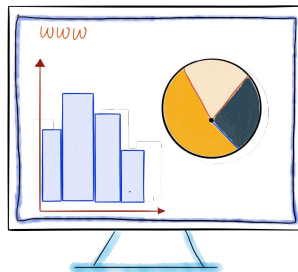




Pursuing Physics and opportunities in Venezuela

10 Years of Physics Without Frontiers



Arturo Sánchez Pineda, on behalf of a large team of professionals & students

Creative Commons Venezuela - INAIT.ai

Trieste - November 22nd, 2022

PWF@10 - <https://indico.ictp.it/event/10106/>

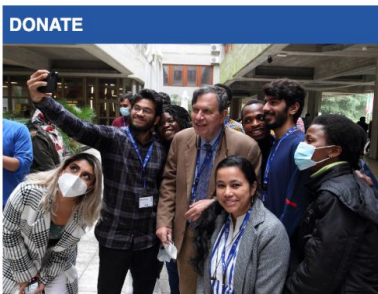
Escuela de Física 2022

BRAINGAIN-VENEZUELA

2019 Fellows

2020 Fellows

BrainGain-PWF Venezuelan Physics School 2022



Learn how to unify the world through science

Support ICTP

An Online event with support/funds for Students and Lecturers

BrainGain-PWF Venezuelan Physics School 2022

**Escuela de Física
PWF-ICTP
Venezuela 2022**

Para estudiantes universitarios
Envía tu solicitud de participación!

Sigue los links y únete a esta experiencia en línea
Cursos y prácticas de estado sólido, sistemas complejos,
física de altas energías y ciencia de datos

**del 28 de marzo
al 08 de abril**

<https://forms.gle/HTsYMtBejmaMZuE56>

<https://discord.gg/hujPMThK4y>

Logos: Universidad del Zulia, UCLA, Universidad de Zulia, Academia de Ciencias Físicas, Matemáticas y Naturales, ICTP, Universidad de Los Andes, Creative Commons, USB.

This year's goal of the BrainGain initiative is to fight back the flight of Physics students out of the Venezuelan classrooms as a way of keeping alive the heart of the universities.

To reach this goal, a two-week school intended for undergraduate and master Physics students at intermediate and advanced levels will be organized. The activities will include lectures, hands-on sessions, career & opportunities sessions, virtual poster sessions by students, and colloquia. These activities will also be open to graduate students and professors. The topics to be covered are Solid State Physics, High Energy Physics, Data Science and Complex Systems.

The school has the following objectives:

- > Support and promote academic activities for the Physics community in Venezuela.
- > Attract students and offer them the opportunity to learn modern topics in an interactive environment.
- > Provide students with research projects.
- > Enlarge the scientific network of the students with researchers working inside and outside of the country.
- > Set the ground for spin-offs such as talks, tutorials and long term courses. All meant to

strengthen the Physics programs in the country.

Escuela de Física 2022

Cronograma
Del 04-04 al 08-04

Escuela de Física
PWF-ICTP

Martes 05 -04

9:00 am - 10:30 am (Hora de Venezuela)	Enrique García, Gabriel Abellán
10:30 am - 12:30 pm (Hora de Venezuela)	Joany Manjarrés, Anabel Romero
12:30 pm - 5:00 pm (Hora de Venezuela)	Enrique García, Iskya García, Arturo Sánchez

Miércoles 06 -04

Datos	9:00 am - 10:30 am (Hora de Venezuela)	Gabriel Abellán, Arturo Sánchez
HEP	11:00 am - 12:30 pm (Hora de Venezuela)	Minerba Betancourt, Martín Vollmann, Hermann Albrecht

Jueves 07 -04

Conferencia #02	9:00 am - 10:00 am (Hora de Venezuela)	Sergio M. Rezende, José Fermín
Conferencia #03	10:30 am - 12:30 pm (Hora de Venezuela)	CERN, Reina Camacho
Conferencia #04	2:00 pm - 3:00 pm (Hora de Venezuela)	Rebeca Ribeiro, Ismar do Bonalde
Conferencia #05	3:00 pm - 4:00 pm (Hora de Venezuela)	Mayra Peralta, Nelson Bolívar

HEP	(Hora de Venezuela)	
Práctica: Datos	2:00 pm - 3:00 pm (Hora de Venezuela)	
Práctica: Learning Machine	3:00 pm - 5:00 pm (Hora de Venezuela)	

Bienvenida + Mecánica

Escuela de Física 2022 PWF-ICTP

Escuela de Física 2022 PWF-ICTP

https://www.youtube.com/watch?v=Hjs9vIDtpmA

Escuela de Física 2022

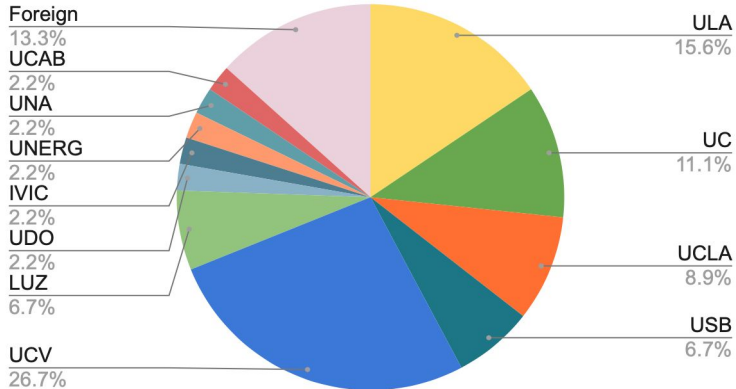


Escuela de Física
PWF-ICTP
Venezuela 2022

Para estudiantes universitarios
Envía tu solicitud de participación!

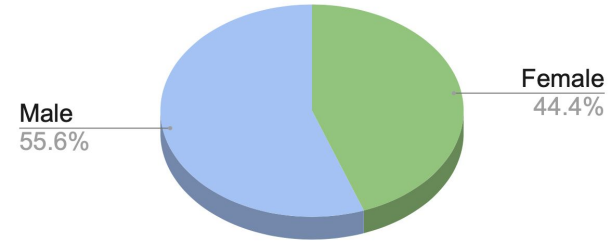
Sigue los links y únete a esta experiencia en línea
Cursos y prácticas de estado sólido, sistemas complejos,
física de altas energías y ciencia de datos

Institutions




¿Eres estudiante de Física o profesor de alguna universidad de América Latina?

Gender distribution



📅 From March 28 to April 8, 2022

JOIN US! fill out the form ->
<https://forms.gle/HTsYMtBejmaMZuE56>

We also have a Discord server where we will provide you with all the necessary information point_down
<https://discord.gg/hujPMThK4y>

36 w See Translation



artfísica @wikipedia_ve :)

36 w Reply



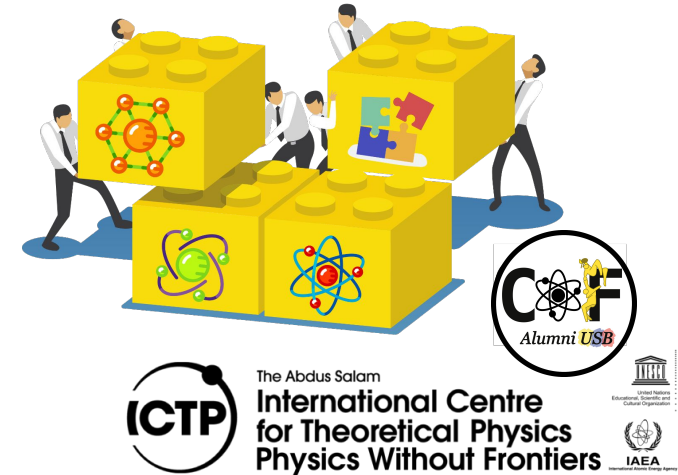
👤 Liked by azul.pipita and 14 others

MARCH 13

Physics REBoot Venezuela

Research and Education Bootcamps

- In partnership with COF Alumni USB initiative
- 3 events between 2021 and 2022.
- 1 event delayed to 2023 due to calendar compatibility.
- Involving local and international experts.
- Additional remarkable international contributors in academia and industry:



Organizers

COF Alumni USB



Anabel
Romero



María Teresa
Barrera



Karly
Sandoval



Julián
Rey



Antonio
Figueroa



Kevin Ng



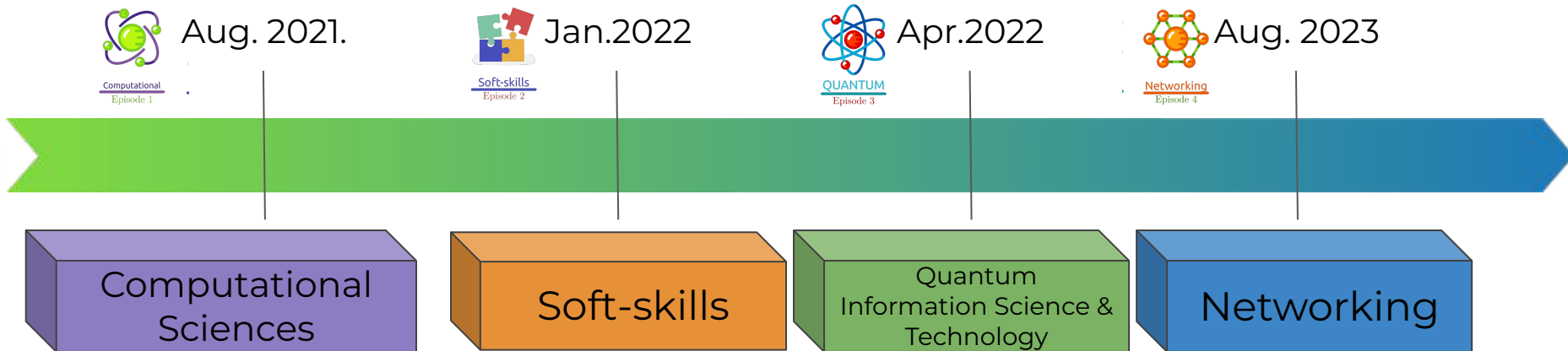
Mauricio
Gómez Viloría



Manuel
Morgado

Additional help from local participants:
Jaisar Camarota, Elkin Montoya, Ade Lugo.

Physics REBoot Venezuela



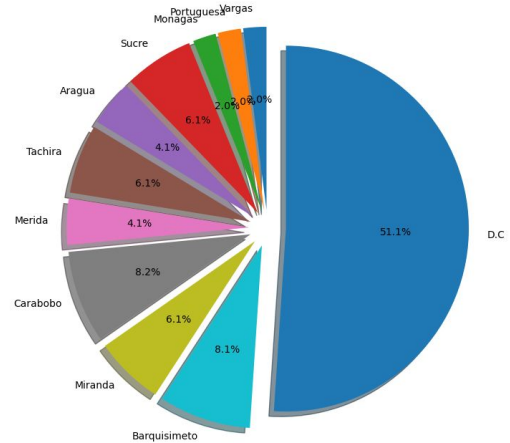
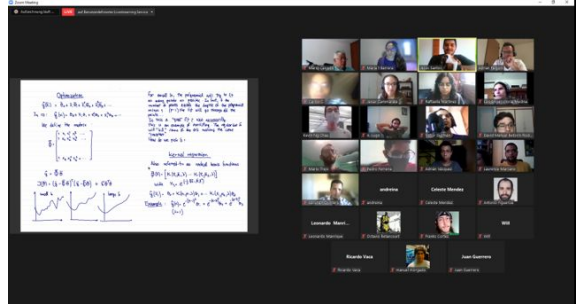
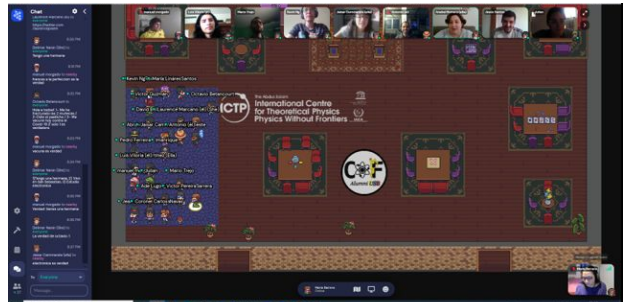
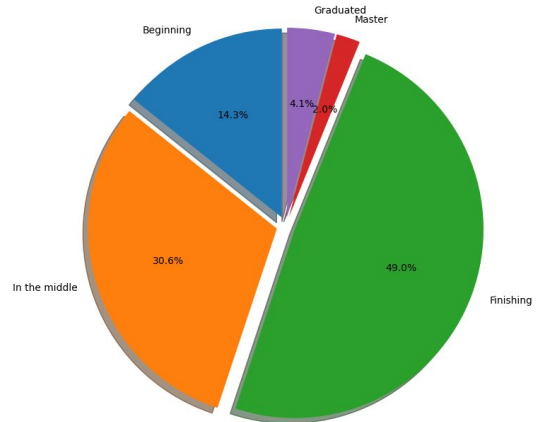
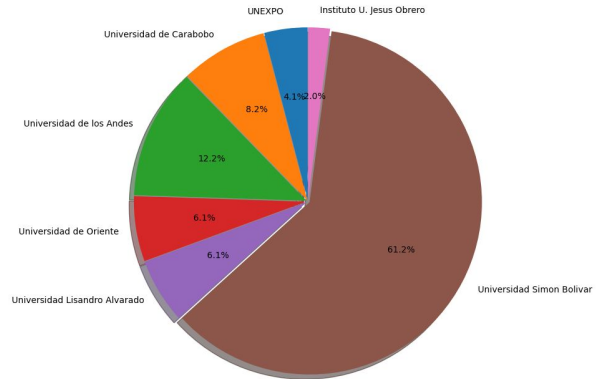
Physics REBoot is a set of four “*bootcamps*” or intensive **2-weeks workshops** with **theoretical and practical sessions** given by a combination of Venezuelan and international professors and professionals. Along this **one-year project**, we partner with leading **academic institutions and companies**.

Each event was **synchronized with the academic calendar of the Venezuelan institutions** to optimize the participation of students and target audience.

Physics REBoot Venezuela

Computational Sciences

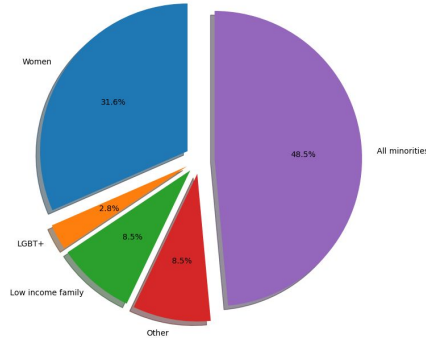
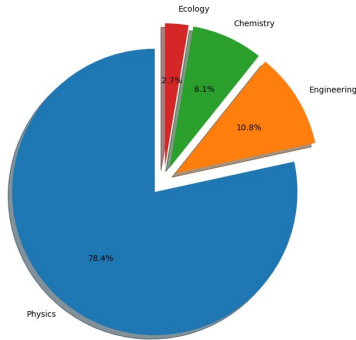
Lectures and applied problems to the industry, with a broad use of computational language, covering topics like: statistics, Monte-Carlo method, Markov chains etc.



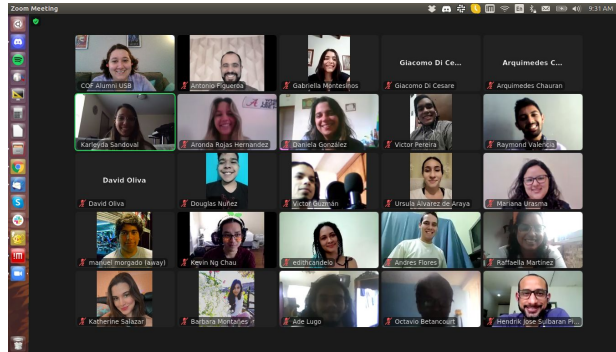
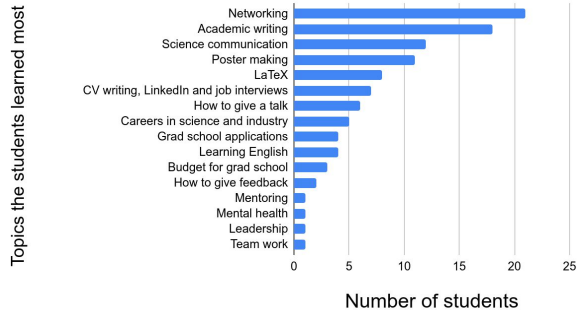
Physics REBoot Venezuela



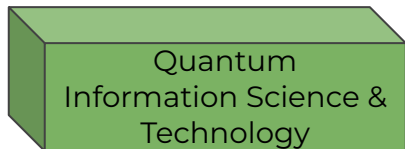
Workshop on the topics: mental health, scientific writing, leadership and teamwork, mentorship, networking and more. With 38 registered and 35 participants.



Topics the students learned most vs. Number of students

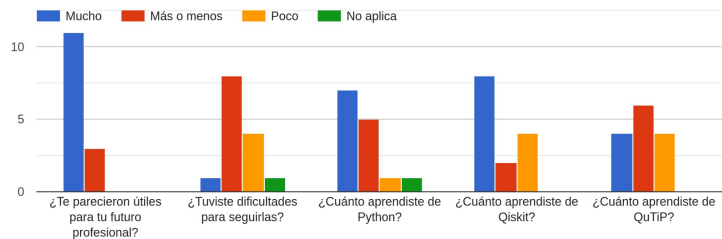


Physics REBoot Venezuela

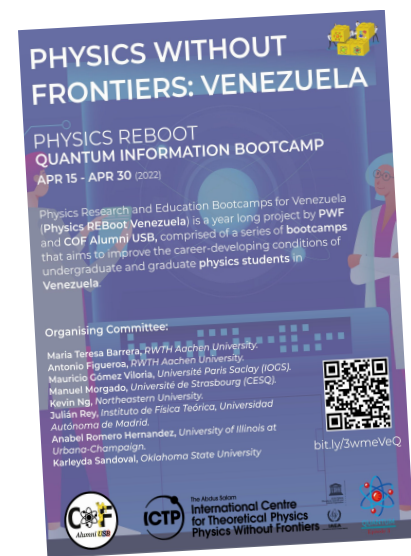
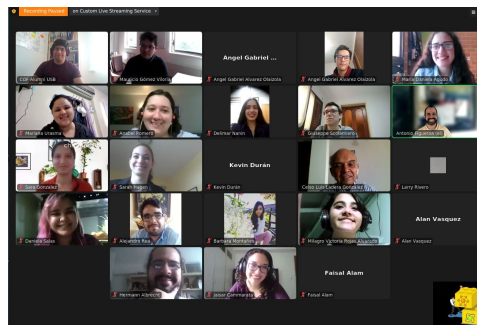
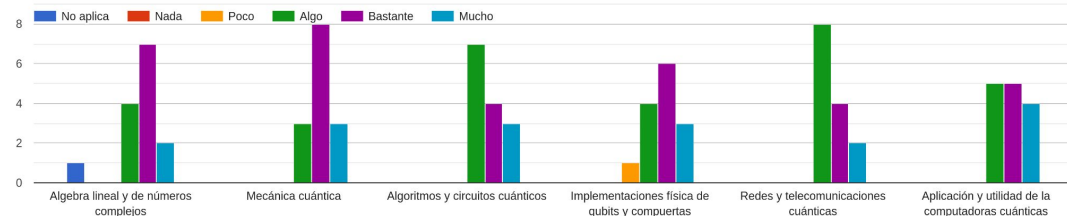


Workshop dedicated to the development and networking of young researcher in quantum science and technologies, supervised by experts in the academia and industry.

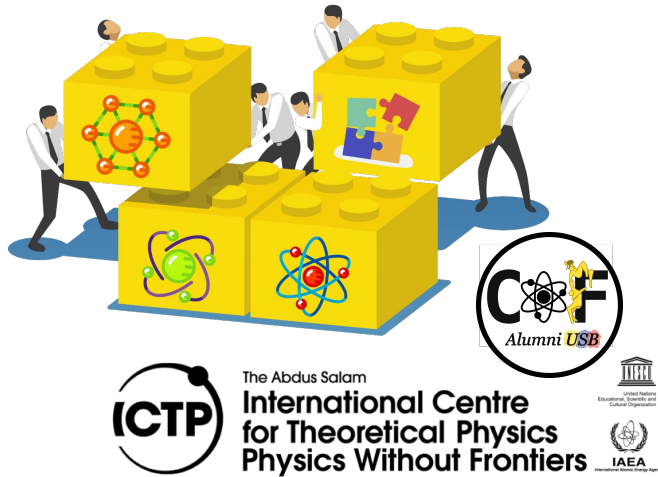
Sobre las presentaciones de software:



Califica que tanto aprendiste sobre los siguientes temas



Research and Education Bootcamps



"I have loved the COF Alumni initiative since the first time I heard of them. Many times we can feel lost in terms of the opportunities that we have and we lose simply because we don't know them. Seeing people that have gone through the "same" things that we have in this career helps us have a wider view of the various outputs or applications of studying physics, and I even dare to say that one of the most important things you do is motivating the participants of the activities. Many times the students don't feel truly supported by people around them because they don't speak the same language or don't understand life or point of view of things in the academic/scientific world. However, relating to people that speak the same language and point out problems that have to be solved and even give you advice, can help many people feel identified and face those "bad" or "unmotivating" situations to grow professionally and develop mental strength as well." - Anonymous

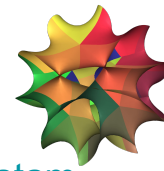
"Each BootCamp is worth it, regardless of how intense they are. The experience at the end is very comforting and it is of great professional and personal help." - Anonymous

"Physics Reboot bootcamps by COF Alumni are not easy to complete, but the experience is worth it." - V.Guzman

"These types of events bring back hope to many venezuelan students and professionals that believe that it's impossible to participate in this type of events from Venezuela. Also, this event helps us prepare for the future, whether in academia or industry." - Anonymous

"As a venezuelan student, attending this type of activities makes a big difference. I got various of my fellow students to enroll in this bootcamp and it's incredible to see how happy and motivated we feel now. Thank you so much to COF Alumni and ICTP!" - M.D. Agudo

Advanced Lecture on Theoretical Physics



<https://pwf-ve.danielgalviz.com/>



@PhysicsLatam



@PhysicsLatam

- Project by Daniel Galviz with ICTP-PWF and ULA
- Series of Lectures on Theoretical Physics **For Latin American students**
- Mentor top students to pursue studies abroad



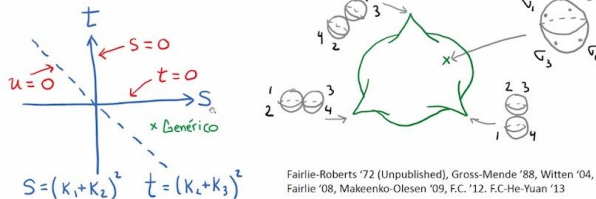
The Abdus Salam
International Centre
for Theoretical Physics
Physics Without Frontiers



UNIVERSIDAD
DE LOS ANDES
VENEZUELA

Ecuaciones de Dispersión

Los matemáticos han definido un espacio que se parece bastante. Es el espacio de todas las posibles superficies de Riemann con cuatro punturas (puntos especiales). Lo malo es que es un espacio de dimensión 1 y no dos como lo es el espacio de invariantes cinemáticos.



Fairlie-Roberts '72 (Unpublished), Gross-Mende '88, Witten '04, Fairlie '08, Makeenko-Olesen '09, F.C. '12, F.C.-He-Yuan '13

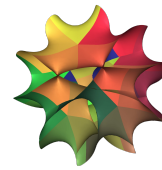
PWF-QFT

2022

	David Cardona
	Goosline Peres
	Leticia Sanchez
	Leticia Sanchez
	Hector Verdaz
	Salvin Davila
	Edison Fernando Garcia Velez
	Edison Fernando Garcia Velez
	Kevin Cortes
	Kevin Cortes

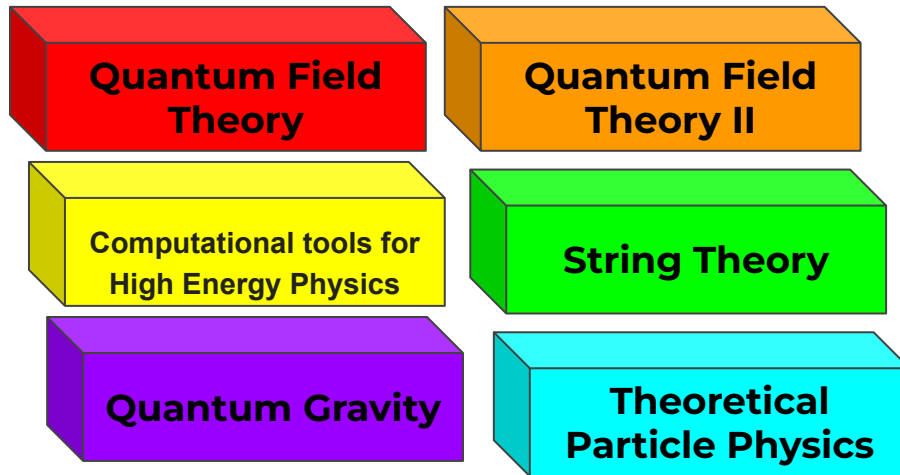


Advanced Lecture on Theoretical Physics



<https://pwf-ve.danielgalviz.com/>

More lectures and schools to come!



The Abdus Salam

International Centre
for Theoretical Physics
Physics Without Frontiers



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V E N E Z U E L A



[@PhysicsLatam](https://twitter.com/PhysicsLatam)



[@PhysicsLatam](https://www.facebook.com/PhysicsLatam)

And more... See Reina's talk



BrainGain ICTP-PWF Venezuela

Reports on 2019

Overview of the BrainGain ICTP-PWF Venezuela

<https://www.ictp.it/physics-without-frontiers/braingain-venezuela.aspx>



The Abdus Salam
International Centre
for Theoretical Physics
Physics Without Frontiers







BrainGain

2019-2020

Programa de **becas profesionales** para
Venezuela del proyecto Física Sin Fronteras del **ICTP**
una Institución de la UNESCO

¿Eres Profesor/a Universitari@?

en la carrera de **Física** de la ULA, UCV o USB

Lee las condiciones y **Aplica!**

Apoyo para quienes apoyan la Educación en el País



último día!
09 junio 2019

© 2019 by <http://braingain.ictp.it>

BrainGain Fellowship

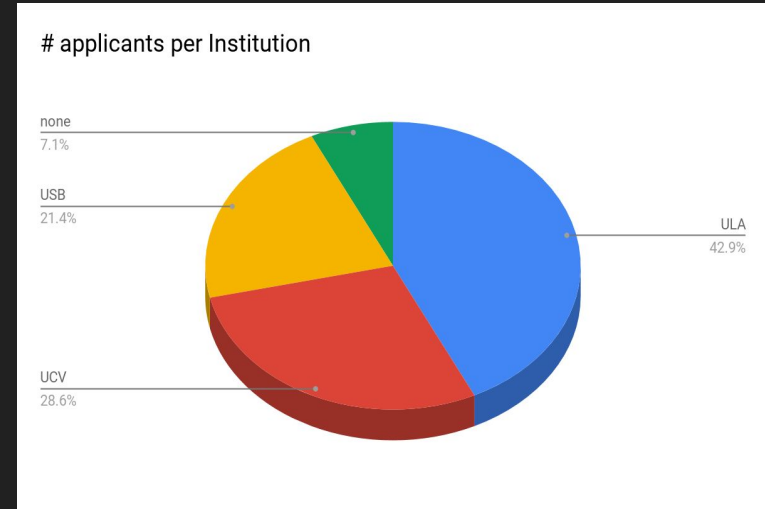
Fellows must be teaching around 8 to 10 hours per week during the academic year, starting in September 2019 at their universities. The courses must address the most pressing needs of the corresponding physics department. In exchange, each fellow will receive a total of 2000 Euros. This support should to allow the fellow to focus on their research projects and on providing high-quality education to the students enrolled in the courses.

In addition, 2 of the fellowships will also be awarded a travel budget for scientific visits to neighbouring countries. The award will be 1000 Euros each, and will be assigned based on the research plan submitted by the candidate and on how such plan suits the chosen host institution. The visits should ideally have a duration of 4 to 8 weeks. Priority will be given to candidates who can secure partial funding from the host institution or any other source.

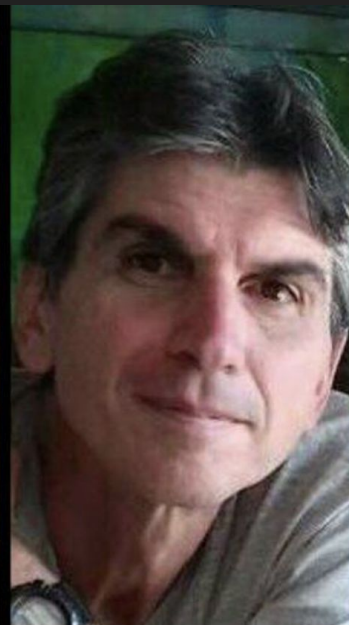
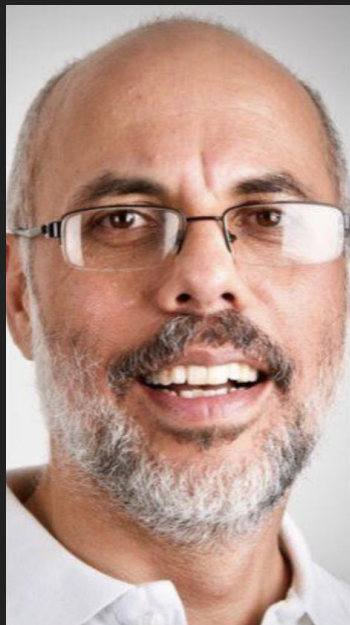
Eligibility: This call is open to current or retired physicist faculty members from Universidad Central de Venezuela (UCV), Universidad Simón Bolívar (USB) or Universidad de Los Andes (ULA).

Overview of applications received so far

1. 27 applications so far (@21hr GMT+2)
 - a. The call closes today, so, few hours to go in Venezuela.
2. Age range [29-86] years old.
3. 5 Women / 23 Men.
4. A quick view of the applications shows that at least 3 applications don't fulfill the first request that it is been a professor of (a) course in the Physics career curriculum.
5. The two applicants with "none" university are former professors in the UCV and USB until last year.
 - a. Currently, both are living outside Venezuela.
6. **A more detailed review of the applications will be posted here during the weekend 8-10th June.**



University	# applicants	Females
ULA	12	1
UCV	8	2
USB	6	1
none	2	1



PHYSICS WITHOUT FRONTIERS
BRAINGAIN-VENEZUELA

SUPPORTING PHYSICS TEACHING
AND RESEARCH IN VENEZUELA

WWW.ICTP.IT/PHYSICS-WITHOUT-FRONTIERS/BRAINGAIN-VENEZUELA



BrainGain ICTP-PWF Venezuela

Reports on applications 2020

<https://www.ictp.it/physics-without-frontiers/current-country-projects/venezuela-braingain/2020-fellows.a.spx>

BRAINGAIN-VENEZUELA

2019 Fellows

2020 Fellows

DONATE

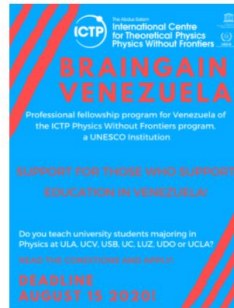


Learn how to unify the world through science

[Support ICTP](#)

BrainGain-Venezuela

Supporting physics teaching and research in Venezuela



The PWF's programme BrainGain aims to support professors and teaching assistants working in Venezuelan Universities with bachelor programmes in physics. The goal of the initiative is to fight brain drain by fostering the development of the higher-level physics education and research carried out in the country.

Building on the success of the first edition, in the academic year 2020-2021 the Brain Gain-Venezuela initiative has expanded to include even more universities (ULA, UCV, USB, UC, LUZ, UDO, UCLA) and will support up to 4 graduate teaching assistants along with up to 8 senior staff.

BrainGain Fellowship: For the whole duration of the academic year, selected professors will teach 8 to 10 hours per week in their respective institutes, while teaching assistants will teach 4 to 5 hours per week. The programme's support allows the fellows to focus on their research projects and on providing high-quality education to the students enrolled in the courses. The courses should address the most pressing needs of the corresponding physics department and include teaching materials (videos, lecture notes, etc) that can be used elsewhere at a later stage.

The selection procedure is now over. (the application procedure was closed on 15 August 2020). **You can meet the 2020 Fellows [here](#).**

Application evaluation: Applications have been evaluated and ranked by a committee comprising 5 scholars (national and external members) according to the following criteria:

- Pedagogical quality & adequacy of the project
- Scientific and pedagogical merit of the candidate
- Impact their course could have in Venezuela and beyond, taking into consideration innovative teaching methods and course resources that might be made available to a wider public (e.g. recording of the lectures and dissemination of course materials)

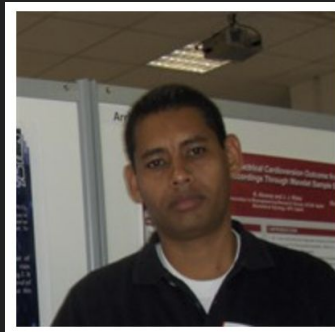
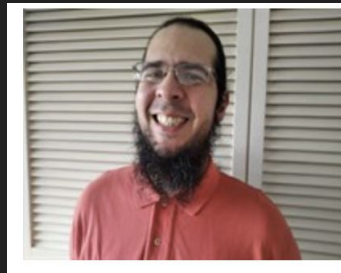
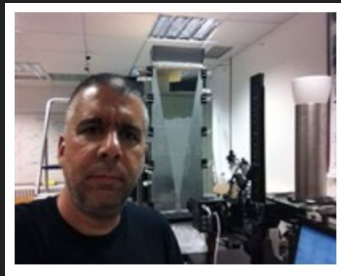
You can download the poster in [Spanish](#) or [English](#).

Enquiries should be sent to braingainvenezuela@ictp.it.

The BrainGain **team members** are: Jose Antonio Lopez (UCV), Jorge Stephany (USB), Humberto Rojas (UCV), Kai Tucci (ULA), Misael Rosales (ULA), Gloria Buendia (USB), Alberto Patino (ULA), Ernesto Fuenmayor (UCV), Alejandra Mello (ULA), Manuel Vielma (UniGe, Switzerland), Luis Núñez (UIS, Colombia), José Ocariz (Université Paris Diderot, France), with the kind support of the Venezuelan Academy of Science.

Project coordinators: Arturo Sánchez (ICTP/INFN), Reina Camacho Toro (CNRS-LPNHE, France), Anamaria Font (UCV).

BrainGain ICTP-PWF Venezuela



<https://www.ictp.it/physics-without-frontiers/current-country-projects/venezuela-braingain/2020-fellows.aspx>

We had a couple of workshop where, for the first time, Latin American students will present themselves and their view of the thesis programs.

Connected from Colombia, Peru and Venezuela. While the PWF coordinators are in Switzerland, the UK and Italy.



DONATE

Research

Scientific Calendar

Programmes

Europe/Rome Administration

All of them are using
Open Educational
Resources

Search PWF South America Master Thesis Project

Search in Conferences:

Overview

Programme

Speakers

Practical info

🕒 Starts 22 Oct 2020 13:00
Ends 22 Oct 2020 14:10
Central European Time

📍 ICTP

After many years of successful PWF programmes across South America, six excellent physics students have been identified to work with supervisor Arturo Sanchez (ICTP, PWF Latin America group, CEVALE2VE) on a MSc equivalent thesis in High Energy Physics (HEP) using ATLAS Open Data. The created PWF resources will be created in Spanish and made available online for public use.

Thursday, 22 October 2020

13:00 - 13:10	PWF: Welcome and introduction to ICTP and PWF Conveners: Bobby Samir Acharya (Ictp), Kate Shaw (Ictp)
13:10 - 13:20	PWF: PWF South America Master Thesis Project Convener: Pineda Arturo Rodolfo Sanchez (Ictp)
13:20 - 13:25	PWF: Presentation by Angie Milena Sanchez
13:25 - 13:30	PWF: Presentation by Erick Reategui Rojas
13:30 - 13:35	PWF: Presentation by Mildred Arias
13:35 - 13:40	PWF: Presentation by Oscar Altuve
13:40 - 13:45	PWF: Presentation by Alejandra Angarita
13:45 - 13:50	PWF: Presentation by Ruben Mancilla

ICTP - Strada Costiera, 11
I - 34151 Trieste Italy
☎ (+39) 040 2240 111
✉ pio@ictp.it

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phonebook
sitemap
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applicants' terms and
conditions
data privacy and web terms
of use

ICTP is governed by UNESCO, IAEA, and Italy, and is a UNESCO
Category 1 Institute



<http://indico.ictp.it/event/9450>

2021...

Update 2021 → Students presenting this thesis projects

ATLAS Open Data 13 TeV Documentation

Example of physics analysis: the case of SM Higgs boson production in the $H \rightarrow ZZ$ decay channel in the four-lepton final state

The search for the SM Higgs boson through the decay $H \rightarrow ZZ \rightarrow 4l$, where $l = e$ or μ , represents the so called "golden channel" and leads to a narrow four-lepton invariant-mass peak on top of a relatively smooth and small background, largely due to the excellent momentum resolution of the ATLAS detector. The Higgs-boson decay branching ratio to the four-lepton final state for the Higgs boson mass of 125 GeV is predicted to be 0.0124% in the SM, and the expected cross section times branching ratio for the process $H \rightarrow ZZ \rightarrow 4l$ is 2.9 fb at 13 TeV. Hence, based on an integrated luminosity of the current ATLAS Open Data set of 10/fb, one expects a total of 29 events to have been produced in the four-lepton final state (before reconstruction and event selection).

In order to identify these events, one needs to apply the standard object-selection criteria (defined in "Reconstructed physics objects") with a loose lepton p_T requirement and loose lepton calorimeter- and track-based isolation requirements, and an event-selection criteria defined as:

- Single-electron or single-muon trigger satisfied;
- Exactly four leptons (electrons or muons) with $p_T > 25, 15, 10, 7$ GeV, respectively;
- Higgs-boson candidates are formed by selecting two SFOS lepton pairs;

DONATE

ation

Thursday, 22 October 2020

10 - 13:10 PWF: Welcome and introduction to ICTP and PWF
 Conveners: Bobby Samir Acharya (Ictp), Kate Shaw (Ictp)

10 - 13:20 PWF: PWF South America Master Thesis Project

SORT

Seminario # 1: Tesis pre-grado: Mildred & Oscar (ULA - VE)
 Arturo Sanchez · 1 / 2

Seminario # 2: Tesis pre-grado: Mildred & Oscar (ULA - VE)
 Arturo Sanchez

thesis-Venezuela-2021

2 videos · 11 views · Updated 2 days ago

Public

Seminarios relativos a tesis de pre-grado en Venezuela durante el 2020-2022

Seminario # 1: Tesis pre-grado: Mildred & Oscar (ULA - VE)

62 views · Aug 21, 2021

2 0 SHARE DOWNLOAD SAVE ...

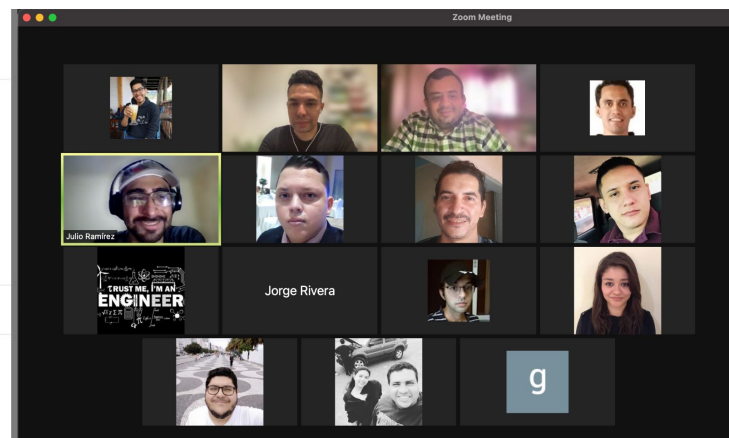
ATLAS Open Data. The Created PWF resources will be created in Spanish and online for public use.

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PWF program "Advanced Topics in Computing"

Course and low-cost computational infrastructure in Central America and the Caribbean

At the Universidad Nacional Autónoma de Honduras, particularly in remote areas of the country: San Pedro Sula and Tegucigalpa.

- We started with 27 students
- 13 receiving credits from the master program
- 14 are teacher assistants and other professionals
- We finished with 15 students
- 13 of them will receive credits from the university
- The success rate of 56% for an online course
- 100% among those with credits.

