



PHYSICS MATTERS – On-line Colloquia Series

as a “Physics for Development” initiative in COVID times

The [APS Forum on International Physics \(FIP\)](#) is pleased to announce the **PHYSICS MATTERS on-line colloquia series**. The main goal of these on-line colloquia as part of the “Physics for Development” program of FIP is to support international engagement for APS **among students and early career physicists, targeting developing country audiences**, especially in a time when, due to the COVID pandemic, travel is difficult or even impossible.

The first phase of the PHYSICS MATTERS series is planned in the fall of 2020 from November to December, with weekly colloquia. We will start with **recorded video colloquia** to be primarily broadcast in some test centers in Jordan, Iran and Pakistan, selected from within the SESAME project partner countries, a project supported by the APS. The broadcasting will be organized in coordination with in-country physics societies and knowledgeable diaspora to ensure good video connections. The speakers will talk in a way that stimulates curiosity and creates a flow of ideas that is both educational and interesting to a broad community.

In 2021 we plan to continue the PHYSICS MATTERS series with **live on-line colloquia** and an audience enlarged to many more scientifically emerging countries.

2020 PROGRAM

23-24 November 2020

Paola Catapano

(CERN, Geneva Switzerland – Head of the Audiovisual Production Service for the CERN Communications Group and Project Leader of Polarquest)

Luisa Cifarelli

(University of Bologna, Italy – FIP Chair and past President of the Centro Fermi, Rome, Italy)

POLARQUEST – A sailing expedition to measure cosmic rays (and not only), beyond the Arctic Circle

30 November - 1 December

Diederik Wiersma

(University of Florence, Italy – President of the Italian Metrology Institute, Turin, Italy)

Metrology and inspiration for science: The new International System of Units

7-8 December

Petra Rudolf

(University of Groningen, The Netherlands – President of the European Physical Society)
Playing Lego with layered materials

14-15 December

Sergio Bertolucci

(University of Bologna, Italy – Past CERN Director of Research and Scientific Computing, Geneva, Switzerland)

Governing the digital transformation

21-22 December

Patrizia Tavella

(Bureau International des Poids et Mesures, Sèvres, France – Director of the Time Department)

The adventure of physics in timing and positioning – From a cesium atom to the Global Navigation Satellite Systems

1st PHYSICS MATTERS on-line colloquium

The first PHYSICS MATTERS recorded colloquium will be made available for broadcasting by the APS **from Monday, November 23 at noon ET until Tuesday, November 24 at noon ET**. This time slot will allow for some flexibility due to the different time zones concerned.

POLARQUEST – A sailing expedition to measure cosmic rays (and not only) beyond the Arctic Circle

A two-voice lecture will be delivered by Paola Catapano (CERN, Geneva Switzerland – Head of the Audiovisual Production Service for the CERN Communications Group and Project Leader of Polarquest) and Luisa Cifarelli (University of Bologna, Italy – FIP Chair and past President of the Centro Fermi, Rome, Italy). It will be interleaved by pieces of a riveting documentary on the expedition. The whole duration will be about 90 mn.



The scientific motivation of the Polarquest expedition performed in 2018 on board of the eco-friendly sailboat Nanuq around the Svalbard Archipelago will be illustrated. This spans from the measurement of cosmic rays at unprecedented northern latitudes where no systematic and accurate sea-level measurements have ever been performed, to the

investigation of the Arctic environment threatened nowadays by many factors, such as macro/microplastic pollution or temperature growth, to the air (with drone) and water (with multibeam sonar) exploration of unknown Arctic areas. Emphasis on the

complexity of the expedition, and on its scientific and technological challenges will be given, together with a sense for adventure.



Luisa Cifarelli is professor of experimental physics at the University of Bologna. She has carried out research in subnuclear physics and astroparticle physics at the major European laboratories. Member of the *Accademia Europaea* and the Academy of Sciences of Bologna, honorary president of the Italian Physical Society, she has been president of the European Physical Society and of the “Enrico Fermi” Historical Museum of Physics and Research and Study Center (*Centro Fermi*) in Italy.



Paola Catapano works at CERN in the Education and Communications group as head of Audiovisual Productions. She has a master’s degree in science journalism from *SISSA Trieste*, Italy and has reported on scientific expeditions in remote locations, from Antarctica to the North Pole. In 2018 she organized and led the research and outreach expedition *Polarquest2018* to the Svalbard Islands.