

Computation ↔ Community Engagement

– opportunities for working together

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September 24, 2021

Snowmass Day

Computational Frontier – parallel sessions

Preparation of this talk has been supported by RadiaSoft LLC. The material is based primarily on content generated by the 2021 Snowmass community and, hence, is based in part on work supported by the U.S. Department of Energy, Office of Science, Office of High Energy Physics.



presented via Zoom



U.S. DEPARTMENT OF
ENERGY

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Science

CommF1: Applications & Industry

- **Conveners:** Farah Fahim (FNAL), Alex Murokh (RadiaBeam), Koji Yoshimura (Okayama)
- A software-specific LOI offers an opportunity to work together: “Collaboration between industry and the HEP community”

Industry: RadiaSoft, Kitware

Universities: NIU, U. Strathclyde, Korea U.

Laboratories: Fermilab, Argonne, SLAC

https://www.snowmass21.org/docs/files/summaries/CommF/SNOWMASS21-CommF1_CommF0-AF0_AF1_Bruhweiler-066.pdf

Would you like to have a follow up meeting with a longer time schedule?

Yes – if there is interest in working together on the white paper.

CommF2: Career Pipeline & Development

- **Conveners:** Sudhir Malik (UPRM), Julie Hogan (Bethel U.),
Aneliya Karadzhinova-Ferrer (Ruder Boskovic Institute)

*What do we need to be aware of so that it ends up in our report?
Projected requirements related to software and computing...?*

- The US has ~600 enrolled PhD students in HEP
- Postdocs ~200; Undergrads ~1000 (HEP aspirants)
- The US number is $\sim 200+600+1000 = 1800$
- The HEP worldwide number (without US) is ~ 6000

→ ~ 8000 individuals who need HEP relevant training

Investment in software training is essential for our community!

Would you like to have a follow up meeting with a longer time schedule? Yes.

CommF4: Physics Education

- **Conveners:** Randal Ruchti (Notre Dame), Sijbrand de Jong (Radboud), Sudhir Malik (UPRM)

What are your concerns about computing; what keeps you up at night?

Most important is to scale up software training efforts, with all the HEP facilities and institutions working together towards common materials and approaches

What do we need to be aware of so that it ends up in our report?

For training, we need a change in attitude. No big science is possible without a trained workforce. People who invest their time in training need to be supported (financially and otherwise) by their institutions and the community. It cannot be done on a voluntary basis – that cannot scale.

Is there existing documentation?

<https://iris-hep.org> & <https://hepsoftwarefoundation.org> offer documentation.
...any feedback regarding how these can be improved in the future?

Would you like to have a follow up meeting with a longer time schedule? Yes.

CommF3: Diversity & Inclusion

- **Conveners:** Mu-Chun Chen (UCI), Yi-Hsuan C. Lin (SNOLAB),
Carla Bonifazi (UFRJ), Johan S. Bonilla (UC Davis)
- This topical group strongly encourages participation from other Snowmass participants.
- A relevant LOI offers an opportunity to work together:
“Making the most of our (old) Computing Resources”
https://www.snowmass21.org/docs/files/summaries/CompF/SNOWMASS21-CompF0_CompF0-CommF3_CommF0_Samuel_Meehan-033.pdf
- Led by Sam Meehan (CERN), this has become a non-profit:
 - The organization is called Kente Connect (www.kenteconnect.org) and aims to support digital literacy in Ghana

CommF5: Public Education & Outreach

- **Conveners:** Sarah Demers (Yale), Kathryn Jepsen (SLAC)
Don Lincoln (FNAL/Notre Dame), Azwinndini Murongo (NMU)
- **Description:**

We need to develop (or improve) effective means to communicate the research, its results, applications and impacts to the general public, students and policymakers. Through outreach programs, the community of physicists should generate enthusiasm and interest in physics, particularly among pupils.
- **This topical group strongly encourages participation from other Snowmass participants.**

CommF6: Public Policy & Government Engagement

- **Conveners:** Rob Fine (Rochester), Louise Suter (FNAL), Brajesh C. Choudhary (Delhi)
- **Description:**

The importance to maintain effective and continuous presence and engagement in all sectors of society, in particular with government and policymakers, should be well articulated. Physicists should be trained and promote these images of societal engagements that may erase stereotypes and improve public perceptions. This should be accompanied by well-articulated, yet realistic, presentations of our activities with the objective to sustain or augment support for fundamental and applied physics.

Would you like to have a follow up meeting with a longer time schedule?

We have no specific reasons to speak with CF representatives, but we would be happy to meet, if there are issues where our topical group can help.

CommF7: Environmental & Societal Impacts

- **Conveners:** Véronique Boisvert (URAL), Ken Bloom (UNL),
Mike Headley (SDSU/SURF/SDSTA)
- A relevant LOI offers an opportunity to work together: “Ethical implications for computational research and the roles of scientists”
https://www.snowmass21.org/docs/files/summaries/CommF/SNOWMASS21-CommF6_CommF3-CompF3_CompF6_brian_nord-054.pdf

Would you like to have a follow up meeting with a longer time schedule?

A short meeting would be good to make sure we’re coordinated on the submission of the corresponding white paper for the LOI referenced above.

We believe we’re working on issues that could have existential impact on the future of the field, so we’ll talk to anyone about them!