

Nuclear Physic Division European Physical Society

N. Bianchi

INFN Frascati National Laboratories
&
Italian Ministry of Foreign Affairs

European Physical Society

EPS in a nutshell:

- Chair : Rüdiger Voss
- 42 National member societies with 130.000 scientists represented
- 41 Associate members (Universities, Industries, Research institutions)
- 3500+ Individual members
- 12 Divisions (new on Gravitational Physics) and 6 Groups

- Conferences EPS : 21 in 2017 with 8500 participants
- Distinction and awards (in some cases anticipating Nobel Prizes)
- Publications: e-EPS, EPL, EPN
- Historic sites : 38 sites inaugurated since 2011, 6 in 2017 (Institute Curie, Magurele), 4 foreseen in 2018
- Young Minds: 49 sections, 23 countries, 500 young scientists involved
- Gender Monitoring Project in Conference

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EPS scientific strategic directions:

- Action in EU (Brussels) for FP9 under development driven by “societal challenges”

PoP (Point of Policy in Brussels) is existing from more one year

Build a network of contacts to EU Commission

Grand Challenge paper + EPS position papers

- Action in east EU :

Integration, Teacher training

SEIIST (South East Europe International Institute for Sustainable Technologies) initiative proposed by H. Schopper on the CERN/SESAME model with an hadron therapy center.

Next EPS Council Meeting in Croatia in April 2019

- Action outside EU :

Mini-workshops with APS, AAPPS, Asia-EU physics summit

Cooperation&Development (Africa, SESAME)

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Selected highlights from EPS Council 6-7 April 2018 (Paris):

- 50th years of EPS : 26 Sept 1968 in the Les Bastions University of Geneva
28 Sept 2018 celebration in same location + 29 Sept “Forum Physics and Society”
- EPS Grand challenges paper (400 pages) on the Horizon 2050 on the importance of physics to society and economy of EU for non expert:

I chapter of the document on basic physics :

Nuclear physics part

1.1.2. Nuclear physics: origin of matter in the visible universe

General overview

The physics of nucleus is fundamental to our understanding of the universe and at the same time, intertwined in the fabric of our lives. Important questions addressed in this field concern the properties of the quark soup formed after the Big Bang giving rise to the formation of protons and neutrons and the evolution of chemical elements. New isotopes and elements are created in the laboratories which have only existed in properties of the quark soup formed after the Big Bang giving rise to the formation stellar explosions or in the merger of neutron stars. The science questions are thus: how visible matter come into being and how does it evolve? How does subatomic matter organize itself and what phenomena emerge?

Challenges and opportunities

Towards the understating of the formation of strongly interacting matter after the big bang: how is the internal structure of nucleons? What is the origin of elements and of nuclear binding?

How does the development of new tools and accelerators used for nuclear physics research find broad applications in industry, medicine and national security [see 2.1.2]?

II chapter of the document on applications: physics for health, for sustainable development and clean energy, for secure and efficient society

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Selected highlights from EPS Council 6-7 April 2018 (Paris):

- Candidates President-elect
 - Gloria Platero (Spain UAM). Theory condensed matter, quantum transport
 - Petra Rudolf (Born in Munich, studied in Rome Univ. , PhD in Belgium and now in Netherlands, Groningen) Experimental condensed matter, Thin films, 2D, science for societal changes, economic growth, outreach

Petra Rudolf resulted as chair-elected. Will be Chair in April 2019.



- Elections of Executive Committee Candidates:
V. Zamfir (ex-chair NPD board) confirmed as representative of D&G, E. Nappi as representative of Associate Member, T.Pena as Individual Member + others

Nuclear Physics Division board

NPD board scope and activities:

www.eps.org/group/NPD

- Organize EPS Divisional Conferences in Nuclear Physics
EuNPC in Bologna, Sept 2-7, 2018 <http://www.eunpc2018.infn.it/>
NPA in Frankfurt, Sept 15-20, 2019 <http://exp-astro.de/meetings/npa-2019/>

- Award Prizes (all will be awarded in Bologna)

Lise Meitner 2018 (every even year)

to one or more researchers who have made outstanding contributions to nuclear science. Such contributions may comprise experimental nuclear physics, theoretical nuclear physics and all areas of application of nuclear science. The board welcomes proposals which represent the breadth and the strength of European nuclear science.

IBA 2017 (every odd year)

in Applied Nuclear Science and Nuclear Methods in Medicine.

Habib Zaidi (Department of Medical Imaging and Information Sciences, Geneva University Hospital)

<http://www.epsnews.eu/2017/12/2017-iba-europhysics-prize-winner/>

PhD prizes 2018 (every 3 years)

recognizing the excellence of a recent PhD thesis in experimental, theoretical or applied nuclear physics.

Nuclear Physics Division board

- Contribute to EPS general initiatives

Historic sites : http://www.eps.org/?page=distinction_sites

Emmy Noether : http://www.eps.org/?page=distinction_prize_en

EPS fellows : https://www.eps.org/page/distinction_fellows

- Write EU Reports on application fields like the «Cultural heritage» paper
<https://www.edp-open.org/images/stories/books/fullId/Nuclear-physics-for-cultural-heritage.pdf>

- Board meeting twice per year

Bologna, 3-4 September 2018 (NuPECC chair invited)

Jyväskylä, March 2019

TBD, fall 2019

- Organize local mini-workshops at each meeting (published on e-EPS)

https://www.eps.org/members/group_content_view.asp?group=85199&id=170758

NPD board: composition

NAME	ROLE	SCIENTIFIC KEYWORDS	NAME	ROLE	SCIENTIFIC KEYWORDS
Nicola Bianchi <i>INFN-Frascati National Laboratories & Italian Ministry of Foreign Affairs Italy</i>	Chair NPD Board Chair LM Prize PhD Prize	Experimentalist. Photonuclear reactions. Hadronic physics. Nucleon structure and PDF. Heavy ion collisions and QGP. Science Diplomacy	Silvia Niccolai <i>IPN Orsay France</i>	e-EPSC correspondent	Experimentalist. Hadronic physics with electromagnetic probes. Nucleon structure and GPDs.
Faiçal Azaiez <i>NRF-Themba Labs South Africa</i>	Past-Chair NPD Board Chair IBA prize Co-Chair IPCC EuNPC LM Prize	Nuclear structure and reaction, accelerator physics, instrumentation, large scale project management, science management and int. scientific strategy and cooperation.	Guy Ron <i>HUJ- Racah Institute of Physics Israel</i>	PhD Prize Committee	Experimentalist. Lepton and photon scattering. Baryon structure. Ion and atoms traps.
R. Burcu Cakirli <i>University of Istanbul Turkey</i>	Scientific Secretary NPD Board LM Prize PhD Prize	Experimentalist. Nuclear structure, collectivity, evolution of structure.	Jan Ryckebusch <i>University of Gent Belgium</i>	Web Manager PhD Prize Committee	Theorist, hadron physics, nuclear physics, nuclear reaction theory, nuclear short-range correlations, university education management
Johan Messchendorp <i>University of Groningen Netherlands</i>	Treasurer	Experimentalist. Hadron structure: charmonium spectroscopy, exotic matter, electron-positron and antiproton-proton annihilations. Few-nucleon interactions: three-nucleon forces.	Dorottya Sohler <i>HAS – Institute for Nuclear Research Hungary</i>	PhD Prize Committee	Nuclear structure, gamma-ray spectroscopy, experiments with radioactive ion beams
Iva Bogdanovic Radovic <i>Rudjer Boskovic Institute Croatia</i>	Emmy Noether Distinction	Experimentalist. Ion Beam Analysis (IBA) - MeV SIMS, PIXE, RBS, TOF-ERDA, NRA, coincident scattering Modification of materials by MeV ion beams.	Alexander Sorin <i>JINR – Dubna Russia</i>	LM Prize Committee	Heavy ion collisions, phase transitions and critical phenomena in strongly interacting QCD matter; Integrable structures in (super)string; (super)gravity and quantum field theories.
Nicola Colonna <i>INFN – Bari Italy</i>	Chair PhD Prize Committee PANS Committee	Experimentalist. Neutron Physics, Neutron detectors, Nuclear Astrophysics, Nuclear Medicine.	Jouni Suhonen <i>University of Jyväskylä Finland</i>	LM Prize Committee	Nuclear-structure theory, nuclear models, rare beta decays, nuclear double beta decays, neutrino-nucleus interactions and neutrino muon capture, nuclear muon capture, dark-matter direct detection, WIMP-nucleus scattering, isovector spin-multipole resonances.
Dolores Cortina Gil <i>University of Santiago de Compostela Spain</i>	PhD Prize Committee	Experimentalist. Nuclear reactions at relativistic energies, nuclear structure evolution. Exotic nuclei.	Calin Alexandru Ur <i>ELI-NP Romania</i>	Observer at NuPECC NPNI Editorial Board	Experimentalist. Nuclear structure. Photonuclear reactions. Laser driven nuclear physics. Gamma ray spectroscopy. Accelerator physics and instrumentation. Applied nuclear physics. Education in nuclear physics.
Wojtek Dominik <i>University of Warsaw Poland</i>	Historic Sites	Experimentalist. Radiation detectors' physics. Instrumentation in large scale projects. Relativistic heavy ion reactions and QGP. Photonuclear reactions. Hadronic physics.	Stephan A.Pomp <i>Uppsala University Sweden</i>	Outreach Activities	Experimental nuclear physics. Nuclear reactions especially neutron induced reactions. Fission. Nuclear data and computational methods. Nuclear physics applications.
Karlheinz Langanke <i>GSI & Technical University of Darmstadt Germany</i>	LM Prize Committee	Theoretical nuclear astrophysics, nuclear structure and low energy reactions, origin of elements, supernovae.	Rene Reifarth <i>Goethe University Germany</i>		Nuclear astrophysics, nucleosynthesis, stellar evolution, nuclear experiments.
Anna Mackova <i>CAS – Nuclear Physics Institute Czech Republic</i>	Chair Cultural Heritage Paper PhD Prize Committee	Experimentalist: ion beam analysis, physics at small accelerators, ion beam interaction with solids and nano structures synthesized by ion beams, nuclear analytical methods	György Wolf <i>HAS – Wigner Research Center of Physics Hungary</i>	Observer from NuPECC	Theoretician. Hadronic physics, heavy ion collisions and phases of strongly interacting matter.

- Chair/ Elected (Past)-Chair/ Scientific Secretary/Treasurer
- 10 Elected + 10 Coopted members
- Gender/Nationality/Expertise balance
- One observer (for now)

Fast changing board:

- Ivancica Bogdanovic Radovic (Croatia)
- Silvia Niccolai (France)
- Stephan Pomp (Sweden)
- Rene Reifarth (Germany)

5 new member in 2019

Each member has 1 (or more) task to work and to report

NPD board : new meeting format



From Istanbul (28-29 of May) a new format of board meeting to:

- Keep the full board active also in between the meetings
- Better stimulate and guide the discussion
- Make clear the decisions and the actions to be taken
- Simplify minute writing



Nuclear Physics Division board

New decisions and initiatives:

- Improve relationships with other boards for :
EU in Nuclear Physics (NuPECC)
Outside EU in Nuclear Physics (ANPhA?)
EU non nuclear physics (EPS-HEPP)
- New EPS-NPD Divisional Conference every 3 year:
On Application in Nuclear Physics (Cultural Heritage, Health, Energy, Space, Security, Environment, Materials Science)
ANP eventually synchronized with new NPD Reports and IBA prize
Call for bids for ANP 2020 will be out soon
- Improve outreach (PANS, new ideas) :
New board member in charge , discussion in next board in Bologna
- Start revision of board Statute and Rules
Chair, membership duration, Elected(Past)-Chair vs Vice-Chair, Observers

Nuclear Physics Division board

Conclusions

- NPD is THE place where EU nuclear physicists are represented
- NPD board will be more open to other boards/communities
- NPD board is planning new initiatives ...new suggestions are welcome
- Invite all for a more proactive role in NPD Conferences (proposal, participation), NPD Prizes (nomination), membership

A better EU integration and a sense of community is the main scope of having an European Physical Society.