakasi, Isabella Robson, Chi-Hong Tseng, Alemayehu Amberbir, Leslie Berman, Shaukat Khan Khan, Joep J. Van Oosterhout, Naoko Doi, Brooke Nichols
- 182** **COMMUNITY MULTIMONTH ART PROVISION: POOLED ANALYSIS OF 2 CLUSTER-RANDOMIZED TRIALS**
11:50
John Lopes, Nicoletta Mabhena-Ngorima, Appolinaire Tiam, Betty Tukei, Pedro Pisa, Vincent Tukei, Khotso Maile, Charles Chasela, Ashraf Grimwood, **Geoffrey Fatti**
- 12:00 **LIVE QUESTIONS AND ANSWERS**
- 12:10 **INTRODUCTIONS**
- 183** **POINT-OF-CARE URINE TENOFOVIR VERSUS SELF-REPORTED ART ADHERENCE IN ROUTINE HIV CARE**
12:15
Tamsin K. Phillips, **Yolanda Gomba**, David Huang, Landon Myer
- 184** **RAPID VS SAME-DAY TREATMENT INITIATION FOR PATIENTS WITH TB SYMPTOMS AT HIV DIAGNOSIS**
12:25
Nancy Dorvil, Cynthia Riviere, Patrice Severe, Heejung Bang, Jessy Devieux, Kerlyne Lavoile, Stephanie Bousleiman, Etienne Cremieux, Emelyne Dumont, Alexandra Apollon, Benedict Charles, Giovanni Saintyl, Mikerlyne Faustin, Jean W. Pape, Serena Koenig
- 185** **COMMUNITY DISTRIBUTION OF ART DURING CIVIL UNREST AND COVID-19 IN HAITI**
12:35
Patrice Joseph, Hoi Ching Cheung, Neil Sequeria, Jean Edouard Mathon, Marc-Antoine Jean-Juste, Youry Macius, Rode Secours, Colette Guitau, Karine Severe, Nancy Dorvil, Eli Maxime Francois, Adias Marcelin, Rose-Irene Verdier, Marie Marcelle Deschamps, Jean W. Pape
- 186** **RESILIENCE OF HIV ACTIVITIES DURING COVID-19 PANDEMIC AT HEALTH FACILITIES IN AFRICA**
12:45
 **Tiffany G. Harris**, Edward G. Jaszi, Carlos G. Laudari, Bonaparte Nijirazana, Hermann Brou, Faustin Malele, Ruben G. Sahabo, Zenebe Melaku, Mark Hawken, Mirriah Vitale, Florence Bayoa, Prisca Kasonde, Wafaa M. El-Sadr
- 12:55 **LIVE QUESTIONS AND ANSWERS**

Interactive Session-07 SARS-CoV-2 AND THE HOST IMMUNE RESPONSE: GOOD VS BAD IMMUNITY CME
1:30 PM - 2:30 PM EST

59-Description: This highly interactive session begins with a brief overview of the issue or controversy. The scientific experts each offer opinions or observations in a 5-minute summary, followed by a 30-minute, spirited discussion among the panel members. The moderator will bring in comments and questions from the audience. This session will address several aspects of the immunity directed to SARS-CoV-2, including innate, humoral, and cellular immune responses.

Target Audience: This session is directed at basic scientists and clinicians who have interest in immune responses to SARS-CoV-2.

Level of Knowledge: It is assumed that the participants are familiar with basic concepts in innate and adaptive immune responses.

Objectives: At the end of the session, participants should be able to:

- Describe the nature, timing, and impact of the innate and adaptive immune responses that emerge following infection with SARS-CoV-2
- Identify beneficial and detrimental immune factors that modulate the pathogenesis of SARS-CoV-2 infection
- Discuss the interactions between innate and adaptive immune responses during SARS-CoV-2 infection

Moderators

Richard A. Koup, *National Institute of Allergy and Infectious Diseases, Bethesda, MD, USA*

Nicolas Chomont, *Université de Montréal, Montreal, Canada*



- **SARS-CoV-2 DEBRIS AND ITS CONTRIBUTION TO COVID-19**
Benjamin tenOver, *Icahn School of Medicine at Mount Sinai, New York, NY, USA*
- **TOWARD SWEET THERAPIES FOR SOUR IMMUNOPATHOLOGIES IN COVID-19**
Catherine Blish, *Stanford University School of Medicine, Stanford, CA, USA*
- **AFUCOSYLATED IgG RESPONSES AND SEVERITY IN COVID-19**
Gestur Vidarsson, *University of Amsterdam, Amsterdam, Netherlands*
- **ANTICIPATING ESCAPE PATHWAYS FOR SARS-CoV-2**
Julie Overbaugh, *Fred Hutchinson Cancer Research Center, Seattle, WA, USA*
- **THE SPECTRUM OF T CELL RESPONSES TO SARS-CoV-2**
Marcus Buggert, *Karolinska Institutet, Stockholm, Sweden*

Interactive Session-08 COVID-19 CLINICAL CONTROVERSIES CME 1:30 PM - 2:30 PM EST

60-Description: Using illustrative case vignettes, a panel of experts will have a moderated and lively exchange of what they consider to be optimal treatment strategies and what issues require our attention in terms of potential long-term health concerns once patients recover from the acute episode of illness.

Target Audience: This session is directed at clinicians and other health care professionals with an interest in the management of persons affected by COVID-19.

Level of Knowledge: It is assumed that the participants are familiar with general concepts of the clinical management of patients with signs and symptoms of systemic illness and the major trials of COVID-19 therapies published to date.

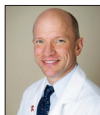
Objectives: At the completion of the session, participants should be able to:

- Describe the potential controversies and dilemmas when deciding to administer which therapies to which patient, at what time, and in which setting during the course of illness
- Identify the knowns, unknowns, and the needs for future research concerning what may constitute persistent symptoms post-COVID-19

Case Presenters and Discussion Moderators

Roy M. Gulick, *Weill Cornell Medical College, New York, NY, USA*

Paul E. Sax, *Brigham and Women's Hospital, Boston, MA, USA*



Panelists

Karine Lacombe, *Saint-Antoine Hospital, Paris, France*

Zarir Udhwadia, *Hinduja Hospital and Medical Research Center, Mumbai, India*

Claudia Cortes, *University of Chile, Santiago, Chile*



- **CASE 1: TREATMENT APPROACHES FOR A PATIENT WITH COVID-19 INFECTION**
- **CASE 2: LONG-TERM OUTCOMES WITH A PATIENT WHO RECOVERS FROM COVID-19 INFECTION**

Interactive Session-09 COVID-19 DISPARITIES: HOW CAN THEY HELP MOVE THE NEEDLE FORWARD? CME
1:30 PM - 2:30 PM EST

61-Description: This session will summarize critical data on the SARS-CoV-2 pandemic among several populations that experience disproportionate burdens of morbidity and mortality due to COVID-19. Speakers will also give recommendations for key interventions that could substantially decrease these disparities and participate in an interactive panel discussion with audience participation.

Target Audience: This session is directed at HIV and SARS-CoV-2 researchers, clinicians, and community advocates to learn about disparities in SARS-CoV-2 and how to address them.

Level of Knowledge: It is assumed that the participants are familiar with some of the basic principles in SARS-CoV-2 transmission and prevention as well as the disproportionate outcome this infection is having on marginalized communities, especially in the United States.

Objectives: At the completion of the session, participants will be able to:

- Describe racial and ethnic disparities in SARS-CoV-2 infection rates and disease outcomes in the United States
- Identify how COVID-19 has impacted incarcerated populations worldwide, with a special emphasis on the United States
- Describe the impact of COVID-19 on indigenous communities worldwide, with an emphasis on Native American communities in the United States

Moderators

Adaora Adimora, *University of North Carolina at Chapel Hill, Chapel Hill, NC, USA*



Monica Gandhi, *University of California San Francisco, San Francisco, CA, USA*

- **DISPARITIES IN COVID-19 AMONG RACIAL AND ETHNIC MINORITIES IN THE US**

Mary T. Bassett, *Harvard T.H. Chan School of Public Health, Boston, MA, USA*



- **DISPARITIES IN COVID-19 IN NATIVE AMERICAN COMMUNITIES**

David R. Wilson, *National Institutes of Health, Bethesda, MD, USA*



- **INCARCERATED POPULATIONS AND COVID-19**

Robert E. Fullilove, *Columbia University Medical Center, New York, NY, USA*



ON-DEMAND SYMPOSIA RELEASED ON WEDNESDAY MARCH 10, 2021

Symposium-09 NEW FINDINGS AND UNSETTLED CONTROVERSIES IN CENTRAL NERVOUS SYSTEM INFECTION AND DISEASE CME

Target Audience: This session is directed at researchers and clinicians interested in understanding the neuropathogenesis of HIV and the role of the central nervous system (CNS) as a potential reservoir and barrier to achieving HIV remission or cure.

Level of Knowledge: It is assumed that the participants are familiar with basic HIV biology, HIV latency and replication, control of HIV replication by antiretroviral therapy, and the concept that HIV can infect cells trafficking into, or persisting within, the CNS.

Objectives: At the completion of this session, attendees should be able to:

- Describe the relationship between microglia and neurons in the development of brain injury and their potential roles in maintenance of HIV infection in the brain
- Describe the potential roles for CD4+ T lymphocytes and macrophages in SIV neuropathogenesis
- Identify the evidence for early myeloid reservoirs for HIV within the CNS and their relevance to HIV cure
- Define the syndrome of CNS HIV escape and the evidence gained from examination of escape viruses that provides insight into CNS HIV persistence

Conveners

Dennis L. Kolson, *University of Pennsylvania, Philadelphia, PA, USA*

Serena S. Spudich, *Yale University, New Haven, CT, USA*



62 NOVEL FINDINGS OF NEURONAL MODULATION OF HIV EXPRESSION IN MICROGLIA

Jonathan Karn, *Case Western Reserve University, Cleveland, OH, USA*



63 ROLE OF CNS CD4 T CELLS AND MACROPHAGES IN SIV NEUROPATHOGENESIS AND RESERVOIRS

Vanessa M. Hirsch, *National Institutes of Health, Bethesda, MD, USA*



64 MYELOID CNS HIV RESERVOIRS...THE DEBATE CONTINUES

Lishomwa Ndhlovu, *Weill Cornell Medicine, New York, NY, USA*



65 LESSONS FROM CNS HIV ESCAPE AND ATI FOR UNDERSTANDING HIV PERSISTENCE IN THE CNS

Sarah B. Joseph, *University of North Carolina at Chapel Hill, Chapel Hill, NC, USA*



Symposium-10 ADOLESCENTS, YOUTH, AND PrEP



Target Audience: This session is directed at clinicians, epidemiologists, and implementers seeking to more effectively deliver pre-exposure prophylaxis (PrEP) to adolescents and pregnant and breastfeeding young women.

Level of Knowledge: It is assumed that the participants are familiar with: a) the global epidemiology of HIV among adolescents and young adults; b) the gaps in the prevention and treatment cascades for these populations; and c) the social, behavioral, and clinical challenges they face in achieving uptake, adherence, and maintenance of prevention interventions.

Objectives: At the completion of the session, participants should be able to:

- Describe ongoing efforts to introduce PrEP during pregnancy and breastfeeding among women, with an emphasis on African contexts
- Describe the rationale and safety of PrEP use in pregnancy and during breastfeeding and considerations for new agents
- Identify the challenges to engaging adolescents and young adults in PrEP uptake, adherence, and retention; describe how the PrEP pipeline is or is not including youth in clinical trials

- Identify the underlying neurodevelopmental reasons for how adolescents and youth process HIV risk; how mental health impacts uptake and adherence to PrEP; ways that health care systems and practitioners can shift approaches and expectations around engaging youth in PrEP programs over time
- Describe how marketing and communications approaches can and should be used to capture the attention of adolescents and youth around PrEP in ways that differ from how PrEP is promoted to adults

Conveners

Annette H. Sohn, *Therapeutics Research Education and AIDS Training in Asia, Bangkok, Thailand*

Connie L. Celum, *University of Washington, Seattle, WA, USA*



66 PrEP DURING PREGNANCY AND BREASTFEEDING

John Kinuthia, *University of Nairobi, Nairobi, Kenya*



68 IMPROVING ADOLESCENT PrEP USE: UNDERSTANDING DEVELOPMENTAL PROCESSES AND CONTEXT

Claude A. Mellins, *Columbia University, New York, NY, USA*



67 PrEP ADHERENCE INTERVENTIONS FOR ADOLESCENTS AND YOUNG ADULTS

Sybil Hosek, *Stroger Hospital, Chicago, IL, USA*



69 IMPROVING HOW WE MARKET PrEP TO YOUTH

Elzette Rousseau, *University of Cape Town, Cape Town, South Africa*



Symposium-11 FOCUS ON THE LIVER: NEW INSIGHTS INTO MANAGEMENT AND CONTROL OF LIVER DISEASE

CME

Target Audience: This session is directed at HIV clinicians and researchers who are interested in liver diseases.

Level of Knowledge: It is assumed that the participants are familiar with the fundamental principles of clinical medicine, virology, and biochemistry of the liver and liver diseases.

Objectives: At the completion of the session, participants should be able to:

- Compare the hepatitis C virus (HCV) elimination goals with the current state of affairs and identify the major impediments to reaching these goals
- Contrast mechanisms and treatment of fat accumulation in liver with other tissues in persons with and without HIV
- List the elements of innate control of hepatitis B virus (HBV) infection compare adaptive and innate responses; and identify the roles of interferons in controlling HBV
- Compare the cure for HBV with that for HIV
- List the mechanisms of action for newer HBV treatments

Conveners

David L. Thomas, *The Johns Hopkins School of Medicine, Baltimore, MD, USA*

Jürgen K. Rockstroh, *Medizinische Universitätsklinik, Bonn, NRW, Germany*



- 70 HEPATITIS C ELIMINATION: WHAT'S TAKING SO LONG?**
Annie Luetkemeyer, *University of California San Francisco, San Francisco, CA, USA*
- 71 MECHANISMS AND TREATMENTS OF STEATOSIS IN HIV**
Steven Grinspoon, *Harvard Medical School, Boston, MA, USA*
- 72 HARNESSING IMMUNITY TO CURE HBV**
Ulrike Protzer, *Technische Universität München, Munich, Germany*
- 73 NEW PROSPECTS FOR THE TREATMENT OF HBV**
Heiner Wedemeyer, *Hannover Medical School, Hannover, Germany*



Symposium-12

COVID-19 VACCINE: FROM EFFICACY TO EFFECTIVENESS



Target Audience: This session is directed at clinicians and public health professionals interested in COVID-19 vaccines.

Level of Knowledge: It is assumed that the participants are familiar with the current status of COVID-19 vaccines.

Objectives: At the completion of the session, participants should be able to:

- Describe how vaccine protocols are different during an epidemic or a pandemic
- Describe how COVID-19 vaccines will be rolled out globally
- List causes of vaccine hesitancy

Conveners

Susan P. Buchbinder, *San Francisco Department of Public Health, San Francisco, CA, USA*



Carlos del Rio, *Emory University, Atlanta, GA, USA*



- 74 LESSONS LEARNED AND CHALLENGES IN COVID-19 VACCINE TRIALS**
Kathleen Neuzil, *University of Maryland, Baltimore, MD, USA*



- 75 EQUITABLE ROLL-OUT OF COVID-19 VACCINES IN THE UNITED STATES**
Michelle A. Williams, *Harvard T.H. Chan School of Public Health, Boston, MA, USA*



- 76 VACCINE ACCEPTANCE**
Saad Omer, *Yale University, New Haven, CT, USA*



- 77 GLOBAL DISTRIBUTION OF THE SARS-CoV-2 VACCINE**
Nicole Lurie, *Coalition for Epidemic Preparedness Innovations, Washington, DC, USA*



SCIENCE SPOTLIGHTS™

Science Spotlights™-A1

VIROLOGY OF SARS-CoV-2

187 **HOST-PATHOGEN INTERACTIONS OF HIGHLY PATHOGENIC CORONAVIRUSES REVEAL DRUG TARGETS**

David E. Gordon, Mehdi Bouhaddou, Veronica V. Rezelj, Kris M. White, Matthew J. O'Meara, Gwendolyn M. Jang, Jeffrey Z. Guo, Joseph M. Hiatt, Kirsten Obernier, Pedro Beltrao, Marco Vignuzzi, Adolfo Garcia-Sastre, Kevan M. Shokat, Brian K. Shoichet, Nevan J. Krogan, for the QBI-Coronavirus Research Group

188 **SYSTEMATIC ANALYSIS OF SARS-CoV-2 INFECTION OF AN ACE2-NEGATIVE HUMAN AIRWAY CELL**

Maritza N. Puray-Chavez, Kyle M. LaPak, Travis P. Schrank, Jennifer L. Elliott, Dhaval P. Bhatt, Megan J. Agajanian, Ria Jasuja, Dana Q. Lawson, D. Neil Hayes, Sean P. Whelan, Amjad Horani, Steven L. Brody, Dennis J. Goldfarb, M. Ben Major, Sebla B. Kutluay

189 **SARS-CoV-2 SPIKE PROTEIN INDUCES MONOCYTE APOPTOSIS AND INTERLEUKIN-8 PRODUCTION**

Aswath Padmanabhan Chandrasekar, Mark Maynes, Sekar Natesampillai, F.N.U. Shweta, Andrew D. Badley, Nathan W. Cummins

190 **LUCIFERASE COMPLEMENTATION ASSAY FOR IDENTIFICATION OF SARS-CoV-2 3CLpro INHIBITORS**

Jonathan Rawson, Alice Duchon, Olga Nikolaitchik, Vinay K. Pathak, Wei-Shau Hu

191 **EXCESS OF SARS-CoV-2 SUBGENOMIC RNAs IN CELLS AND FLUIDS DURING ACUTE INFECTION**

Sushama Telwatte, Holly A. Martin, Joseph K. Wong, Chuanyi M. Lu, Sulgi A. Lee, Steven A. Yukl

Science Spotlights™-A2

VIROLOGY OF HIV

192 **IDENTIFICATION OF A NEW LENTIVIRUS RESTRICTION COUNTERACTED BY VPR**

Rodrigo Matus Nicodemos, David R. Ambrozak, Sam Darko, Amy Ransier, Daniel C. Douek, Richard A. Koup

193 **MULTIPLY INFECTED ACH2 CELLS ARE RESPONSIBLE FOR THE MAJORITY OF ACH2 HIV PRODUCTION**

Joseph P. Casazza, Avery N. Sukienik, Quang N. Nguyen, David R. Ambrozak, Jianfei Hu, Sam Darko, Amy Ransier, Farida Laboune, Stephen D. Schmidt, Daniel C. Douek, Richard A. Koup

194 **miRNA'S PLASMA PROFILE ANTICIPATES LOSS OF VIROLOGICAL CONTROL IN ELITE CONTROLLERS**

Jenifer Masip, Elena Yeregui, Reyes Jiemenez-Leon, María C. Gasca-Capote, Alberto Perez-Gomez, Verónica Alba, Anna Martí, Montserrat Vargas, Consuelo Viladés, Sergi Veloso, Joaquin Peraire, Francesc Vidal, Ezequiel Ruiz-Mateos, Anna Rull

195 **IDENTIFICATION OF A NOVEL ANTI-HIV miRNA IN INTERLEUKIN-27-DIFFERENTIATED MACROPHAGES**

Suranjana Goswami, Xiaojun Hu, Jun Yang, Sylvain Laverdure, Ju Qiu, Qian Chen, Brad T. Sherman, Weizhong Chang, Tomozumi Imamichi

196 **RAB11-FIP1-DEPENDENT AND INDEPENDENT HIV-1 ENVELOPE TRAFFICKING**

Boris Anokhin, Grigoriy Lerner, Lingmei Ding, Paul Spearman

197 IRON CHELATOR PPYeT INHIBITS HIV-1 REPLICATION IN HUMANIZED MICE

Namita Kumari, Miguel D. Rougvie, Songping Wang, Douglas Nixon, Fatah Kashanchi, Sergei Nekhai

198 QUANTITATIVE PHOSPHOPROTEOME ANALYSES OF PP1-TARGETING HIV-1 INHIBITOR 1E7-03

Xionghao Lin, Tatiana Ammosova, Songping Wang, Andrey I. Ivanov, Sergei Nekhai

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- 436 SIMULTANEOUS HIV QUANTIFICATION AND HIVDR DETECTION BY A SEMICONDUCTOR BIOCHIP SYSTEM**
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- 437 DRUG RESISTANCE MUTATIONS IN HIV PROVIRUS ARE ASSOCIATED WITH HYPERMUTATIONS**
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- 438 HIV-1 DNA GENOTYPING IS OFTEN VARIABLE IN REPEAT TESTING FROM SINGLE BLOOD DRAWS**
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- 439 REINFECTION WITH THE HEPATITIS C VIRUS IN MEN WHO HAVE SEX WITH MEN**
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- 441 HIV/HCV COINFECTION TRENDS IN SPAIN (2015-2019)**
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- 442 NO CHANGE IN INCIDENCE OF RECENTLY ACQUIRED HCV IN HIV+ MSM IN GERMANY (NOCO COHORT)**
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- 443 HEPATITIS C CASCADE OF CARE IN HIV/HCV-COINFECTED PERSONS IN EUROPE IN THE DAA ERA**
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- 444 ADEQUATE DACLATASVIR EXPOSURES IN CHILDREN 14-35 KG WITH AVAILABLE ADULT FORMULATIONS**
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- 445 FAILURE TO ACHIEVE HCV MICROELIMINATION AMONG PLWH IN SPAIN**
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- 447 DRUG-USE STIGMA AND HEPATITIS C VIRUS INFECTION AMONG PWID IN INDIA**
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- 448 ACCESS TO HCV CARE AMONG HIV/HCV-COINFECTED PEOPLE WHO INJECT DRUGS ACROSS CANADA**
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- 449 FREQUENT HBsAg CLEARANCE DURING TENOFOVIR THERAPY IN HIV/HBV COINFECTION**
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- 450 HBV REPLICATION DURING TENOFOVIR THERAPY IS FREQUENT IN HIV/HBV COINFECTION**
Eveline Hofmann, Bernard Surial, Matthias Cavassini, Huldrych F. Günthard, Manuel Battegay, Enos Bernasconi, Patrick Schmid, Alexandra L. Calmy, Franziska Suter-Riniker, Andri Rauch, Gilles Wandeler, Charles Béguelin, for the Swiss HIV Cohort Study
- 451 HEPATITIS B SEROPROTECTION AMONG YOUNG ADULTS LIVING WITH PERINATALLY ACQUIRED HIV**
Florence Bada, Patrick Ryscavage

452 HEPATITIS DELTA INFECTIONS AMONG PERSONS WITH HIV IN EUROPE

Charles Béguelin, Andrew Atkinson, Anders Boyd, Karolin Falconer, Nikolai Kirkby, Franziska Suter-Riniker, Huldrych F. Günthard, Jürgen K. Rockstroh, Amanda Mocroft, Andri Rauch, Lars Peters, Gilles Wandeler, for the EuroSIDA and SHCS Study

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453 RPV ACTIVATES STAT1 IN STELLATE CELLS TO REGULATE LIVER INJURY IN PLWHIV AND NAFLD

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454 RELATIONSHIP BETWEEN ALCOHOL USE AND SUSTAINED VIROLOGIC RESPONSE TO HCV DAA THERAPY

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455 APPLICATION OF THE NOVEL FIBROSCAN-AST SCORE IN AN HIV-MONOINFECTED COHORT

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456 ARE MODERN ANTIRETROVIRALS HEPATOTOXIC? SIGNALS IN PATIENTS STARTING ART IN NA-ACCORD

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457 IMPACT OF BINGE DRINKING ON MORTALITY AND LIVER DISEASE IN THE SWISS HIV COHORT STUDY

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458 HIV/HCV COINFECTION INDUCES PRO-INFLAMMATORY PLASMA GLYCOMIC SIGNATURES

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460 A SERIAL COMBINATION OF STEATOSIS NONINVASIVE MARKERS IN HIV-MONOINFECTED SUBJECTS

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461 SEX-SPECIFIC INDUCTION OF TRANSCRIPTIONAL RESPONSES TO HCV INFECTION

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464 RETROSPECTIVE STUDY OF HEPATITIS A IMMUNIZATION RATES IN PERSONS WITH HIV

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465 HAV REVACCINATION IN SERONEGATIVE OR SEROREVERTED PLWH AFTER PRIMARY VACCINATION

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466 LOW RATE OF VACCINATION AND RISK OF INCIDENT HEPATITIS A AMONG HIV-INFECTED MSM

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468 PREDICTION MODEL FOR END-STAGE LIVER DISEASE AMONG PEOPLE WITH HIV IN THE NA-ACCORD


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469 LIVER STIFFNESS-BASED STRATEGIES FOR VARICEAL BLEEDING PREDICTION AFTER HCV CURE

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- 471 RISK OF AND RISK FACTORS FOR COLORECTAL CANCER IN MALE VETERANS WITH CONTROLLED HIV**
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- 472 LACK OF TLRs ACTIVATION IN ANAL CELLS OF HIV+ MEN MAY CONTRIBUTE TO HPV PERSISTENCE**
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- 474 MULTIPLE HIGH-RISK AND NONVACCINE HPV TYPES IN HIV+ UGANDAN WOMEN ON LONG-TERM ART**
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- 479 GYNAECOLOGICAL AND BREAST CANCERS IN WOMEN LIVING WITH HIV IN SOUTH AFRICA**
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- 490 QUINOLINIC ACID IS ASSOCIATED WITH CAROTID INTIMA-MEDIA THICKNESS IN HIV**
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- 500 HIV-1, INSUFFICIENT SLEEP, AND ENDOTHELIAL VASODILATOR FUNCTION**
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- 501 HEROIN USE IS ASSOCIATED WITH HIGH-AORTIC BUT LOW-SPLEEN/MARROW UPTAKE BY PET IN HIV**
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- 509 WEIGHT GAIN AMONG PARTICIPANTS STARTING DOLUTEGRAVIR-BASED HIV REGIMEN IN KENYA**
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- 593 MARKERS OF RESILIENCE IN YOUNG ADULTS WITH PERINATAL HIV EXPOSURE OR INFECTION**
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- 594 DISCOVERY OF LARGE CLONES IN CHILDREN CARRYING PROVIRUSES CONSISTING OF A SINGLE LTR**
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- 595 TOTAL HIV DNA LEVELS CORRELATE WITH PLASMA IL-2 LEVELS IN THAI INFANTS BUT NOT ADULTS**
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- 596 FASTER INITIAL VIRAL DECAY IN FEMALE CHILDREN LIVING WITH HIV**
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- 597 INCREASED IMMUNE ACTIVATION AND EXHAUSTION IN VERTICALLY HIV-1-INFECTED YOUNG ADULTS**
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604 IMPAACT 2014 24-WEEK PK AND SAFETY OF DORAVIRINE/3TC/TDF IN ADOLESCENTS WITH HIV-1

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606 DOSE OPTIMISATION OF LONG-ACTING INJECTABLES IN NEONATES VIA PBPK MODELLING

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608 POPULATION PHARMACOKINETICS OF VRC01LS IN TERM INFANTS AND ADULTS

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609 SAFETY AND PHARMACOKINETICS OF VRC01LS AND 10-1074 AMONG CHILDREN IN BOTSWANA

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611 GROWTH DEFICITS ARE ASSOCIATED WITH AIRFLOW OBSTRUCTION IN PERINATALLY ACQUIRED HIV

Engi F. Attia, Wendy Yu, Denise Jacobson, Elizabeth Maleche-Obimbo, Paige L. Williams, Andrew Colin, Meyer Kattan, Sherry Eskander, Michael H. Chung, Kristina Crothers, for the Pediatric HIV/AIDS Cohort Study (PHACS)

612 SERUM BIOMARKERS IDENTIFY CARDIAC DYSFUNCTION IN YOUTH LIVING WITH HIV

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613 ASSOCIATIONS OF GUT MARKERS WITH BODY FAT IN YOUTH WITH PERINATALLY ACQUIRED HIV

Sahera Dirajlal-Fargo, Denise Jacobson, Wendy Yu, Ayesha Mirza, Mitchell E. Geffner, Jennifer Jao, Grace A. McComsey, for the Pediatric HIV/AIDS Cohort Study (PHACS)

614 GLOBAL TRENDS IN PEDIATRIC ON-TREATMENT MORTALITY ADJUSTED FOR LOSS TO CARE BIASES

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615 MORTALITY IN CHILDREN & YOUTH (<25 YEARS) WHO STARTED ART BUT ARE LOST TO CARE

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617 SAFETY AND EFFICACY OF REMDESIVIR IN A PEDIATRIC COVID-19 POPULATION

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619 DIAGNOSTIC ACCURACY OF SARS-CoV-2 ANTIGEN RAPID TEST COMPARED TO REAL TIME PCR IN PED

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624 HIGH AND PERSISTENT NEUTRALIZING ANTIBODIES IN CHILDREN RECOVERED FROM COVID-19

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- 627 SARS-CoV-2 SEROPREVALENCE AND IgG LEVELS ARE LOWER AMONG PEOPLE LIVING WITH HIV**
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- 628 A POPULATION-BASED ANALYSIS OF SARS-CoV-2 AMONG PATIENTS ON ART OR PrEP**
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- 633 A DESCRIPTION AND ANALYSIS OF COVID-19 IN A POPULATION-REPRESENTATIVE COHORT**
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- 637 RECENT SARS-CoV-2 SEROCONVERSION IN A NATIONAL PROSPECTIVE COHORT OF US ADULTS**
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655 HIV CARE OUTCOMES AMONG AMERICAN INDIAN/ALASKA NATIVES IN THE UNITED STATES, 2018

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- 656 STRUCTURAL FACTORS ASSOCIATED WITH HIV CARE FOR BLACK PEOPLE WITH DIAGNOSED HIV, 2017**
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Sonia Singh, Xueyuan Dong, William Adih, Nicole Crepez
- 761 RETENTION AND VIRAL LOAD SUPPRESSION AMONG ADULTS LIVING WITH HIV ON ART IN LESOTHO**
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- 762 IMPACT OF IMMEDIATE ART FOR PATIENTS WITH KNOWN HIV EXPERIENCING A GAP IN HIV CARE**
Catherine Pearson, Katerina Christopoulos, Pierre-Cedric Crouch, Noelle LeTourneau, Manami Diaz Tsuzuki, Patricia Defechereux, Jason Bena, Kelvin Moore, Coleton Schmitto, Elise S. Mara, Ling Hsu, Susan Scheer, Robert Grant, Janessa Broussard
- 763 DIFFERENCES IN SEXUAL BEHAVIORS BEFORE AND AFTER UNIVERSAL TEST AND TREAT IN UGANDA**
Brendah Nansereko, Fred Nalugoda, Alex Daama, Fred Makumbi, Edward N. Kankaka, Joseph Kagaayi, Gertrude F. Nakigozi, David Sserwadda, Nelson Sewankambo, Michelle Adler, Tom Lutalo, M. Kate Grabowski, Godfrey Kigozi
- 764 APPLYING MACHINE LEARNING TO ROUTINE HIV DATA: PREDICTING MISSED CLINIC VISITS**
Mhairi Maskew, Lucien De Voux, Kieran Sharpey-Schaefer, Thomas Crompton, Jacqui Miot, Sydney Rosen
- 765 VALIDATING A RETENTION-IN-CARE METRIC TO INFORM EFFORTS FOR PREVENTING HIV DEATH**
David B. Hanna, Rachael Lazar, Lindsay Zielinski, Perminder Khosa, Mindy S. Ginsberg, Denis Nash, Kathryn Anastos, Uriel R. Felsen, Sarah L. Braunstein

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DIFFERENTIATED SERVICE DELIVERY

- 766 ECONOMIC EVALUATION OF DIFFERENTIATED SERVICE DELIVERY OF HIV TREATMENT IN ZIMBABWE**
 Brooke Nichols, **Mariet Benade**, Salome Kuchukhidze, Kudakwashe Takarinda, Nicoletta Mabhena-Ngorima, Ashraf Grimwood, Sydney Rosen, Geoffrey Fatti

- 767 PATIENT COSTS IN A DIFFERENTIATED SERVICE DELIVERY INTERVENTION IN NORTHWEST TANZANIA**
Nwanneka Okere, Lucia Corball, Sabine Hermans, Denise Nanche, Tobias Rinke de Wit, Gabriela Gomez
- 768 CHANGES IN HIV DIFFERENTIATED CARE UTILIZATION DURING THE COVID-19 PANDEMIC IN ZAMBIA**
Youngji Jo, Sydney Rosen, Amy Huber, Muya Mwansa, Mpande Mwenechanya, Priscilla Lumano-Mulenga, Bevis Phiri, Hilda Shakwelele, Prudence Haimbe, Brooke Nichols
- 769 PREDICTORS OF CHOOSING COMMUNITY-BASED ANTIRETROVIRAL THERAPY PICK-UP IN SOUTH AFRICA**
Ingrid V. Bassett, Joyce Yan, Sabina Govere, Anele R. Khumalo, Nompumelelo Ngobese, Zinhle M. Shazi, Mpilonhle Nzuza, Bridget A. Bunda, Nafisa J. Wara, Ashley Stuckwisch, Danielle Zionts, Hilary Thulare, Laura M. Bogart, Robert A. Parker
- 770 C2C: DIFFERENTIATED CARE INCREASES HIV CARE AFTER PRISON RELEASE IN SOUTH AFRICA**
Christopher Hoffmann, Jill Owczarzak, Stefan Baral, Colleen Hanrahan, Tonderai Mabuto

Science Spotlights™-Y4

PREEXPOSURE PROPHYLAXIS

- 771 TRANSMISSION IMPACT OF PrEP UPTAKE IN URBAN CENTERS IN BRAZIL: A MODELING STUDY**
Paula M. Luz, Vijeta Deshpande, Pooyan Kazemian, Justine Scott, Fatma Shebl, Cristina Pimenta, Gerson Fernando M. Pereira, Claudio Struchiner, Beatriz Grinsztejn, Valdilea Veloso, Kenneth Freedberg, David Paltiel
- 772 MODELING PrEP IMPACT AND COST-EFFECTIVENESS BASED ON THE ImPrEP DEMONSTRATION PROJECT**
Annick Borquez, Kelika A. Konda, Oliver A. Elorreaga, Ximena Gutierrez, Juan V. Guanira, Sonia Flores, Gino M. Calvo, Carlos F. Caceres
- 773 HIV RISK-PREDICTION MODEL USING ELECTRONIC HEALTH RECORD DATA IN A SOUTHERN COHORT**
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Science Spotlights™-Y5

KEY POPULATIONS

- 774 INVESTMENT IN A KEY POPULATION HIV PROGRAM IN NIGERIA: A COST-EFFECTIVENESS ANALYSIS**
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- 775 PROJECTED IMPACT OF TARGETED PrEP AND VIRAL SUPPRESSION AMONG MSM IN 4 US CITIES**
Melissa Schnure, Parastu Kasaie, David Dowdy, Maunank Shah, Anthony T. Fojo
- 776 HIV CASCADE OF CARE AMONG MEN WHO HAVE SEX WITH MEN IN CANADA'S 3 LARGEST CITIES**
David Moore, Zishan Cui, Shayna Skakoon-Sparling, Jordan Sang, Justin Barath, Lu Wang, Nathan Lachowsky, Joseph Cox, Gilles Lambert, Syed W. Noor, Daniel Grace, Jody Jollimore, Alan Lal, Trevor Hart

SCIENCE SPOTLIGHT™ SESSIONS, BY CATEGORY

A. VIROLOGY OF HIV OR SARS-CoV-2

- A1 VIROLOGY OF SARS-CoV-2
- A2 VIROLOGY OF HIV

B. PATHOGENESIS OF HIV OR SARS-CoV-2: HUMAN STUDIES AND ANIMAL MODELS

- B1 ANIMAL MODELS FOR HIV INFECTION
- B2 HOST RESPONSE TO SARS-CoV-2
- B3 OUTCOMES OF SARS-CoV-2 INFECTION
- B4 HIV AND THE GUT MICROBIOME
- B5 NATURAL CONTROL OF HIV INFECTION
- B6 HOST EFFECTS ON HIV INFECTION
- B7 NON T-CELL EFFECTS OF HIV INFECTION
- B8 HIV AND T CELLS
- B9 HIV-CELL INTERACTION IN VIVO

C. HIV-ASSOCIATED TUMOR VIRUSES

- C1,K1 CANCER: ANAL CANCER AND HPV

D. HOST IMMUNE RESPONSES, VACCINES, AND IMMUNOTHERAPIES: HIV OR SARS-CoV-2

- D1 EVOLUTION OF ANTIBODY RESPONSES TO SARS-CoV-2 INFECTION
- D2 CELLULAR IMMUNE RESPONSES TO SARS-CoV-2
- D3 NOVEL VACCINE CONCEPTS
- D4 NEUTRALIZING ANTIBODIES DURING INFECTION
- D5 THE IMPORTANCE OF TISSUE RESIDENCY
- D6 CHECKING OUT CHECKPOINTS

E. HIV RESERVOIRS, LATENCY, AND CURATIVE STRATEGIES, INCLUDING THERAPEUTIC VACCINES AND GENE THERAPY

- E1 DYNAMICS OF THE HIV RESERVOIR
- E2 MECHANISMS OF HIV LATENCY
- E3 INTERVENTIONS TO TARGET THE VIRAL RESERVOIR AND DELAY VIRAL REBOUND
- E4 HIV RESERVOIRS IN CELLS AND TISSUES
- E5 CONTROLLERS AND POSTTREATMENT CONTROLLERS
- E6 ASSAYS TO MEASURE AND CHARACTERIZE HIV PERSISTENCE

F. NEUROPATHOGENESIS AND NEUROLOGIC COMPLICATIONS OF HIV, SARS-CoV-2, OR BOTH IN ADULTS

- F1 NEUROIMAGING AND ASSOCIATED BIOMARKERS
- F2 BIOMARKERS AND NEUROCOGNITIVE STATUS
- F3 COMORBIDITIES AND NEUROCOGNITIVE OUTCOMES
- F4 TREATMENT EFFECTS ON NEUROLOGIC OUTCOMES
- F5 CNS RESERVOIRS, ESCAPE, AND CONSEQUENCES
- F6 CNS AND PERIPHERAL NERVOUS SYSTEM: MODELS AND MARKERS OF PATHOGENESIS

G. CLINICAL PHARMACOLOGY IN ADULTS

- G1 ADVANCES IN ADHERENCE TESTING
- G2 EFFECTS OF DRUG DISPOSITION IN THE CSF, LYMPH NODES, LUNG, AND GENITAL TRACT
- G3 DRUG-DRUG INTERACTIONS: FROM PREDICTIONS TO MANAGEMENT
- G4 NEW APPROACHES TO OPTIMIZE DRUG DOSING: LONG ACTING AND BEYOND

H. ANTIVIRAL THERAPY: PRECLINICAL DATA, RANDOMIZED TRIALS, EFFICACY, AND EFFECTIVENESS STUDIES IN HIV OR SARS-CoV-2 IN ADULTS

- H1 NOVEL TREATMENTS FOR SARS-CoV-2: STARTING AT THE BENCH
- H2 SARS-CoV-2 TREATMENT: CLINICAL INTERVENTIONS
- H3 ANTIRETROVIRAL THERAPY IN THE DEVELOPING WORLD
- H4 LONG-ACTING THERAPY: THE TIME HAS COME
- H5 ANTIRETROVIRAL THERAPY: INSIGHTS FROM OBSERVATIONAL STUDIES
- H6 CLINICAL TRIALS OF ANTIRETROVIRAL THERAPY: TREATMENT NAIVE AND SWITCH

I. RESISTANCE OF HIV OR SARS-CoV-2 TO SMALL MOLECULES AND ANTIBODIES IN ADULTS

- I1 NEW DRUGS, OLD DRUGS, AND NEW RESISTANCE MECHANISMS
- I2 NEW DEVELOPMENTS IN TRANSMITTED AND ACQUIRED DRUG RESISTANCE
- I3 NEW RESISTANCE TECHNOLOGIES: ADVANTAGES AND LIMITATIONS

J. HEPATITIS VIRUSES AND LIVER COMPLICATIONS IN ADULTS

- J1 HCV: THERAPEUTICS AND PROGRESS TOWARD ELIMINATION
- J2 HEPATITIS B: NO LONGER PLAN B
- J3 MECHANISMS OF HEPATIC INJURY
- J4 HEPATITIS A
- J5 HEPATITIS AND LIVER TRANSPLANTATION

K. AIDS-RELATED MALIGNANCIES

- K1,C1 CANCER: ANAL CANCER AND HPV
- K2 CANCER: KAPOSI SARCOMA & KAPOSI SARCOMA-ASSOCIATED HERPESVIRUS, CERVICAL, LUNG, BREAST, LYMPHOMA, AND HEAD & NECK
- K3 CANCER: RISK, EPIDEMIOLOGY, AND CARE

L. CARDIOVASCULAR COMPLICATIONS OF HIV INFECTION AND ANTIRETROVIRAL THERAPY

- L1 BIOMARKERS OF INFLAMMATION, ART, AND ATHEROSCLEROSIS OR CARDIOVASCULAR DISEASE
- L2 GLOBAL STUDIES OF CARDIOVASCULAR DISEASE IN HIV
- L3 NOVEL INSIGHTS IN HIV AND CARDIOVASCULAR DISEASE

M. OTHER COMPLICATIONS OF HIV INFECTION AND ANTIRETROVIRAL THERAPY IN ADULTS

- M1 WEIGHT GAIN DURING ART
- M2 TYPE 2 DIABETES DURING ART
- M3 EPIDEMIOLOGY OF COMORBIDITIES
- M4 INFLAMMATION AND COMORBIDITIES DURING ART
- M5 FRAILTY AND FUNCTIONAL STATUS
- M6 RENAL AND BONE DISEASES

N. CLINICAL COMPLICATIONS OF COVID-19 DISEASE IN ADULTS

- N1 WHEN VIRUSES COLLIDE: HIV AND SARS-CoV-2
- N2 SARS-CoV-2: MORE THAN A RESPIRATORY VIRUS

O. TUBERCULOSIS AND OTHER OPPORTUNISTIC INFECTIONS, INCLUDING THE IMPACT OF HIV OR SARS-CoV-2 IN ADULTS

- O1 TUBERCULOSIS SCREENING AND DETECTION
- O2 TUBERCULOSIS PREVENTION AND TREATMENT
- O3 CRYPTOCOCCAL MENINGITIS DETECTION AND OUTCOMES

P. PEDIATRICS AND ADOLESCENTS

- P1 MATERNAL VIRAL LOAD AND ART ADHERENCE: INSIGHTS AND INTERVENTIONS
- P2 CHRONIC COMORBIDITIES IN PREGNANT WOMEN WITH HIV
- P3 UNDERSTANDING AND IMPROVING PREGNANCY OUTCOMES
- P4 EVOLVING INSIGHTS INTO PMTCT SERVICES

Q. HIV, SARS-CoV-2, OR BOTH IN INFANTS, CHILDREN, AND ADOLESCENTS

- Q1 HEALTH OUTCOMES OF HIV-EXPOSED UNINFECTED CHILDREN AND YOUTH
- Q2 CHARACTERIZING THE VIRAL RESERVOIR AND IMMUNE RESPONSE IN PEDIATRIC HIV INFECTION
- Q3 ARVs AND bNABs FOR CHILDREN AND ADOLESCENTS
- Q4 COMPLICATIONS AND MORTALITY IN CHILDREN AND YOUTH
- Q5 COVID-19 IN CHILDREN

R. EPIDEMIOLOGY OF HIV AND COVID-19 IN ADULTS

- R1 COVID-19 EPIDEMIOLOGY
- R2 HIV EPIDEMIOLOGY
- R3 GEOGRAPHIC AND PHYLOGENETIC TRANSMISSION DYNAMICS
- R4 DISPARITIES AND STRUCTURAL FACTORS AFFECTING HIV CARE OUTCOMES
- R5 STIGMA, MENTAL HEALTH, AND SUBSTANCE USE: IMPACT ON OUTCOMES
- R6 MODELING HIV OUTCOMES

T. HIV AND COVID-19 TESTING IN ADULTS: NEW DIAGNOSTICS, POPULATION STUDIES, AND SCALE-UP

- T1 RAPID HIV TESTING AND SELF TESTING
- T2 REGENCY ASSAYS AND INCIDENCE ESTIMATION
- T3 ROUTINE HIV TESTING
- T4 SARS-CoV-2 TESTING AND EFFECT OF COVID-19 ON HIV SCREENING

V. HIV PREVENTION AND COVID-19 INTERVENTIONS IN ADULTS

- V1 LESSONS AND CHALLENGES IN ORAL PrEP IMPLEMENTATION
- V2 PrEP ADHERENCE AND CONTROL OF STIs
- V3 NEW PrEP AGENTS AND FORMULATIONS
- V4 HIV PREVENTION: CIRCUMCISION AND IDUs

X. CONTRACEPTION, SEXUALLY TRANSMITTED INFECTIONS, AND REPRODUCTIVE HEALTH IN ADULTS

- X1 REPRODUCTIVE HEALTH AMONG ADOLESCENTS AT RISK OF HIV
- X2 EPIDEMIOLOGY OF SYPHILIS AND HIV COINFECTION: THE MORE THINGS CHANGE...
- X3 ISSUES IN HIV AND WOMEN'S REPRODUCTIVE HEALTH

Y. IMPLEMENTATION AND SCALE-UP OF PREVENTION AND TREATMENT FOR HIV AND IMPACT OF COVID-19 ON HIV-RELATED PROGRAMS

- Y1 EFFECT OF COVID-19 ON HIV SERVICES
- Y2 THE HIV CARE CASCADE
- Y3 DIFFERENTIATED SERVICE DELIVERY
- Y4 PREEXPOSURE PROPHYLAXIS
- Y5 KEY POPULATIONS

CROI FOUNDATION

The CROI Foundation is a 501(c)(3) not-for-profit professional organization that operates exclusively for the charitable and educational purpose of organizing, promoting, and presenting the annual Conference on Retroviruses and Opportunistic Infections.

Roles and Responsibilities of the CROI Foundation Volunteer Board of Directors

- Works closely with the CROI Program Committee (CROI PC) and the CROI Organizer to accomplish the mission of CROI
- Approves nominations for members of the CROI PC and for the CROI PC Chair and Vice Chairs
- Ensures that the CROI PC is responsible for the scientific program content of CROI
- Enters into and oversees the partner agreement with the CROI Organizer
- Has the sole and absolute discretion to veto any policies, procedures, or actions taken or proposed that would pose a substantial risk of preventing the Foundation at any time from qualifying or continuing to qualify as a 501(c)(3) organization or that might cause the loss of such qualification
- Oversees the long-term financial and administrative integrity of CROI

CROI Foundation Board Members

To view the current members, visit the [CROI Foundation](#) webpage.

IAS–USA

The International Antiviral (formerly AIDS) Society–USA (IAS–USA) serves as the Conference Organizer for the logistical planning and organization for CROI in partnership with the CROI Foundation and Program Committee. The mission of the IAS–USA is to improve the prevention, treatment, care, and quality of life for people with or at risk of HIV or other viral infections and their associated health conditions through high-quality, relevant, balanced, and needs-oriented education and information for practitioners and scientists who are actively involved in medical care and research.

To access primary educational and informational programs sponsored by the IAS–USA, please visit the [IAS–USA](#) website.

- Live CME courses and webinars
- On-demand webcasts of CME courses and webinars available for CME
- Live and on-demand COVID-19 dialogues
- *Topics in Antiviral Medicine*[™], including the annual CROI review
- Practice guidelines

CROI 2021 PROGRAM COMMITTEE

Scientific Program Committee

The Scientific Program Committee (PC) is a team of experts in their given fields who volunteer to organize the scientific program for CROI. Members are selected based on their area of scientific expertise and their commitment to the mission of the conference. Initial terms are up to 3 years; subsequent terms are based on previous participation and interest level. Members are nominated by the PC and approved by the CROI Foundation Board of Directors. The PC members are responsible for identifying topics and speakers that will ensure innovative programming; strategic planning; abstract review and program development; and organizing, conducting, or convening workshops, symposia, and special sessions.

To view the current members, visit the [Scientific Program Committee](#) webpage.

Community Liaison Subcommittee

The Community Liaison Subcommittee is a group of community educators and advocates who provide feedback to the PC about the content and structure of the scientific program in general and specifically related to scientific topics of interest to the HIV/AIDS-affected community.

To view the current members, visit the [CROI Community Liaison](#) webpage.

Former Members

The CROI Foundation wishes to thank former members who rotated off the Program Committee in 2021. To view past members, visit the [Former CROI Program Committee Members](#) webpage.

EXTERNAL REVIEWERS

We gratefully acknowledge the contributions of those who assisted the scientific program committee by reviewing abstract submissions for CROI 2021.

To view current external reviewers, visit the [CROI External Reviewers](#) webpage.

SCHOLARSHIP AWARDEES

CROI is committed to supporting new and early-career investigators working in HIV and SARS-CoV-2 research to help them further their education and to network with other researchers in the fields. New Investigator Scholarship awardees are presenting authors on accepted abstracts and have been highly recommended by their mentors.

In addition, CROI offers scholarships to international investigators and community educators working in resource-limited countries who would otherwise be unable to attend CROI. Through their applications and letters of recommendation, these awardees have shown that they will greatly benefit from the opportunity to participate in CROI.

For more information, visit the [CROI Scholarships](#) webpage.

To view CROI 2021 New Investigator, International Investigator, and Community Educator Scholarship recipients, visit the [Scholarship Recipient](#) webpage. Scholarship recipients are also noted on the Virtual Conference Platform.

AFFILIATED OR PROXIMATE ACTIVITIES

For information, visit the [Affiliated or Proximate Activities](#) webpage.

EMBARGO POLICIES AND SOCIAL MEDIA

All research presented at CROI 2021 is embargoed until the conclusion of the study's presentation at the conference. CROI Conference embargo policies are designed to ensure that the entire scientific community receives full and accurate information about research presented at the conference simultaneously. Embargo violations can lead to misinformation or incomplete information about research presented at the conference. CROI requests that all conference participants familiarize themselves with these embargo policies, which will be strictly enforced.

- For Oral Abstract presentations, if a study is presented from 2:15 PM to 2:30 PM, as part of a session that begins at 2:00 PM and ends at 3:00 PM, the embargo on that study lifts at 2:30 PM
- Embargoes on Science Spotlight™ presentations lift when the Science Spotlights™ become available to participants, on Saturday, March 6, 2021, at 12:01 AM Eastern Time
- If a study to be presented at CROI 2021 is included in an official CROI press conference that takes place before the scheduled presentation of the study, the embargo on that study lifts at the conclusion of the press conference panel in which the study is featured

No public dissemination of research information from the conference is permitted prior to the lifting of the conference embargo. CROI embargo policies apply to any public dissemination of research information presented at the conference, including electronic publications (eg, blogs) or social media (eg, Twitter, Instagram, Facebook). Individuals or organizations that violate the conference embargo policy may have their conference credentials revoked and may forfeit the opportunity to participate in future conferences.

For additional information regarding the CROI embargo policies, visit the [Embargo and Press Release Policies](#) webpage.

CONFERENCE ETIQUETTE

In consideration of the work of the presenters at CROI and the CROI copyright policy, participants may not take images of presentations (eg, Oral Abstract, Science Spotlights™, etc), record any parts of talks, or post data without the presenter's consent.

For information regarding additional CROI policies, visit the [Policies](#) webpage.

ABSTRACT PROCESS

Scientific Categories

Basic Science

- A.** Virology of HIV or SARS-CoV-2
- B.** Pathogenesis of HIV or SARS-CoV-2: Human Studies and Animal Models
- C.** HIV-Associated Tumor Viruses
- D.** Host Immune Responses, Vaccines, and Immunotherapies: HIV or SARS-CoV-2
- E.** HIV Reservoirs, Latency, and Curative Strategies, Including Therapeutic Vaccines and Gene Therapy
- F.** Neuropathogenesis and Neurologic Complications of HIV, SARS-CoV-2, or Both in Adults

Clinical

- G.** Clinical Pharmacology in Adults
- H.** Therapy: Preclinical Data, Randomized Trials, Efficacy, and Effectiveness Studies in HIV or SARS-CoV-2 in Adults
- I.** Resistance of HIV or SARS-CoV-2 to Small Molecules and Antibodies in Adults
- J.** Hepatitis Viruses and Liver Complications in Adults
- K.** AIDS-Related Malignancies
- L.** Cardiovascular Complications of HIV Infection and Antiretroviral Therapy
- M.** Other Complications of HIV Infection and Antiretroviral Therapy in Adults
- N.** Clinical Complications of COVID-19 Disease in Adults
- O.** Tuberculosis and Other Opportunistic Infections, Including the Impact of HIV or SARS-CoV-2 in Adults
- P.** Maternal and Fetal HIV or SARS-CoV-2: Transmission, Prevention, Treatment, Pregnancy, and Postpartum Maternal Health
- Q.** HIV, SARS-CoV-2, or Both in Infants, Children, and Adolescents

Epidemiology/Public Health

- R.** Epidemiology of HIV and COVID-19 in Adults
- T.** HIV and COVID-19 Testing in Adults: New Diagnostics, Population Studies, and Scale-Up
- V.** HIV Prevention and COVID-19 Interventions in Adults
- X.** Contraception, Sexually Transmitted Infections, and Reproductive Health in Adults
- Y.** Implementation and Scale-Up of Prevention and Treatment for HIV and Impact of COVID-19 on HIV-Related Programs

Abstracts that were submitted in categories designated with the letters S, U, and W were integrated into other categories.

The following colors are used throughout the CROI Program Information Guide to group Science Spotlight™ presentations in their assigned track:

- Basic Science Track = **Purple**
- Clinical Track = **Red**
- Epidemiology/Public Health Track = **Blue**

Abstract Content

Author names, institutions, titles, and abstracts in the CROI Program Information Guide, Abstract eBook, Virtual Platform, and other materials are presented largely as provided by the submitting author. The submitting author is responsible for ensuring that all coauthors have reviewed and approved the abstract before submission and for providing the complete and accurate contact information for all authors, including email addresses.

Presenter Responsibilities

Visit the [Invited Presenter](#), [Oral Abstract Presenter](#), and [Science Spotlight Presenter](#) webpages for information regarding presenter responsibilities.

Abstract Review Process

For information, visit the [Abstract Guidelines and Submission](#) webpage.

Statistics for Abstracts

General Abstracts Submitted	1050
General Abstracts Accepted	632
General Oral Abstracts Accepted	92
General Science Spotlight™ Abstracts Accepted	540
Late-Breaking Abstracts Submitted	103
Late-Breaking Abstracts Accepted	66
Late-Breaking Oral Abstracts Accepted	17
Late-Breaking Science Spotlight™ Abstracts Accepted	49
Total Abstracts Submitted	1153
Total Abstracts Accepted	698

Abstracts Related to SARS-CoV-2 or Special Study Populations

SARS-CoV-2	161
Adolescents	32
Men Who Have Sex With Men (MSM)	46
People Who Inject Drugs (PWID)	13
Transgender Men or Women	7
Women	82

Authors have noted specific populations as the focus of their study, if applicable. Indexes that list abstracts that relate to specific populations are on the CROI Virtual Platform and in the Abstract eBook on the CROI website. These indexes are developed for participants with an interest in these areas.

INDEX OF STUDIES RELATED TO WOMEN

The following index lists abstracts that the authors have noted women or women's issues as the focus of the study. This index was developed for attendees with an interest in these issues. We encourage you to refer to the Virtual Program for other presentations that may address this subject.

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- 91 **PK OF DOSE-ADJUSTED EMERGENCY CONTRACEPTION WITH EFV-BASED ART IN ACTG 5375**
- 93 **TENOFOVIR DIPHOSPHATE TO PREDICT FUTURE VIRAEMIA IN POSTPARTUM WOMEN LIVING WITH HIV**
- 98 **SEX MODIFIES THE ASSOCIATION BETWEEN INFLAMMATION AND VASCULAR EVENTS IN TREATED HIV**
- 109 **LOWER UPTAKE OF DOLUTEGRAVIR AMONG WOMEN OF REPRODUCTIVE POTENTIAL VS MEN—KENYA**
- 140 **SEX/GENDER DIFFERENCES IN TESTING, PRESENTATION, AND OUTCOMES OF SARS-CoV-2 INFECTION**
- 147 **PHASE 1 PK, SAFETY, AND ACCEPTABILITY STUDY OF 3-MONTH DAPIVIRINE VAGINAL RINGS**
- 149 **IMPACT OF COMMON SIDE EFFECTS ON PrEP PERSISTENCE DURING PREGNANCY IN SOUTH AFRICA**
- 152 **HSV-2 ACQUISITION IN A RANDOMIZED TRIAL OF CONTRACEPTIVE METHODS AMONG AFRICAN WOMEN**
- 158 **TYPE I INTERFERON-ASSOCIATED GENE EXPRESSION PREDICTS TIME TO VIRAL REBOUND ON TI**
- 168 **VAGINAL pH PREDICTS CERVICAL INTRAEPITHELIAL NEOPLASIA-2 REGRESSION IN HIV+ WOMEN**
- 171 **COVID-19 INFECTION IN HIGH-RISK SOUTH AFRICAN PREGNANCIES WITH AND WITHOUT HIV**
- 175 **DoIPHIN2 FINAL RESULTS DOLUTEGRAVIR VS EFAVIRENZ IN LATE PREGNANCY TO 72W POSTPARTUM**
- 176 **ANTEPARTUM WEIGHT GAIN AND ADVERSE PREGNANCY OUTCOMES IN IMPAACT 2010**
- 177 **SAFETY/EFFICACY OF DTG VS EFV, TDF VS TAF IN PREGNANCY/POSTPARTUM: IMPAACT 2010 TRIAL**
- 178 **ADVERSE PREGNANCY OUTCOMES AMONG HIV-INFECTED WOMEN EXPOSED TO ISONIAZID IN BRIEF-TB**
- 230 **RESTRICTION OF HIV-1 INFECTION IN SICKLE CELL TRAIT**
- 247 **T-CELL IMMUNE DYSREGULATION AND MORTALITY IN WOMEN WITH HIV**
- 248 **IMPACT OF REPRODUCTIVE AGING ON IMMUNE FUNCTION IN CISGENDER MEN AND WOMEN WITH HIV**
- 278 **CD8+ RESIDENT MEMORY T CELLS CONTROL THE HIV RESERVOIR IN THE CERVICAL MUCOSA**

- 288 **IMPACT OF REPRODUCTIVE AGING ON HIV PERSISTENCE IN CISGENDER MEN AND WOMEN WITH HIV**
- 289 **SEX DIFFERENTIAL EXPRESSION OF IL-7 AND MARKERS OF HOMEOSTATIC PROLIFERATION**
- 321 **SEX-SPECIFIC ASSOCIATIONS BETWEEN CSF MARKERS AND COGNITIVE FUNCTION IN PWH IN UGANDA**
- 322 **CIRCULATING INTERMEDIATE MONOCYTES: A COGNITIVE BIOMARKER IN HIV-INFECTED WOMEN**
- 350 **PHENOTYPIC CHANGE OF MONOCYTES INDUCED BY PLASMA EXOSOMES FROM HIV(+) WOMEN WITH HAND**
- 362 **DORAVIRINE CONCENTRATIONS AND HIV-1 RNA SUPPRESSION IN MALE AND FEMALE GENITAL FLUIDS**
- 368 **PHARMACOKINETICS OF 2 CONTRACEPTIVE IMPLANTS AMONG WOMEN ON RILPIVIRINE-BASED ART**
- 418 **MISSING DATA, MISSING DIVERSITY: PARTICIPANT DEMOGRAPHICS IN INDUSTRY STUDIES 2010-20**
- 473 **ANAL HPV CONCORDANCE AND PERSISTENCE: ROLE IN ANAL TUMORS IN WOMEN LIVING WITH HIV**
- 474 **MULTIPLE HIGH-RISK AND NONVACCINE HPV TYPES IN HIV+ UGANDAN WOMEN ON LONG-TERM ART**
- 476 **HPV GENOTYPE AND FAILURE AFTER TREATMENT OF CERVICAL PRECANCER**
- 477 **CERVICAL CANCER PREVENTION DURING COVID-19 PANDEMIC: THE CRS EpiC3-90 PROJECT, ZAMBIA**
- 479 **GYNAECOLOGICAL AND BREAST CANCERS IN WOMEN LIVING WITH HIV IN SOUTH AFRICA**
- 496 **FACTORS ASSOCIATED WITH SYSTEMIC IMMUNE ACTIVATION IN A GLOBAL HIV COHORT**
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