

ApPIC September 2th, 2016

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PANAGIC, Pre-history to ApPIC

- **WG.4 IUPAP: Particle and Nuclear Astrophysics and Gravitation International Committee (PaNAGIC)**
- The committee was created by IUPAP in 1998 to support international exchange of ideas and help in the convergence of the international scientific community in the large scale activity in the emerging field of particle and nuclear astrophysics, gravitation and cosmology.

PANAGIC (end 2011)

- PaNAGIC has the status of an IUPAP Working Group. Its mandate was extended at the 25th IUPAP General Assembly in October 2005 in Cape Town, South Africa, until the time of the next General Assembly. It was extended for a further 3 years at the General Assembly in 2008. It is expected that the Working Group will wind up at the 2011 General Assembly to be replaced by a new body with a more representative structure able to respond to the request from the Global Science Forum for an scientific input to their planning process.
- The recommendations for a new structure were put to the members of PaNAGIC and all responses were positive. We welcome the change.

*OCDE GSF Working group
on
AstroparticlePhysics*

Final report

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President of CERN Council
CNRS 09/10/2010

Introduction II

✓ A globally coherent approach is needed, using an optimal set of national, regional, and international projects and facilities. Agencies currently manage a field in which many small projects have to be considered alongside a few very large, multi-year international (or potentially international) undertakings. Indeed, some of the existing and proposed projects enumerated in this report are in the “megascience” category, with costs of several hundreds of millions of dollars.

✓ **To address the policy challenges, the OECD Global Science Forum established, in October 2008, the Working Group on Astroparticle Physics. It brought together government-nominated representatives of eighteen countries, two intergovernmental organizations, an independent scientific organisation, and invited experts. The Working Group’s final report presents the results of the consultations, and contains a strategic vision of needed large research infrastructures, as well as findings and recommendations addressed to governmental funding agencies and to the scientific community**

Policy Recommendations

- ✓ The Working Group recommends ***the establishment of a venue for consultations among officials of funding agencies that make significant investments in the field.*** The overall goal should be to ensure that, during the next 10-15 years, progress in astroparticle physics will be a globally coherent response to the scientific challenges, using an optimal set of national, regional, and international projects.
- ✓ The new consultative group would be called the Astroparticle Physics International Forum (APIF), and ***would be a subsidiary body of the OECD Global Science Forum.***
- ✓ Funding agency officials would be nominated by the delegations to the GSF, and by the governments of interested non-OECD member countries.
- ✓ APIF would be ***created for a period of three years.***
- ✓ It would meet at least once per year, elect its own Chair and other officers, define its own rules and procedures, establish subsidiary bodies as needed, and be self-financing. ***The members of APIF would report to their respective agencies, and the APIF Chair would report annually to the Global Science Forum.***

Terms of Reference. The activities of APIF could include, inter alia:

1. Exchange information about relevant national and regional developments, plans and priorities. Regularly review and update the strategic vision described in the OECD report.
2. Explore the prospects for joint actions (for example, design studies for experiments, research and development) with special emphasis on large programmes and projects.
3. Study options and solutions for governance structures and mechanisms for potential new international collaborative projects.
4. Consult on relevant generic science policy issues, such as access to research facilities and to data, or contributions to operating costs of facilities by users.
5. Analyse the needs and requirements for rare resources such as isotopes for detectors and, if appropriate, promote sharing or joint procurements. Discuss the optimal utilisation of infrastructures (observatories, antennas, underground laboratories)
6. Engage in a collective dialogue with governmental and non-governmental entities in areas that have a strong impact on astroparticle physics, for example, space agencies, and agencies that are responsible for research in high-energy physics, nuclear physics, astronomy and astrophysics.
7. Develop strategies and procedures for promoting transfer of technology and other benefits to industry and to society in general. Jointly develop educational and outreach materials.

✓The activities of APIF would not pre-empt or interfere with national or regional mechanisms for planning, prioritising, authorising, funding or overseeing specific research projects. Negotiations for new international collaborations could begin in APIF, but would be pursued in other venues.

✓As needed, APIF would seek information and advice from the international scientific community. It could invite individual experts, spokespersons of projects or members of scientific bodies (e.g., scientific unions or national advisory groups) to attend APIF meetings or to participate in subsidiary activities. It could commission analyses and reports from scientific groups.

✓The Working Group also recommends that the scientific community strengthen its activities aimed at ensuring vigorous, globally coherent progress in astroparticle physics. Specifically, the International Union of Pure and Applied Physics (IUPAP) could review and, if appropriate, adjust its mechanisms for promoting international scientific co-operation and discussions among scientists about the future of the field. The latter activities could include maintaining and elaborating the strategic vision described in this report. Under the aegis of IUPAP, data-gathering, analysis, and structured deliberations could produce information and advice for policymakers. The community-based consultations would need to be characterized by openness and inclusiveness, involving scientists from all of the relevant scientific disciplines, with representation from major geographic regions, and with transparent procedures for the selection of participants in the activities

ApPIC terms of reference (discussed by APIF and IUPAP in 2013)

- Review on a regular basis the scientific status of the field of Astroparticle Physics;
- Engage in a continuous dialogue with "The Astroparticle Physics International Forum (APIF)" of the Global Science Forum (GSF) and provide scientific advice to APIF, whose members are appointed by funding agencies;
- Comment on and liaise with similar national and international organizations on assessment and road-mapping activities as the need may arise, e.g. for promoting the global coherence of plans, priorities and projects in Astroparticle Physics.

Structure of ApPIC WG10 (10/2013)

- The Chair of APPIC is appointed by the President of IUPAP, for a term of three years.
- The members of APPIC are appointed by the Council of IUPAP, for a term of three years.
- The Chair and the members may serve a second term, in total six years.
- Proposals for new APPIC members are made by the Chair of APPIC, in consultation with the already active APPIC members, the Chairs of the IUPAP Commissions C4 (Astroparticle Physics), C11 (Particles and Fields), C12 (Nuclear Physics), and C19 (Astronomy), the IUPAP working group GWIC (Gravitational Wave International Committee) and the Chair of APIF, all of whom can suggest suitable candidates.

Chair of APIF (1st meeting ApPIC 05/2014)

Brief history of APIF

- Began 3 years ago at the explicit recommendation of the GSF WG on Astroparticle Physics led by Michel Spiro
- Six meetings (2/year) to date
 - OECD HQs in Paris (2); London; SNO Underground Lab in Sudbury, CA (lab visit); Virgo GW Observatory in Pisa, IT (lab visit); and Toyama, Japan (Kamioka, J-PARC visits) – 28/29 Oct 2013
- 14 countries regularly involved
 - Canada, China, France, Germany, Italy, Japan, Korea, Netherlands, Poland, Spain, Sweden, Switzerland, UK, and US (also Argentina, Belgium, India, Israel, Russia, and EU observer)
- Countries are represented by senior science program managers from funding agencies (or their designees) and not members of the science community
- Regular reports (agencies and summaries) to the GSF
- Liaising activities: ASPERA, APEC, and ApPIC (IUPAP science community counterpart)

(2)

APIF goals and activities

1. Exchange of information about science budgets, funding, science priorities and practices (e.g., OA and open data)
2. Regular discussion/updates on the advances in AP science (some by invited experts)
3. Discussing and sharing of best practices in the practical aspects of managing and establishing regional and global facilities, data sharing, ...
4. Discussion of collaboration and coordination (rather than duplication) of facilities, e.g., CTA, R&D for dark matter detectors, ...

Role of ApPIC (personal 09/2016)

- Link between the community (messages in conferences: ICRC and TAUP) and the funding agencies (APIF)
- Promote good practices: data policy, cross-communication between communities...
- Avoid too much focus (conformism) from funding agencies and too much diversity “spread too thin” from the community: balanced approach
- Give in liaison with others: “a view to the next decade” (neutrinos, multi-messenger, dark matter...)

2016 report to IUPAP

- Past activities September 2015 to September 2016: Relationship with ICFA, 3rd Large Infrastructure Neutrino Meeting, ApPIC meeting September 2th
- Strategy for the next three years: broaden the scope (dark matter, double beta decay, observational cosmology...), deepen messages (open data, balanced approach, cross-communication), give “a view to the next decade”
- Changes in membership and chair