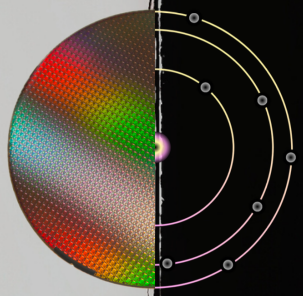
Nuclear Physics meets Electronic Technology



AS Be ST

A 7-Beryllium electron capture STudy for nuclear and solid state physics

The primary focus of this school is to provide a comprehensive understanding of how high-energy particles interact with semiconductors. The school will bring together specialists from the various fields of nuclear physics, solid-state physics, and electrical engineering with the aim to raise mutual interest and to teach PhD students, young post-docs as well as researchers interested in being introduced to interplay between nuclear physics and electronic technology. The knowledge gained from this school can be applied in numerous areas, including aerospace, nuclear reactor and particle accelerator research, high altitude commercial electronic systems, biomedical applications, and photovoltaics for space. It also touches on the impact of primary particles (neutrons, protons, alpha particles, and electrons) in space on semiconductors and devices.

The school will be organized in major topical sessions, with dedicated lecture time for basic introduction, presentations of the various aspects of the topic, and ample time for discussions and in the afternoon hands on activities are planned.

All information is available on the school's website: https://agenda.infn.it/event/38974/

So far, the following colleagues agreed to give lectures:

Hans-Werner Becker, *Uni-Bochum, Germany. - Measurements of Hydrogen concentrations with an ^{15}N-beam - principle and applications.*

Virginia Boldrini and Marco Pieruccini, *CNR-IMM Bologna, Italy - Electrical activation of implanted dopants: Statistical mechanical aspects of defect recovery and Hall effect characterization.*

Massimo Chiari, *INFN, Italy - Principles of PIXE and PIGE, advanced techniques and applications.*

Andrea Denker, *HZB Berlin, Germany - Nuclear Physics for Semiconductors and Solar Cells.*

Luigi Di Benedetto, *Università di Salerno, Italy, Capacitive techniques for the defect characterization of semiconductor devices.*

Enrico Di Russo,*Università di Padova,Italy - Introduction to semiconductors. Doping and hyperdoping.*

Filippo Fabbri, *CNR-NANO Pisa, Italy - Optical and electrical characterization of implantation defects: the case study of sulphur implanted silicon.*

Mike Kokkoris, *National Technical University of Athens, Greece - Rutherford backscattering analyis and the method of channeling. H and D induced Nuclear Reaction Analysis as a complimentary method.*

Heinz Christoph Neitzert, *Università di Salerno, Italy. – Non-contact methods for the characterization of high energy particle irradiation induced defects in various semiconductors.*

Francesco Velardi, *Universita di Cassino, Italy - Overview of the radiation induced degradation of electronic devices.*

INFN LNGS

Università di Salerno Dipartimento di Ingegneria Industriale

INFN ROMA

Università degli Studi della Campania *Luigi Vanvitelli* Dipartimento di Matematica e Fisica

IMM Istituto per la Microelettronica e Microsistemi Consiglio Nazionale delle Ricerche

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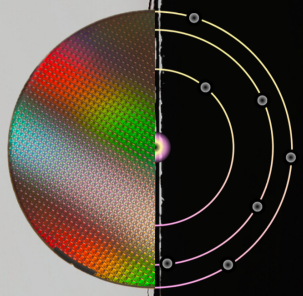

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In addition to these lectures, a poster session with the contributions by students, postdocs or young researchers is scheduled.

Registrations are open until middle of May at the website: https://agenda.infn.it/event/38974/

A limited number of grants is foreseen for accommodation in half-board (not for traveling), and priorities will be given to students and young postdocs.

Applicants to the poster session may apply for travel support. The support is limited to few applicants and priority will be given for appliers from outside Italy. Please fill the form named 'NPMET_Travel_Support' available at this page to apply.

You are encouraged to send requests for partial/full financial support to npmet_contacts@lists.infn.it along with a recommendation letter of your supervisor and the module above.

Social events

The following events are planned during the school:

Afternoon excursion on June 20th

School dinner on June 20th
We are looking forward to welcoming you in Rome,

Alba Formicola and Claudio Santonastaso

Programme Committee
- Hans Werner Becker
- Marica Canino
- Alba Formicola (Co-Chair)
- Lucio Gialanella
- Matthias Laubenstein
- Heinrich Christoph Neitzert
- Claudio Santonastaso (Co-Chair)

Local Committee
- Raffaele Buompane
- Virginia Boldrini
- Nicola Casali (Chair)
- Luigi Di Benedetto
- Claudio Santonastaso

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