


From: Wang, Daria Daria.Wang@orau.org 
Subject: RE: Physics Education Meeting 12.15.2020 - Summary and Action Items
Date: December 15, 2020 at 3:58 PM
To: sudhir.malik@upr.edu, sijbrand@hef.ru.nl, rruchetti@nd.edu
Cc: Assamagan, Ketevi ketevi@bnl.gov, Breese Quinn quinn@phy.olemiss.edu

DW

Dear All,

Below are notes and action items from today's meeting.

Physics Education Meeting
Tuesday, December 15, 2020
1:00 PM – 2:15 PM EST

Attended: Randal Ruchti, Yining You, Marge Bardeen, Sijbrand de Jong, Olivia Bitter, Scott Kravitz, Kenneth Cecire, Kétévi Assamagan, Daria Wang

Summary:

- Minutes are posted on Indico page for your review.
- Review of the White Paper distribution:
 1. Career/Education (Sudhir; Randy, SdJ,____)
 - Meeting the Challenges and the Opportunities - Educational Preparation and Training for Particle Physics and Related Research and Technical Careers.
 2. General Education – K/12 and Up (Marge B; Randy, SdJ,____) – *added Marge here.*
 - Rethinking Science and Mathematics in Secondary Education - Bridging of K/12 Education and Research Science.
 3. Particle Physics Specific Education (SdJ; Randy,____,____)
 - Restructuring the Particle Physics Curriculum in Higher Education to meet Twenty-first Century Challenges.
 4. Global Software Issues and HEP (Sudhir; SdJ,____)
 - Recasting Software and Computing Education to Drive Experimental and Theoretical Advances in Particle Physics.
 5. Public Education and International Connections (Ken C; Ketevi, Azwinndini, SdJ) – *added Ken here.*
 - Particle Physics Without Boundaries – Scientific Experiments and Data Online and in your Hands.
- Discussion on WP 2. K/12 and Up. WP with an umbrella idea – How do particle physicists make discoveries. Under that umbrella LOIs and other ideas outside of LOI can fit. Broad enough concept. One can bring this group forward on a faster timeline. Can also give opportunity to people to work through summer. Action quality in the topic that will draw people in. Several LOIs covered this domain. Need to make sure this WP is strong. New National Academy study on how to get engineering into high schools. Not enough people are getting in the act of getting everything culturally better. No one teaches engineering in high school.
- Discussion on WP 1. Career/Education: has connections to Sudhir and CommF02. Systemic and ongoing. No Master's program at University of Notre Dame, but the conversation initiated regarding starting technical degrees across the college. Driven by engineering. John's Hopkins U is #1 on Master program in search engines. They have applied physics degrees there, labs, connections with government labs, ideas to train people etc. Financial benefit

connections with government labs, ideas to train people etc. Financial benefit to institutions helps with building such programs. Catholic U in Washington also does this. Penn State U also: data analytics (statistics, event mining, working in ways that are of interest in particle physics). Stanford, Columbia, U Minn Duluth, Northern Illinois, Brown U. There are others. Students at some universities will pay for such programs. Might be a way of aggregating students interest in different places. Guidance counseling in high schools and schools – wonder how influential they are. Career/Education is an umbrella for all that we do. Would benefit from K12 working group from feeding into it. These programs study material science and condensed matter mostly. Driven by local corporate and public interest in the area where they are. Penn State included data analytics. Initially identified universities that had Masters Programs. Working group can contact them to gather data on the scope of their program and requirements. How do we get faculty to take interest in particle physics. Connections with College of Engineering might help. University of Illinois at Urbana-Champaign has a strong engineering school. Look for geographic opportunities. Once we get WP group started, we can have WP leadership back on a regular basis in this meeting so that people can be comparing notes to see what other groups are doing.

- White Paper format TBD. At a minimum, it should include an issues and a solution.
- It has been confirmed that Snowmass is extended by an additional year. CSS to take place in July 2022. LOI will not reopen. WP deadline – January 2022. There is no recommendation for Topical Groups on whether to slow down or pause the process. All of the Frontier workshops planned for spring 2021 have to be rescheduled for later. Topical Groups may continue their activity at a reduced pace. Some Topical Groups may finish by July 2021. For example, Applications & Industry conveners are mostly from Industry. They cannot make themselves available for another year and would rather finish on the original schedule. Each frontier should discuss this internally and get back to the Steering Committee in January to explain how they want to proceed. No CSS in July 2021, may do a different activity then.
- Next meeting on January 19, 2021.

Action Items:

- Randy to put together a template and requirements for the WP to share with working groups. It will be up for discussion.
- Discuss WP 3, 4 and 5 during the next meeting on January 19, 2021.

Please, let me know if any changes are needed.

Merry Christmas and Happy New Year!

Daria Wang, CMP

Event Project Planner

Scientific and Technical Resource Integration (STRI)



**OAK RIDGE INSTITUTE
FOR SCIENCE AND EDUCATION**

Shaping the Future of Science

865-839-7754 (cell)

Daria.Wang@orau.org

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