

7th Meeting of the IUPAP Working Group on Accelerator Science (WG14)

December 21, 2021 15:00 – 17:00 CET

Virtual Meeting

Attendees: Gianluigi Arduini (CERN), Maher Attal (SESAME), Bob Bingham (RAL), Caterina Biscari (ALBA), Swapan Chattopadhyay (FNAL/SLAC), Di-Jing Huang (NSRRC), Oliver Kester (TRIUMF), Tadashi Koseki (KEK), Lin Liu (LNLS), Nikolai Lobanov (ANU), Lia Merminga (FNAL), Simon Mullins (BIUST), Sekazi Mtingwa (AFLS), Qing Qin (ESRF), Leonid Rivkin (PSI), Mike Seidel (PSI)

Excused: Stuart Henderson (JLab), Mats Lindroos (ESS), Minh Quang Tran (EPFL)

Agenda and slides available at [7th WG14 Meeting \(December 21, 2021\) · Indico \(cern.ch\)](#)

Topic 1: Introductions - Welcome new members

New members:

- ✓ Maher Attal (SESAME)
- ✓ Sekazi Mtingwa (AFLS)

Welcome to the new members!

Topic 2: Approval of the Agenda (see slides: https://indico.cern.ch/event/1103912/contributions/4649667/attachments/2368182/4044525/Meeting_20211221_Agenda%26Follow-up%20of%20actions_21122021.pptx)

Sekazi suggests the following additional item: Update on the African Light Source

Topic 3: Follow-up of actions (see slides: https://indico.cern.ch/event/1103912/contributions/4649667/attachments/2368182/4044525/Meeting_20211221_Agenda%26Follow-up%20of%20actions_21122021.pptx)

1. Rebalance WG14 panel – Some proposals made – **for DISCUSSION/DECISION today**
2. WG14 to think about ICFA panel on Advanced & Novel acceleration: Chair Philippe Piot – **for DECISION today**
3. Lia to circulate 9/17/21 mtg slides and previous GA report - **DONE**
4. Update IUPAP web page – **Gianluigi discussing with J. Vicens/S. Ponce Dawson on the best strategy**
5. Liu Lin to contact Sekazi Mtingwa sekazi.mtingwa@gmail.com – **DONE – S. Mtingwa has joined WG14!**
6. Lia to contact: Swapan, Di-Jing Huang, Nikolai Lobanov, Pavel Logachev – **DONE –No reply from Pavel Logachev**
7. Lenny to contact Rolf Heuer – **DONE – M. Attar has joined WG14!**
8. Stuart Henderson to inform WG of new Chair of ICFA Beam Dynamics Panel – **DONE – Y. Cai – SLAC is the new Chair**

9. Lenny to contact Mike Seidel representative of ICFA Panel on Sustainable Accelerators and Colliders - **M. Seidel has Joined WG14 as PSI representative**
10. Chris to contact new Chair of WG7 - International Committee on Ultrahigh Intensity Lasers (ICUIL) – **DONE – C. Barty will continue to represent WG7**
11. WG14 to rethink C12 - **Energy after GA – for Discussion today**
12. Caterina to suggest names from the African Light Source – **DONE – S. Mtingwa**
13. Lia and Gianluigi to draft WG14 report for the October GA and distribute for comments. Report needs to be submitted end of September. – **DONE** (see https://indico.cern.ch/event/1103912/attachments/2364527/4037115/WG14_Accelerator_Science_Report_to_IUPAP_General_Assembly_2021.pdf)
14. Lia to notify Michel Spiro of attendance of GA by Lia & Gianluigi, and request transfer of Chair to Gianluigi after GA meeting (October 23, 2021) - **DONE**

Topic 4: Notes from the 30th IUPAP General assembly Meeting (see slides: https://indico.cern.ch/event/1103912/contributions/4649691/attachments/2368186/4044255/GeneralAssembly2021_Notes_GA_QT_SM_21122021.pptx)

Topic 5: Discussion (see slides: https://indico.cern.ch/event/1103912/contributions/4649726/attachments/2368189/4048848/Meeting_20211221_items_for_discussion_21122021.pptx)

1. Mandate/Mission
 - a. The mandate is revised to include education in accelerator science:
The following revised mandate is proposed:
 - *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*

Action: Submit the new mandate (changes in red) for approval at the next meeting (Gianluigi)

2. Membership

The following representatives will be contacted to join WG14:

- Zinhle Buthelezi (i-Themba Labs) → **Action: S. Mullins to contact her.**
- Yunhai Cai will join WG14 as ICFA Beam dynamic Panel representative → **Action: Gianluigi to contact him.**
- Vaishali Naik will join WG14 as representative for India → **Action: Lia to contact her.**

- Suzie Sheehy will join WG14 as additional representative for Oceania and as potential contact with Industry and Accelerator Applications → Action: Nikolai to contact her.
- Liangting Sun from IMP, Lanzhou as representative from China → Action: Qing to contact him

To improve gender and regional balance representatives from the following countries should be proposed for approval at the next meeting:

- a. Korea: Action: Oliver
- b. Russia: Action: Gianluigi to contact Elena Shaposhnikova to propose a Russian representative
- c. Sekazi thinks he should not be considered as representative for Africa. He will propose a representative for the African Light Source. Action: Sekazi

No representative from the ICFA Panel on Advanced and Novel Acceleration, IUPAP C12 (Nuclear Physics), IUPAP WG12 (Energy) will be requested for the time being given the already large number of members.

Action: Gianluigi to contact T. Roser to define the representative for the ICFA Panel on Sustainable Accelerators and Colliders.

We should re-establish the contacts with IAEA → Action: Gianluigi will contact Aliz Simon to propose an IAEA representative

Gianluigi has contacted S. Jacquemot (IUPAP C16 – Plasma Physics chair) for a possible representative. If no reply is received, we will maintain M.-Q. Tran as representative for that commission

3. Modus Operandi:

We will organize ourselves in subcommittees with a lead to develop on some themes/activities During each meeting we will review progress on one or two themes and we will have a round table to report activities in different regions or developments in associated commissions or working groups represented in WG14

4. Themes/activities:

a. Promotion of Accelerator Science:

Lenny noted that as part of European Strategy for Particle Physics and Snowmass strategies for Accelerator R&D are being defined for High Energy Accelerators. We should not duplicate that work. Swapam noted that we should act complementing that activity. Swapam (lead) and Lenny will propose a possible plan of action. Action: Swapam and Lenny.

b. Education

Bob Bingham suggested to keep contact with ICTP as they are very active and open to students from less developed countries, in some cases they can also support participation from these countries. Oliver (lead), Bob, Sekazi will develop a plan of action involving the existing accelerator schools (CAS, JUAS, IAS, ICTP). Possible interactions with C13 (Physics for Development and C14: Physics Education. Action: Bob, Oliver, Sekazi

We should discuss at the next meeting whether we want to involve AC5: International Association of Physics Students. Action: Gianluigi to bring this up at the next meeting.

c. Publications

Caterina noted that this is an important subject. Gianluigi reminded the “3 pillars” initiative for IPAC. JACoW has provided an excellent coverage of the material presented at conferences and workshops in accelerator science but Oliver noted that long term sustainability is not guaranteed. WG14 should provide a position statement and a plan of action. Caterina (lead), Di-Jing, Gianluigi, Nikolay, Oliver will address this. Action: Caterina, Di-Jing, Gianluigi, Nikolay, Oliver.

d. Interactions with ICFA/ICUIL

Gianluigi suggested that it would be important to identify common areas of interest and action, but Lenny pointed out that it would be important to identify where there is a need in the community. This will be discussed at the next meeting when Y. Cai will be also invited and with the presence of Chris and Stuart. Action: Gianluigi to bring it up at the next meeting

e. IPAC as WG14 Conference and IPAC MoU

After discussion it was felt that we should address the revision of the MoU to have a more coherent approach in the organization of IPAC as IUPAP WG14 conference. We should resume the work started in 2016. The sub-committee should have representatives from different regions. The following composition is proposed: Gianluigi (lead), Caterina, Lia, Lin, Tadashi. Action: Gianluigi, Caterina, Lia, Lin, Tadashi to resume the discussions.

f. Communication (Web site, etc.)

Gianluigi has contacted S. Ponce-Dawson who oversees the new IUPAP web site to see what is the support provided for updates of the IUPAP WG14. He feels that an independent web page with a link in the general IUPAP web page is probably the most flexible solution. We should discuss the content at the next meeting (some proposals are made in the slides). Action: Gianluigi to bring up this point

g. WG vs commission

Now the WG structure offers the largest flexibility. We will review this point once the structure, themes and activities of the WG are better defined; possibly at the end of 2022 or beginning of 2023.

Topic 6: Future Meetings

Gianluigi proposed to meet approximately every 2 months to progress swiftly in the definition of the themes and activities above mentioned. Next meetings are tentatively scheduled on:

- February (week starting 21/2)
- April (week starting 25/4)
- June (week starting 20/6)
- September (week starting 19/9)
- November (week starting 21/11)

It was felt that this might be too frequent and meeting every 3 months might be sufficient given the commitments of the various members. This will be further discussed at the next meeting in February. It was also suggested to start the meeting later to have a more convenient time for the other participants

Action: Gianluigi will set-up a doodle poll to define the exact date/time (Action: Gianluigi)

Given the pandemics situation and to reduce our carbon footprint it is proposed to have those meetings in virtual format. We should aim to have 1 face-to-face meeting once per year starting from 2023 possibly at IPAC23 (7-12 May 2023)

Topic 7: Round Table

Sekazi presented the activity ongoing towards the construction of an African Light Source (AflS). He is the editor of a Conceptual Design Report. More information can be found here:

<https://www.africanlightsource.org/>

<https://www.africanlightsource.org/afls-roadmap-cdr/>

Caterina and Lenny mentioned that a League of European Accelerator-based Photon Sources (LEAPS) has been set-up. Lenny is the present Chair and Caterina will take over next year. They suggested that AflS contact them. Action: Sekazi.

Notes written by Gianluigi (22/12/2021)

Revised (10/01/2022)