

From: Wang, Daria Daria.Wang@orau.org 
Subject: Physics Education Meeting 3.16.2021 - Summary and Action Items
Date: March 17, 2021 at 10:35 AM
To: Randal Ruchti rruchti@ND.EDU, Sudhir Malik malik@fnal.gov, sijbrand@hef.ru.nl
Cc: ketevi@bnl.gov, quinn@phy.olemiss.edu

DW

Dear Randy and All,

Below are notes and action items from yesterday's meeting. Please, let me know if any changes are needed. I have also noticed that I do not have access to the WP5 slides attached to Indico. If the document is restricted to certain users, no problem at all – I just wanted to point it out since it is possible that others who attended the meeting might not be able to access it either.

Physics Education Meeting

Tuesday, March 16, 2021

1:00 PM – 2:20 PM EDT

Attended: Randal Ruchti, Chris Rosenzweig, Marge Bardeen, Ketevi Assamagan, David DeMuth, Yining You, Kenneth Cecire, Sudhir Malik, Azwinndini Muronga, Daria Wang (ORISE)

Summary:

WP5: Public Education and International Connections.

- New proposed title: International Particle Physics Education. Focus on international outreach.
- Brain dump of components:
 - o ASP/ACP and associated teacher and learner programs
 - o IPPOG (International Masterclasses, Global Cosmics)
 - o Direct Engagement (Physics without Frontiers, Collaboration between outreach and education groups, Workshops and collaboration between universities and/or labs, schools)
 - o Cosmic ray networks (international cooperation – e.g. sharing of detector tech, analysis methods; international events – e.g. International Cosmic Day)
 - o Beamline for Schools
- Use social media and similar tools. Direct and public connections between physicists, students, teachers and public
- Latin American Strategy Forum for Research Infrastructure for High Energy, Cosmology and Astroparticles – first time strategy process conducted in LA. www.lasf4r1.org
- The power of professional networks:
 - o Run multinational campaigns while acknowledging national and local contributions
 - o Agree on press release protocol to speak in one voice
 - o Innovate locally and nationally sharing best practice
- Particle physics institutes are located in only 3-4 African countries.
- High School Teachers Program. Objective: support teachers growth in the planning and delivery of physics instructions. One week event: up to 70 teachers from the host country identified by the Local Organizing Committee and the Ministry of Education. Science and Math teachers from areas only around the capital city of Namibia due to the lack of funding to bring teachers from entire

capital city of Namibia due to the lack of funding to bring teachers from entire Africa. Teachers program runs in parallel to the students program.

- High School Learners Program. Objective: Motivate high school pupils to develop and maintain interest in Physics. One week: we cover up to 40 high schools around the venue, 1500-2000 high school learners. Learners program runs in parallel to the students program. Program designed such that the lecturers that are not lecturing to students can help with the learners program.
- ASP – Conference. Objective: attract ASP alumni, attract African research faculties, attract international participants not part of ASP, foster new research collaborations. One week: the physics topics taught at the school form the core of the ASP conference. Peer-reviewed conference proceedings published by the African Review of Physics.
- ASP Mentorship Program runs continuously even when there is no school. Open to ASP student alumni in Ph.D. programs. Pairing of students to lecturers, lecturers to mentor. Not a replacement of academic advisors, rather an addition to/in collaboration with. Through this program we place ASP alumni in high education programs in South Africa, Asia, Europe and North America.
- ASP alumni retention: 58% stay in their country, 21% - Other Africa, 10% - Europe, 7% - North America, 3% - Asia.
- Alumni from African School of Physics come to Brookhaven Lab for hands-on work experience.
- International seminars where students from different countries in Africa give talks.
- How will Particle Physics Community sustain this engagement?
- In the US, there are plans for having series of outreach (workshops) to underrepresented minorities (historically black colleges, latino institute etc.). How can small institutes get involved in bigger experiments?
- International outreach depends on the contacts we have with the countries. It is difficult to establish a program if there are no particle physicists in the country (especially smaller countries). How do physicists connect with physics teachers/professors in these countries to interest them in working with their own teachers, implement our model (we can help them get started)? If you don't have local buy-in, it is difficult to succeed. If there are no working particle physicists in the country, it is harder to maintain the outreach.
- Conference Community could be a good place to start: <https://www.smf.mx/xi-latin-american-symposium-on-high-energy-physics-silafae/>
- See detailed presentation slides attached to the indico page [here](#).

WP4 to present during the next meeting in 2 weeks. After WP4 presentation, we can discuss whether we want to have meetings on a weekly basis so that we can get monthly reports from each WP. Each group would have to present only once a month.

Action Items:

- WP5 – next step is to put together a structure/outline.
- March 30 – Discussion on Connections into Computing (WP4)

Thank you,

Daria Wang, CMP, DES
Event Project Planner

Scientific and Technical Resource Integration (STRI)





CARNEGIE INSTITUTE
FOR SCIENCE AND EDUCATION

Shaping the Future of Science

865-839-7754 (cell)

Daria.Wang@orau.org

Discover ORISE: [Web](#) | [Facebook](#) | [Twitter](#) | [YouTube](#)