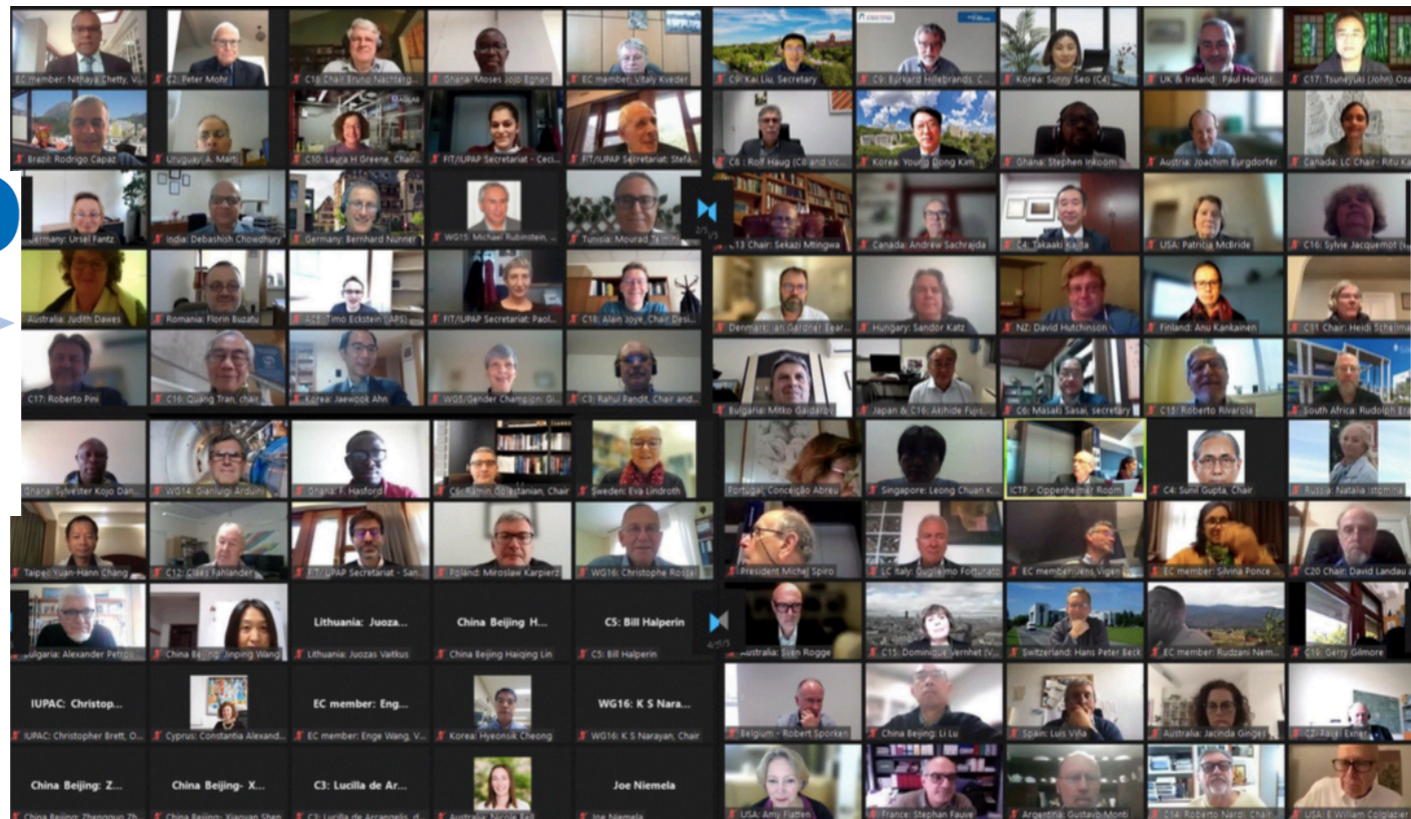


# On IUPAP Working Groups

## EC & CC Meeting, July 6-7, 2022



## Silvina Ponce Dawson

University of Buenos Aires and CONICET, Argentina

President Designate, IUPAP





# Working Groups, brief reminder of their function

Working Groups are temporary structures.

From the Articles and Regulations:

- Unless otherwise specified by a resolution of the General Assembly, a Working Group shall be established for a period of 6 years. The General Assembly shall review the operations of the Working Group and decide whether or not the Working Group should be extended for a further period.
- The Executive Council will determine the membership of each Working Group.

This last point is very important. The composition of commissions is scrutinized by IUPAP's territorial members and a balance is sought in terms of their shares. There are lots of rules on terms of permanence, etc, which are non-existent for WGs. Although the EC tries to keep a certain geographical balance (as well as a gender balance) when the composition of a WG is decided, shares are not looked at.

I don't know how good it is to have a WG, which is supposed to be temporary and, for that, has very flexible rules with respect to composition, existing for years and years.

The composition of the WG on Soft Matter (which we are going to discuss today) is a good example of how flexible the composition is: 4 members from the USA (1 of them the chair), 1 from Canada, 1 from Australia, 1 from China-Beijing, 1 from Japan, 1 from Rep of Korea, 1 from India, 1 from France, 1 from Germany, 1 from Italy, 1 from UK.



## List of Working Groups

- WG1: International Committee for Future Accelerators**
- WG2: Communication in Physics**
- WG5: Women in Physics**
- WG7: International Committee on Ultrahigh Intensity Lasers (ICUIL)**
- WG9: International Cooperation in Nuclear Physics**
- WG10: Astroparticle Physics International Committee**
- WG11: Gravitational Wave International Committee**
- WG12: Energy**
- WG13: Newtonian Constant of Gravitation**
- WG14: Accelerator Science**
- WG15: Soft Matter**
- WG16: Physics and Industry**
- WG17: IUPAP's Centenary (*clearly temporary*)**
- WG18: Ethics (*approved at the 2021 GA, still being formed*)**
- WG19: Quantum Science and Technology (*approved at the 2021 GA, still being formed*)**



From my presentation at the January 2022 EC&CC meeting

There are WGs that have a life of their own (almost like an AC and I think that's what they should become)

WG1 (Intl Committee for Future Accelerators; <https://icfa.hep.net/>)

WG7 (Intl Committee on Ultra-High Intensity Lasers; <https://www.icuil.org/>)

WG11 (Gravitational Wave Intl Committee; <https://gwic.ligo.org/>)

There are those that address a very specific issue and seem (are) temporary:

WG13: aims to understand the discrepancy between various measurements of the gravitational constant  $G$ .

WG17: Centenary

WG9 (Intl Coop on Nuclear Physics) seems to overlap quite a bit with C12:

From their 2017 report: One of the tasks of WG9 is to organize with regular intervals a Nuclear Science Symposium in order to be appraised of the currently most relevant nuclear science questions, to discuss the research efforts required to address these nuclear science questions, as well as to assess the research facilities in operation or planned for pursuing these research efforts [...] The yearly meetings of IUPAP WG.9 are held in conjunction with the IUPAP C12 meetings

There are WGs that might eventually become a commission; but what about the overlap with already existing commissions?

- WG15 (Soft Matter Physics)
- WG16 (Physics and Industry)

There are two that could eventually become commissions, but that seem to be doing quite well as WGs:

- WG5, Women in Physics, very active
- WG2, communication in physics, with ups and downs but could be very active



Also from my presentation at the January 2022 EC&CC meeting

Among those who failed to turn in their reports in 2020 or 21:

WG14: WG on Accelerator Science, created in 2015. Its goal is to promote the exchange of information and views [...] on topics related, but not limited, to:

- the theory and experiments concerned with the nature and properties of particle accelerators and beam physics
- the improvement of international communication in Accelerator Science through the sponsorship of professional meetings
- the future of accelerator facilities for various fields that benefit science and society
- the industrial, medical, energy production and environmental applications of relevant accelerator technologies
- the accelerator technologies and connection to engineering.

Do we need this WG if there is ICFA? ICFA was created in 1976 with the aims:

- To promote international collaboration in all phases of the construction and exploitation of very high energy accelerators.
- To organize regularly world-inclusive meetings for the exchange of information on future plans for regional facilities and for the formulation of advice on joint studies and uses.
- To organize workshops for the study of problems related to super high-energy accelerator complexes and their international exploitation and to foster research and development of necessary technology.

- **WG10 Astroparticle Physics International Committee**; one of its aims is to engage in a continuous dialogue with “The Astroparticle Physics International Forum (APIF)” of the Global Science Forum (GSF) and to give scientific advice to APIF, whose members are appointed by funding agencies. The last piece of news on the APIF website is from 2012. On the other hand, C4 is the Commission on Astroparticle Physics. I don't think we need this WG.

- **WG12 Energy**. This one should be revitalized somehow, it is a very important issue. It could be turned into an inter-union structure with IUPAC maybe.



We decided to request some commission chairs to analyze and produce a report on certain WGs to be presented at this EC&CC meeting so that we can then vote on their continuation as it is, continuation as WG with a renewed mandate, transformation into something else or dissolution at the GA in July:

- **C4** analyzed the situation of **WG10**, Astroparticle Physics International Committee.
- **C12** analyzed the situation of **WG9**, International Cooperation in Nuclear Physics.
- **C3, C6 & C9** gave advice on whether **WG15**, Soft Matter Physics, should become a commission or not
- **C11** (with input from the WG1 ICFA chair, Stuart Henderson and WG14 members) analyzed the situation of **WG14**, Accelerator Science
- **C2**: was asked to give information on for how long they thought the Newtonian Constant of Gravitation WG (**WG13**) should continue to exist.

We decided that the **EC** could come up with proposals for the future of **WG2** (communications, Jens) and **WG12** (energy, Bruce), and that a detailed report on **WG16** (physics and industry, Michel) be provided.

Not much has been done about **WG2** or **WG12** but Michel will give a report on **WG16**

Let me show you the opinions I've collected



Based on these reports and on the characteristics of the WGs, I think that we might:

## **Transform:**

**WG1** (Intl Committee for Future Accelerators; <https://icfa.hep.net/>)

**WG7** (Intl Committee on Ultra-High Intensity Lasers; <https://www.icuil.org/>)

**WG11** (Gravitational Wave Intl Committee; <https://gwic.ligo.org/>)

**into Affiliated Commissions** (we should discuss about funding).

## **Continue as WGs:**

**WG5** (Women in Physics) could be transformed as well into an Affiliated Commission but, since it's analyzing the possibility of enlarging its aims "to embrace all forms of diversity and inclusion or if the goal of increasing diversity in multi-dimensional aspects will be best served as a separate group", I would **keep it as a WG** for the time being.

**WG13** (Newtonian Constant of Gravitation): I didn't receive any input, but it seems it needs to continue as WG.

## **Put on hold with no allocation of funds:**

**WG2** (Communication in Physics)

**WG12** (Energy)

until their mandates are renovated (WG2 might be transformed into a WG on Open Science and WG12 into something related to sustainability and/or climate change: we started discussions on this possibility with Nithaya Chetty and Igle Gledhill).

## **Dissolve:**

**WG10** (Astroparticle Physics International Committee)

Before we discuss the situation of **WG15** (Soft Matter), **WG9** (International Cooperation in Nuclear Physics) and **WG14** (Accelerator Science), let us recall their mandates.

**WG15 (Soft Matter).** Created by the 29th GA (2017).

- To organize/assist in organization of an International Conference “Soft Matter Around the World” which rotates every 3 years to each geographic region (Europe-Africa, the Americas, and Asia-Pacific).
- To coordinate soft-matter-related regional, national & local conferences, meetings & workshops
- To coordinate soft matter education, such as summer/winter schools and short courses and help organize them if a need appears
- To promote soft matter research through information exchange, publicity, prizes, publications, etc.
- To strengthen the connections between academic and industrial soft matter research and development through outreach events, short courses, etc.

**My opinion:**

This mandate does not seem temporary. It seems much more the mandate of a Commission rather than of a WG, but the advice of C3, C6 and C20 was against it becoming a commission. My opinion is, if it's not a commission, then we should dissolve it, not immediately because it hasn't been in existence for more than 6 years yet. In the meantime we should talk with the Chair of WG15 first.

## WG9 (International Cooperation in Nuclear Physics)

- Provide a description of the landscape of key issues in Nuclear Science research sequentially for the next 10 to 20 years (IUPAP Report 41).
- Produce and maintain a compendium of facilities existing or under development worldwide (IUPAP Report 41 and Addendum).
- Establish a mapping of these facilities on to the scientific questions identified above.
- Indicate the missing components that would have to be developed to provide an optimized, comprehensive network of international facilities.
- Explore mechanisms and opportunities for enhancing international collaboration in nuclear science ( the establishment of ANPhA [Asia Nuclear Physics Association] and ALAFNA [Asociacion Latina Americana de Fisica Nuclear y Aplicaciones] with a nascent similar effort for Africa).
- Identify the R/D projects that could benefit from an international joint enterprise.
- Serve as a source of expert advise to governmental and intergovernmental organizations in connection with efforts to coordinate and promote nuclear science at the international level ( the OECD Global Science Forum Working Group on Nuclear Physics [2006-2008] ).
- Serve as a forum for the discussion of future directions of nuclear science in the broadest sense (the IUPAP Nuclear Science Symposia).
- Document the cross disciplinary impact of Nuclear Physics with its Nuclear Science Facilities and identify mechanisms for expanding (fostering) cross disciplinary research.

My opinion:

This is different from the previous case. This mandate does not correspond to that of a commission, but, on the other hand, it's not exactly temporary either. Should we start thinking of another type of structure? What about funding?

**WG14** (Accelerator Science). Created in 2015 to promote the exchange of information and views among the members of the international scientific community in the field of Accelerator Science including, but not limited to, the following:

- Education and training in Accelerator Physics and Technology
- The theory and experiments concerned with the nature and properties of particle accelerators and beam physics
- The improvement of international communication in Accelerator Science through the sponsorship of professional meetings
- The future of accelerator facilities for various fields that benefit science and society
- The industrial, medical, energy production and environmental applications of relevant accelerator technologies

Let us compare it with that of WG1 (ICFA):

- To promote international collaboration in all phases of the construction and exploitation of very high energy accelerators;
- To organize regularly world-inclusive meetings for the exchange of information on future plans for regional facilities and for the formulation of advice on joint studies and uses;
- To organise workshops for the study of problems related to super high-energy accelerator complexes and their international exploitation and to foster research and development of necessary technology.

The report says: “While WG1 has a focused mandate on high-energy and high-intensity frontier accelerators for particle physics, the mandate of WG14 is the advancement of accelerator science with focus on non-High Energy Physics and societal applications of accelerators”, but “went somewhat dormant for about 3 years. There is recent re-invigoration of WG14. Gianluigi Arduini (CERN) has taken over as WG14 chair (from Lia Merminga – FNAL)”. CERN and FNAL are not exactly non-high energy. The report mentions “light sources” and we have LAAMP which I understand is mainly for training purposes. On the other hand, the report also mentions that “The WG1 ICFA Chair and the Chairs of the ICFA Beam Dynamics and Sustainable Accelerators and Colliders Panels are Associate Members of WG14”. My feeling is that there is a lot of duplication.

The articles say: “The Executive Council will determine the budgetary allocation for each Working Group.” Perhaps an option is, if there is duplication, to decide on a reduction of the allocation of funds. This is very difficult to follow. Perhaps the chairs should present a budget in their reports and then we could decide whether we could cover the requested funds or not.

I also think that we have to think of another type of structure to accommodate these groups that are not exactly temporary but are not commissions either.

If we are going to have long term WGs (or whatever other structure), we should think of rules for membership renewal as well.

**Working Group on Ethics (WG18)** was originally created with the following mission:

1. To survey international ethics standards across societies, journals, and funding agencies, including hiring practices.
2. To consider these accumulated data to develop a set of international ethics standards.

This mission would first be applied to ethics concerning traditional scientific misconduct, including plagiarism, misuse of public funds, fabrication or misrepresentation of data, and accuracy in self representation. Later, in collaboration with WG-5, the mission would include ethical standards to prevent and establish lines of actions in cases of harassment and sexual misconduct.

**Ana Maria Cetto** (*current president of the Mexican Physical Society. She was Council member of the Pugwash Conferences when this organization received the 1995 Nobel Peace Prize. She was Deputy Technical Director of IAEA and as such she was also participant of the 2003 Nobel Peace Prize*) accepted to be the Chair of WG18 but reducing its scope to establishing guidelines for the functioning of IUPAP.

### **A possible description of WG18 (new) mission:**

- To define the ethics standards that should rule the functioning of IUPAP and the behavior of the people associated with (related to?) the union.
- To establish a set of guidelines, based on these standards, for all the activities carried out, endorsed or sponsored by IUPAP.

## Members

- **Ana Maria Cetto**, Mexico. **Chair**
- **Abdullah Shams Bin Tariq**, Professor, Department of Physics, University of Rajshahi in Bangladesh, past member of the Young Academy of Science's Executive Committee, <https://globalyoungacademy.net/asbtariq/>. He's already worked with Ana Maria and agreed to be on the WG.
- **Maria Rentetzi**, proposed by Jaume Navarro (AC), chair for Science, Technology and Gender Studies and professor at the Friedrich-Alexander Universität Erlangen-Nürnberg (<https://www.stgs.fau.de/people/prof-dr-maria-rentetzi/>), Visiting scholar at the Max Planck Institute for the History of Science, <https://www.mpiwg-berlin.mpg.de/users/mrentetzi>.
- **John Holdren**, USA, former scientific advisor of B. Obama, will be contacted by Ana Maria.

Any suggestions? What about someone from Africa? Igle Gledhill (former chair of WG5)?

**Working Group on Quantum Science and Technology (WG19)** with the following mission:

To analyze the creation of a new IUPAP Commission on Quantum Information Science and Technology. Supporting information for this proposal is available at the Indico page for our latest (30<sup>th</sup>) GA.

**Shohini Ghose**, Professor of Physics and Computer Science at Wilfrid Laurier University in Canada, NSERC Chair for Women in Science and Engineering; Director, Centre for Women in Science (WinS); Past President, Canadian Association of Physicists; former member of WG5. She has agreed to be the chair of WG19. She is a Pro

We have discussed a huge list of possible names, but haven't converged yet to the final list.