

PHYSICS WITHOUT FRONTIERS: ECUADOR

SCHOOL OF PROGRAMMING FOR SCIENTIFIC RESEARCH : EPIC 4
A DEEP DIVE INTO DATA ANALYSIS AND MACHINE LEARNING FOR PHYSICAL AND LIFE SCIENCES

22-26 July 2024

Universidad Internacional del Ecuador (UIDE)

Register: tinyurl.com/PWFEPIC4

Deadline: 16 June 2024

indico.ictp.it/event/10729/



ORGANISING COMMITTEE

Hernán Andrés Morales-Navarrete, Universität Konstanz, Germany

Wladimir Banda-Barragán, Yachay Tech University, Ecuador

Paulina Vizcaíno, Universidad Internacional del Ecuador, Ecuador

Helga Dénes, Yachay Tech University, Ecuador



The Abdus Salam
International Centre
for Theoretical Physics
Physics Without Frontiers



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UNIVERSIDAD
YACHAY
TECH



• Why EPIC?

- High importance of computational analysis to understand complex problem in physical and life sciences
- Lack of structured scientific programs on computational physics and data analysis for students and young researchers in Ecuador
- Establish an **annual series** of Schools of Programming for Scientific Research (EPIC)
- Opportunity to learn state-of-the-art computational methods
- Provide students in Ecuador spaces to interact with experts in their fields and work

• School of Programming for Scientific Research Series

• (EPIC)

EPIC 1:

- October 2021
 - On-line
 - 20 students and young professionals

EPIC 2:

- October 2022
 - On-line
 - 43 students and young professionals
 - Support ICTP Physics Without Frontiers (PWF)

EPIC 3:

- August 2023
 - First In-Person
 - 30 students and young professionals
 - Sponsored by ICTP Physics

EPIC 4:

- June 2024
 - In-Person
 - 33 bachelor students from Physics, Biology and Computer Science
 - From Ecuador, Colombia, Peru and Panama
 - Sponsored by ICTP Physics Without Frontiers (PWF)
 - Supported by UNESCO, Quito
 - External sponsor: bSmart

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- > 100 applications from Universities in Ecuador, Peru, Colombia and Panama
- 33 students selected
- 11 female and 22 male students
- Physics, Computer Science and Biology students
- Batchelor : last semesters or thesis

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Thanks to PWF we got a connection and support from UNESCO Ecuador, Verónica Minaya

We also got support from a private company:



Accommodation for the students was provided by:



Oficina de la UNESCO en Ecuador

10,531 followers

3mo • 🌐

#EPIC4 We are pleased to share the success of the School of Programming for Scientific Research -#EPIC4, held from July 22 to 26, 2024, at the UIDE campus in Quito, Ecuador.

🎓 Topic: "Harnessing Data for Scientific Discovery: A Deep Dive into Data Analytics and Machine Learning for the Physical and Life Sciences"

👥 Participants:

- 33 students from Ecuador, Peru, Colombia and Panama.

- 22 men and 11 women

- Fields: Physics, Biology, Biotechnology, Computer Science.

🌍 28 Ecuadorians from 6 universities:

- Ages: 22 to 28 years old

- Provinces: Pichincha (11), Esmeraldas (3), Azuay (3), Manabí (2), Chimborazo (2), El Oro (2), Guayas (1), Tungurahua (1), Imbabura (1), Loja (1), Santo Domingo de los Tsáchilas (1)

We delve into cutting-edge data analytics and machine learning techniques, fostering collaboration and innovation. Thank you to all the participants, organizers and sponsors who made #EPIC4 a great success. Together, we are driving the future of scientific discovery!

#MachineLearning #ScientificDiscovery #Quito

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Lectures and talks

More than 10 volunteers from Ecuador and Germany

Hands-on tutorials

4 tutorials in Particle Physics, Astrophysics and Machine Learning

Students' presentations

Groups of students showing the results of their projects



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THE DOROTHY CODING CHALLENGE



The Abdus Salam International Centre for Theoretical Physics
Physics Without Frontiers

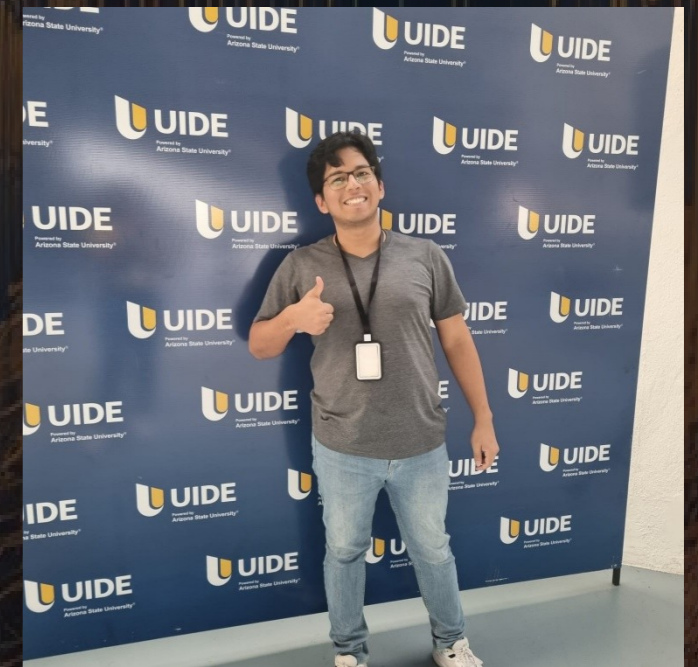


CONTINUAMOS NUESTRAS
JORNADAS DE EPIC 4

Students' experiences

"Attending EPIC4 was an extraordinary experience. The workshops and classes covered current and cutting-edge topics in science, which was incredibly enriching. The interdisciplinary nature of the program added additional value, allowing me to connect knowledge from different areas. Thanks to this experience, I have decided to apply for the ICTP Diploma Program to put the knowledge I have acquired in the field of physics into practice."

Yordan Solorzano



Participating in the scientific programming school (EPIC IV) was an outstanding experience for my personal and academic development. I reinforced existing knowledge and gained new skills in programming, an indispensable tool in my field of study. Beyond the knowledge acquired during that week, I had the opportunity to meet new people from outside my country (Panama)"

Jose Felipe De Leon

Students' follow up

- Starting 3 Bachelor thesis with volunteers
- 2 applying to master programs with our support
- 1 future ICTP Diploma Program



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Thanks to all!!

