



Passion for Earth

A new era for geoscience?

Milano, October 27th, 2022 – 9:00-18:00
Istituto Lombardo Accademia di Scienze e Lettere - Sala Adunanze - Via Brera, 28

Geophysical and Geochemical techniques have been greatly refined in recent years using computer, geological, physical and chemical tools in synergy. Then both the static and dynamic structure of the Earth is better known. In addition techniques from the elementary particle physics are applied to terrestrial investigation by means of muons and neutrinos.

This meeting, "Passion for Earth", will be an occasion for an up to date of the structure of the Earth and on the new techniques now available. Researchers working in various sectors will shed light on the composition of the Earth, the balance of terrestrial heat, seismology, dynamic laws, geo-neutrinos and their impact on geo-science, muography, neutrino tomography, and more.

9:00 Welcome and structure of the workshop

Stefano Maiorana (Presidente Istituto Lombardo Accademia di Scienze e Lettere)

Angela Bracco (Presidente SIF, Università degli Studi di Milano, INFN, Istituto Lombardo Accademia di Scienze e Lettere)

Gianpaolo Bellini (Università degli Studi di Milano, INFN, Istituto Lombardo Accademia di Scienze e Lettere)

9:15 1st session

Chairperson: **Angela Bracco** (Presidente SIF, Università degli Studi di Milano, INFN, Istituto Lombardo Accademia di Scienze e Lettere)

Cinzia Farnetani (Université de Paris-Cité)
Composition and geodynamics of the Earth

Chris Davies (University of Leeds)
Earth heat budget

10:45 Coffee Break

11:15 2nd session

Chairperson: **Gioacchino Ranucci** (INFN)

Jacques Marteau (Université Claude Bernard-Lyon)
Muon tomography and volcanos study

Nicola Rossi (LNGS)
Precision measurement of the Earth's orbit with solar neutrinos

12:45-14:10 Lunch

14:10 3rd session

Chairperson: **Marco Pallavicini** (Università degli Studi di Milano, INFN, Istituto Lombardo Accademia di Scienze e Lettere)

Livia Ludhova (Kernphysik, Forschungszentrum Jülich; Aachen University)
Geoneutrinos from Borexino

Nanami Kawada (Tohoku University)
Geoneutrinos from Kamland

Fabio Mantovani (Università di Ferrara)
Study of the Earth composition with geoneutrinos

16:00 Coffee Break

16:30 4th session

Chairperson: **Gianpaolo Bellini** (Università degli Studi di Milano, INFN, Istituto Lombardo Accademia di Scienze e Lettere)

Joao Coelho (APC Paris)
Neutrinos tomography

Francesco Vissani (LNGS)
Concluding remarks

17.40 - 18.00 General discussion

18.00 End of the meeting

Information and link

Participation does not require fee, the registration is mandatory. To register please fill in, within 15 October 2022, the application form available at the Symposium site at the link: <https://www.sif.it/corsi/passionforearth2022>

For further information write to: earth@mi.infn.it

The meeting will be held both in presence and in streaming: <https://us02web.zoom.us/j/5859707979?pwd=QW4zWW9SdnNNL0FQN2laYU9MSHRCQT09>