



Fourth Geant4 International User Conference at the physics-medicine-biology frontier
24-26 October 2022, Napoli, Italy

Centro Congressi, Università di Napoli Federico II, Via Partenope 36, 80121 Napoli, Italy

Announcement and Call for Abstract

Developers and users of Monte Carlo techniques applied to Medicine in the clinic, industry and academy, are invited to participate to the "[Fourth Geant4 International User Conference at the physics-medicine-biology frontier](#)" for presenting, discussing and exchanging information on the scientific and technical innovations in application areas including medical radiation sources, radiation therapy treatment planning in conventional and in particle therapy, brachytherapy, radiation dosimetry, radiation shielding, radiation imaging, nuclear medicine and radiobiology. Connections with technology of inverse optimization, deformable image registration, machine learning techniques, parallel and GPU computing, are also topics of interest in the conference. The conference will gather for 3 days developers and users of the Geant4 Monte Carlo general purpose simulation toolkit, as well as developers and users of Geant4-based tools such as GAMOS, GATE, TOPAS, TOPAS-nBio, etc.

The Conference will be held in presence only, in **Napoli, Italy**, during the period **24-26 October 2022**.

All presentations will be oral and take place during plenary sessions exclusively.

Confirmed Keynote speakers (preliminary title) are:

- **Marc Verderi** - Recent Geant4 developments
- **Sebastien Incerti** – Recent Geant4-DNA developments
- **Susanna Guatelli** - G4Med and advanced examples
- **David Sarrut** - Artificial Intelligence and Geant4
- **Joseph Perl** - Status and Outlook of the TOPAS tool for particle simulation
- **Aimee McNamara** - TOPASnBio advances
- **Lydia Maigne** - GATE Advances
- **Pedro Arce** - GAMOS Advances
- **Pablo Cirrone** - Geant4 for Hadron therapy: status and challenges
- **Laurent Desorgher** - Geant4 for Flash radiotherapy: status and challenges
- **Dousatsu Sakata** - Geant4-DNA modeling of early biological damage and repair
- **José Manuele Quesada Molina** - Hadronics aspects
- **Vladimir Ivanchenko** – Recent electromagnetic aspect in Geant4

Prospective authors are invited to submit **abstracts** in electronic format using our conference paper submission system ([abstract link](#)) and the [abstract template](#).

The deadline for submission of Abstracts is **26 June 2022**.

Notification of acceptance will be sent to the corresponding author on **29 July 2022**.

Conference attendees will have the opportunity to submit their presented work(s) as full peer-reviewed regular paper(s) (not proceedings) for publication in a focus issue of the *Physica Medica –European Journal of Medical Physics* (Elsevier). Papers will be reviewed using the normal stringent EJMP review process. The submission time interval for submission of papers to EJMP will be from **1 November 2022 to 31 January 2023**.

Organizing Committee

Chair: A/Prof. Giovanni Mettivier (Università di Napoli Federico II and INFN, Italy)

Co-Chair: A/Prof. Susanna Guatelli (University of Wollongong, Australia)

Co-Chair: Dr. Sebastien Incerti (LP2i/IN2P3/CNRS/Bordeaux U., France)

Co-Chair: Dr. Jeremy MC Brown (Australian Nuclear Science and Technology Organization, Australia)

Secretary: Prof. Paolo Russo and Dr. Antonio. Sarno (Università di Napoli Federico II and INFN, Italy), Gianfranco Paternò (Università di Ferrara and INFN, Italy)