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
European Physical Society

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

• 50th years of EPS: 26 Sept 1968 in the Les Bastions University of Geneve
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]?
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/

• 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](http://www.eps.org/?page=distinction_sites)
  EPS fellows: [https://www.eps.org/page/distinction_fellows](https://www.eps.org/page/distinction_fellows)

- Write EU Reports on application fields like the «Cultural heritage» paper

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

N. Bianchi, NuPECC Meeting Oslo, June 15-16, 2018
# NPD board: composition

<table>
<thead>
<tr>
<th>NAME</th>
<th>ROLE</th>
<th>SCIENTIFIC KEYWORDS</th>
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<tbody>
<tr>
<td>Nicola Bianchi</td>
<td>Chair/ Elected Past-Board/Scientific Secretary/ Treasurer</td>
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<tr>
<td>Faigal Azaiez</td>
<td>Past Chair/ NM Board/ Chair/ IPC/CuNPC/ UAP/ Prize</td>
<td>Nuclear structure and reaction, accelerator physics, instrumentation, large scale project management, science diplomacy and cooperation</td>
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<tr>
<td>René Gil</td>
<td>Chair/ NPD Board/ Chair/ IPC/EUAP/ prizes</td>
<td>Nuclear structure and reaction, accelerator physics, instrumentation, large scale project management, science diplomacy and cooperation</td>
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<td>Anna Mackova</td>
<td>Chair/ Heritage Prize/ Chair/ IPC/EUAP/ Prize</td>
<td>Structure, synthesis by ion beams, interaction with solids and nanostructures, experimentation, hadron physics with electromagnetic probes, nuclear structure and QCDs</td>
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<td>Silvia Niccolai</td>
<td>Chair/ LM Prize/ Chair/ IPC/EUAP/ Prize</td>
<td>Heavy ion collisions and QGP, nuclear astrophysics, nucleosynthesis, nuclear physics applications, laser driven nuclear physics, Gamma ray spectroscopy, accelerator physics and instrumentation, applied nuclear physics, education in nuclear physics</td>
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<td>Guy Ron</td>
<td>Chair/ PhD Prize/ Chair/ IPC/EUAP/ Prize</td>
<td>Nuclear reactions especially neutron induced reactions, neutron data and computational methods, nuclear physics applications</td>
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<td>Wojtek Dominik</td>
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<td>Nuclear astrophysics, nuclear structure and low energy reactions, origin of elements, supernovae</td>
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- 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
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
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:
  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.