

FATA 2025

FAst Timing Applications for nuclear physics and medical imaging

Scientific Program

Wednesday - October 8th

Aula Magna Dipartimento di Fisica e Astronomia “Ettore Majorana”

9:00 - 9:30 Registration

9:30 - 10:00 Institutional Greetings

- S. Romano Director of Dipartimento di Fisica e Astronomia “E. Majorana”
- A. Tricomi Director of Sezione INFN - Catania and CSFNSM
- S. Gammino Director of INFN - Laboratori Nazionali del Sud
- D. Bettoni Vice President of INFN

10:00 - 13:00 Special Session on Scientific Contributions of Angelo Pagano

Chair: S. Pirrone Sezione INFN - Catania, Italy

- E. De Filippo Sezione INFN - Catania, Italy
- W. Trautmann GSI - Darmstadt, Germania
- E. Piasecky University of Warsaw, Poland
- Open Contributions

13:00 - 14:30 Lunch

Conference Room Dipartimento di Fisica e Astronomia “Ettore Majorana”

Session 1 Nuclear and Particle Physics

Chair: E. Geraci Università and Sezione INFN - Catania, Italy

- 14:30 E. Vardaci University “Federico II” and INFN - Napoli, Italy - Keynote Speaker
State-of-the-art of Time-of-Flight spectrometers used in fission, quasi-fission and multinucleon transfer experiments for the study of heavy and superheavy elements

- 15:10 C. Zagami Università and Sezione INFN - Catania, Italy

The “pixelation technique” in the Timing Analysis of the data collected by the FARCOS correlator in the CHIFAR experiment

- 15:40 B. Gnoffo Università and Sezione INFN - Catania, Italy

Timing characterization of the NArCoS apparatus

16:10 - 16:40 Coffee Break

Session 1 Nuclear and Particle Physics

Chair: I. Lombardo Università and Sezione INFN - Catania, Italy

- 16:40 I. Gasparic Ruđer Bošković Institute - Zagabria, Croatia

Neutron detection in reactions with relativistic radioactive beams

- 17:10 N. S. Martorana Sezione INFN - Catania, Italy

Fast Timing with SiC detector arrays for high-intensity Radioactive Ion Beam experiments

- 17:40 M. Rasà Università & Sezione INFN - Catania, Centro Ricerche E. Fermi Roma, Italy

Timing performance of the Multigap Resistive Plate Chambers for the cosmic ray telescopes of the EEE Project

Thursday - October 9th

Conference Room Dipartimento di Fisica e Astronomia “Ettore Majorana”

Session 2 Medical Imaging and other Applications

Chair: A. D’Onofrio Università della Campania "Luigi Vanvitelli" and Sezione INFN - Napoli, Italy

- 9:00 R. Pestotnik Jožef Stefan Institute - Ljubljana, Slovenia - **Keynote Speaker**

High-Performance modular TOF-PET imager

- 9:40 D. Mazzanti Tarancón Institut de Ciències del Cosmos - Universitat de Barcelona, Spain

Towards a sub-100 ps ToF-PET module using the FastIC+ ASIC

- 10:10 R. Cardella Université de Genève, Switzerland

100 μ PET: an ultra-high-resolution silicon-pixel-based PET scanner

10:40 – 11:10 Coffee Break

Session 2 Medical Imaging and other Applications

Chair: P. Russotto INFN Laboratori Nazionali del Sud - Catania, Italy

- 11:10 S. M. Puglia Università and Sezione INFN - Catania, Italy

Research and development on TOF-PET through Cherenkov and scintillation emission

- 11:40 M. Guarrera INFN Laboratori Nazionali del Sud - Catania, Italy
Design and validation of an integrated reference dosimetry and monitoring system for UHDR proton beams

- 12:10 C. Maggio CAEN SpA - Viareggio, Italy
High-Resolution Timing with the CAEN A5203B in the ProVision PET scanner

12:40 - 14:00 Lunch

14:00 Bus to Acireale

Accademia di Scienze, Lettere e Belle Arti degli Zelanti e dei Dafnici

15:00 - 17:00 Special Session on Educational and Social Activities of Angelo Pagano

Chair: E. V. Pagano INFN Laboratori Nazionali del Sud - Catania, Italy

- Michelangelo Patanè, President of Accademia degli Zelanti e dei Dafnici
- Orazio Rocca, President of Misericordia di Acireale
- Saro Bella, President of Università Popolare "Giuseppe Cristaldi"
- Roberto Barbagallo, Major of Acireale
- S. Esposito Università Federico II and Sezione INFN - Napoli and SISFA, Italy

17:00 - 17:30 Coffee Break

Session 2 Medical Imaging and other Applications

Chair: G. Politi Università and Sezione INFN - Catania, Italy

- 17:30 A. Diaspro University and IIT - Genova, Italy - Keynote Speaker
The Multimodal Artificial Optical Microscope

- 18:10 G. G. Milluzzo Sezione INFN - Catania, Italy
Silicon carbide detectors for accurate temporal structure pulsed beam monitoring in FLASH radiotherapy

- 18:40 S. Arjmand INFN Laboratori Nazionali del Sud - Catania, Italy
Nanosecond-Synchronized Plasma Discharge in Gas-filled Capillary for Fast-Timing Radiotherapy

19:10 Bus to Catania center and Restaurant

20:30 Social Diner - Restaurant "Via Vela", via Vela Catania

Friday - October 10th

Conference Room Dipartimento di Fisica e Astronomia “Ettore Majorana”

Session 3 Timing in Detectors and other facilities

Chair: G. Cardella Sezione INFN - Catania, Italy

- 9:00 P. Lecoq CERN - Geneve, Switzerland - Keynote Speaker

Harnessing the Purcell Effect for Faster Metascintillators

- 9:40 M. Milanesio Université de Genève, Switzerland

MONOLITH - picosecond capability in a high granularity monolithic silicon pixel detector

- 10:10 R. Bolzonella CERN - Geneve, Switzerland

Timing performance of Timepix4, a large area four side buttable pixel detector readout chip

- 10:40 S. Strazzi Università and Sezione INFN - Bologna, Italy

Development of Hybrid and CMOS Monolithic LGADs for the 20 ps TOF detector of the future ALICE 3 experiment at the LHC

11:10 - 11:30 Coffee Break

Session 3 Timing in Detectors and other facilities

Chair: G. Cuttone INFN Laboratori Nazionali del Sud - Catania, Italy

- 11:30 P. Bianchini Fondazione IIT - Genova, Italy - Keynote Speaker

Fast-timing technology in non-linear and super-resolution microscopy

- 12:10 D. Lattuada INFN Laboratori Nazionali del Sud and Università di Enna “Kore”, Italy

Nuclear physics measurements in laser-induced hard electromagnetic background

- 12:40 J. J. Suarez Vargas INFN Laboratori Nazionali del Sud - Catania, Italy

The I-LUCE high power laser facility at INFN-LNS: status and perspectives for ultrafast applied physics

- 13:10 N. Macaluso INFN Laboratori Nazionali del Sud - Catania, Italy

Time of Flight technique for online monitoring laser-matter interaction in Inertial Confinement experiments

13:40 Lunch