

Re-writing Nuclear Physics textbooks: 30 years of radioactive ion beam physics

Pisa, 20-24 July 2015

Scientific Programme

June 20, 2015

- 8:30-9:15 Registration of students and tutors
9:15-9:30 Practical introduction by Angela Bonaccorso
9:30-11:00 **Parallel introductory lectures by national tutors**
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| <i>China</i> | <i>Baohua Sun (Beijing)</i> |
| <i>Belgium/France</i> | <i>Pierre Descouvemont (Bruxelles)</i> <i>Stéphane Grévy (Bordeaux)</i> |
| <i>Spain</i> | <i>Dolores Cortina-Gil (Santiago de Compostela)</i> <i>Antonio Moro (Sevilla)</i> |
| <i>Canada/Finland/Japan/Germany/UK</i> | <i>Andrei Andreyev (York)</i> <i>Stefan Typel (GSI)</i> |
| <i>Italy</i> | <i>Gianluca Colò (Milano)</i> <i>Alessia Di Pietro (INFN-LNS)</i> <i>Lorenzo Fortunato (Padova)</i> <i>Jose Javier Valiente Dobon (INFN-LNL)</i> |
- 9:30-11:00 Registrations of Lecturers and Seniors.
11:00-11:20 Coffee break
11:20-11:30 Official Welcome/Opening of the School
Marco Grassi (INFN- Pisa), Ettore Vicari (Università di Pisa), Giovanni Casini (INFN – Firenze)
11:30-12:30 Chair: N. Alamanos (Saclay)
How it all started
Isao Tanihata (Osaka and Beijing)
- 12:30-14:00 Lunch
14:00 -16:00 Chair: A. Bracco (Milano)
Global properties of atomic nuclei: masses, radii and modern methods to measure them
Magda Kowalska (CERN, Geneva)
- 16:00-16:30 Coffee Break
16:30 - 18:30 Chair: N. Itaco (Napoli)
Making radioactive ion beams, detecting reaction products
Riccardo Raabe (Leuven)
- 18:30 – 19:30 TUTORIALS

21/7/2015

- 9:00-11:00 Chair: E. Santopinto (Genova)
Strong, weak and electromagnetic forces at work in atomic nuclei, decay properties
Giovanna Benzoni (Milano)
- 11:00-11:30 Coffee break
11:30-13:30 Chair: L. Marcucci (Pisa)
Structure models: from shell model to ab initio methods
Sonia Bacca (TRIUMF, Vancouver)
- 13:30-15:00 Lunch
15:00-17:00 Chair: C. Bertulani (Texas)
Reaction theory
Stefan Typel (GSI)
- 17:00-17:30 Break
17:30-18:45 Chair: T. Motobayashi (RIKEN)
Presentations of country/laboratory activities (15min each)
UK: A. Andreyev (York)
Germany: T. Aumann (Darmstadt)
France: Y. Blumenfeld (Orsay)
Belgium: R. Raabe (KUL)
Spain: B. Rubio (Valencia)
- 18:45-19:30 TUTORIALS

June 22, 2015

- 9:00-11:00 Chair: D. M. Brink (Oxford)
Resonance phenomena: from compound nucleus decay to proton radioactivity
Robert J. Charity (*St Louis*)
- 11:00-11:30 Coffee break
- 11:30-13:30 Chair: T. Aumann (Darmstadt)
Experimental methods and measured observables with polarized proton targets: understanding spin-orbit
Tomohiro Uesaka (*RIKEN*)
- 13:30-15:00 Lunch
- 15:00-17:00 Chair: G. Pasquali (Firenze)
Probing nuclear structure with direct reactions: observables, methods and recent progress with rare isotopes
Alexandre Obertelli (*Saclay*)
- 17:00-17:30 break
- 17:30-18:15 Chair: M. Viviani (Pisa)
Presentations of country/laboratory activities (15min each)
Japan: T. Motobayashi (*RIKEN*)
China: Baohua Sun (*Beijing*)
Canada: R. Kanungo (*Halifax*)
- 18:15-19:00 TUTORIALS

23/7/2015

- 9:00-11:00 Chair: A. Gargano (Napoli)
Single particle versus collectivity, shapes of exotic nuclei
Andrea Jungclaus (*Madrid*)
- 11:00-11:30 Coffee break
- 11:30-13:30 Chair: I. Bombaci (Pisa)
Radioactive ion beams in experimental nuclear astrophysics
Lucio Gialanella (*Napoli*)
- 13:30-15:00 Lunch
- 15:00-17:00 Chair: V. Rosso (Pisa)
Applications of physics of unstable nuclei to energy, medicine, material science
Ulli Koester (*ILL-Grenoble*)
- 17:00-17:30 Break
- 17:30-18:30 Chair: Y. Blumenfeld (Orsay)
What's next in Nuclear Physics with RIBs
Bjorn Jonson (*Göteborg*)
- 18:30-19:30 **Final general discussion-tutorial**
- 20:30-23:00 SOCIAL DINNER

24/7/2015

Visit to the INFN Laboratori Nazionali di Legnaro.

Buses leave Pisa at 8:00h

- 11:30-12:00 **Presentation of the Laboratory and the SPES project**
G. Fiorentini, Director of the Laboratory
- 12:00-13:30 Lunch
- 13:30-14:30 Chair: G. de Angelis (INFN-LNL)
Presentation of the Italian Activities with RIBs.
Theory: M. Colonna (INFN-LNS)
Experiments: G. Casini (INFN-FI)
- 14:30-16:30 Visit to the Laboratory
- 17:00 Departure
- 20:30 Arrival in Pisa