

The Seattle Snowmass Summer Study Workshop

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The 2021 Snowmass process, delayed by COVID-19, will culminate in the summer of 2022 at the Seattle Snowmass Summer Study Workshop, to take place from July 17 to 26, 2022 on the campus of the University of Washington. The proposal requests supplemental funding for the workshop.

Rest of summary page

1 Info

This document contains the summary page (previous) and the narrative (following pages). This page contains some items to track to help write this proposal. Clearly, before final submission, section numbers will be fixed. Just nice to have it all in one place for now.

Current Phase: Dump Text

The goal is to get all the points into the text and not worry too much about wordsmith or fixing awkward sentences. Please add whatever you feel is necessary, even if it doesn't totally fit. Feel free to leave a comment in the text (please textbf or emph it so we don't accidentally miss it later). It is, of course, fine to wordsmith - that will make for less work down the line! And feel free to mark things that you don't feel is necessary.

2 Checklist

- Get someone who submits DOE proposals from a university to quickly check this
- Make sure we mention we will be talking with the NSF as well as exploring other sources for funding

3 Context

- Costs for entertainment and alcoholic beverages are not allowed and cannot be reimbursed. Such costs cannot be included in the conference registration fee.
- Costs for meals, refreshments (e.g. coffee breaks), invited speaker travel or honoraria are allowable only in very limited circumstances. Explicit justification must be provided.
- Costs for room and A/V rental, meeting support, and conference proceedings are allowable.
- Travel support should be limited to students who have no other source of funding.
- Grantees are not allowed to charge overhead on conference proposals.
- Exploring multiple funding sources is encouraged and should be noted in the proposal.

The Seattle Snowmass Summer Study Workshop will take place between July 17 and 26 2022 on the Seattle campus of the University of Washington. This workshop is the culmination of the 2021 *Snowmass process* [?], the decadal survey by the US particle physics community to assess priorities and progress in the field. The Division of Particles and Fields [?] of the American Physical Society [?] organizes and runs the Snowmass process.

As described in the budget description we are asking for support for undergraduate student helpers, facilities, and materials and supplies, participant support, and professional management services.

4 The Snowmass Process

The Particle Physics Community Planning Exercise (a.k.a. “Snowmass”) is organized by the Division of Particles and Fields (DPF) of the American Physical Society (APS). Snowmass is a scientific study. It provides an opportunity for the entire particle physics community to come together to identify and document a scientific vision for the future of particle physics in the U.S. and its international partners. Snowmass will define the most important questions for the field of particle physics and identify promising opportunities to address them.

The Steering Group oversees the process and it consists of the DPF chair line, plus the chair-line representatives from Division of Astrophysics (DAP), Division of Physics of Beams (DPB), Division of Nuclear Physics (DNP) and Division of Gravitational Physics (DGRAV).

Draft frontier reports based on the white papers, will be available by June, and will provide the input to the Seattle meeting, where a complete draft report with a summary and conclusions outlining the vision of the US HEP community will be produced. Final editing will follow the meeting and the report will be submitted to the High Energy Physics Advisory Panel (HEPAP) and to APS in the fall of 2022.

4.1 The Frontiers

There are ten frontiers to cover a broad physics directions and community engagements. They are

- *Accelerator Frontier,*
- *Community Engagement Frontier.*
- *Computational Frontier,*
- *Cosmic Frontier,*
- *Energy Frontier,*
- *Instrumentation Frontier,*
- *Neutrino Physics Frontier,*
- *Rare Processes and Precision,*
- *Theory Frontier,*
- *Underground Facilities,*

We have also established a cross-frontier group for the junior participants, the Snowmass Early Career (SEC).

5 Workshop Goals

The Seattle Snowmass Summer Study Workshop is the final meeting of the 2021 Snowmass Process. This meeting is the only gathering of the whole community - physically placing as much of it in one place at one time as is possible. Frontier meetings, or joint-frontier meetings, have occurred previously, this meeting is open to every frontier. This unique meeting serves several goals: it is an opportunity for further cross-frontier meetings and discussions, it is an opportunity for the frontiers to become more familiar with each others priorities and the problems they are facing, it is an opportunity for ad-hoc groups working on white papers to gather at one place for collaboration, and it is an opportunity for an in-person field wide discussion. Finally, it provides a point of closure as the community moves from the 2021 Snowmass process into the P5 process.

The workshop organization and layout is structured to best satisfy these goals. There is one plenary day at the start. It will serve to set expectation, reiterate the goals of both the Snowmass process, and as an introduction to the discussion and work that needs to occur over the next week. The following 7 days are all organized the same way: formal parallel meetings in the morning and larger gathering and discussions in the afternoon. The morning parallel sessions are organized by the frontiers and frontier sub-groups. We will run approximately 14 in parallel each morning, depending on the need. All combinations are possible - small individual sub-groups, larger cross-frontier meetings, and full frontier meetings: rooms are available from a full 700 seats to 30 seats. These meetings will be used to drive forward the more formal aspects of the Snowmass process. The afternoons will have larger cross-frontier discussions, panel sessions, and colloquia. We are planning to have one or two per day. The meetings, intentionally, will not always cover the complete attendance of the workshop to allow groups to meet informally or individual work. The University of Washington has many small study rooms and libraries available for this work. The campus is also situated in the middle of an area full of cafes and small restaurants that are perfect for small ad-hoc gatherings. The final 1.5 days are plenary sessions. These bring everyone back together again to take stock of what post-workshop work needs to be done to finish white paper publication, discussion of issues facing priorities, summarizing frontier priorities, and kicking off the next phase, the P5 process. This organization was patterned off the 2013 Snowmass on the Mississippi[?] meeting, which the community felt worked successfully.

We are employing many efforts, besides requesting funding, to keep the cost of the conference and lodging inexpensive in Seattle. We are using university facilities for the conference. While summer session will be in attendance, there are many lecture halls and smaller classrooms available and low prices. This will keep facility costs down. Seattle's newly installed light-rail provides a direct line from the airport to both sides of the campus, making it very easy to get between the airport, downtown, and the university area. Walks from the stations to lodging and to the meeting rooms can be measured in minutes for most. Further, the university area and the light rail are all ADA compliant, making it easy for everyone to get around. The university also has stunning WiFi and eduroam available. Finally, should COVID cause a major change in the organization of this conference, the fact we are using university resources will make it simpler to change without a financial loss.

The conference lodging will be in modern private dorm rooms, each with a private bathroom and shower, and university WiFi. The buildings are all less than 5 years old. Given the large number of people expected for this workshop, we will be able to dedicate floors, with common areas, to the workshop, providing for further informal meeting spaces. The dorm facilities are cheaper by almost a x2 than local hotels around the university. The Light Rail also means downtown hotels (which are cheaper) will be easily available, and there is a vibrant AirBnB community for those that can make use of those facilities.

Snowmass is a decadal survey looking often more than the next 10 years into the future. For some discussions and plans the only people that, reasonably, have a chance of taking full advantage of the science are the students. Of course, the students are also the least well funded to attend a meeting like this. We are exploring partnerships with others to reduce the financial costs for students. For example, we will be applying to the National Science Foundation for funds to reduce the cost of registration for students. We are also working with a number of groups like IRIS-HEP[?] and FIRSTHEP[?] to co-locate training exercises with Snowmass. These groups have put their in-person training on hold due to COVID, and Snowmass provides an opportunity to bring a large number of students together. Travel, a part of the registration, and about half lodging would be paid, making the complete attendance of Snowmass significantly cheaper. Currently, the groups are thinking about running a 5 day long program in the afternoons during the non-plenary days of the Snowmass meeting.

The conference will have a public outreach effort as well. We are planning a Physics Slam[?] along with a *Frontiers of Physics Lecture*[?]. The Physics Slam is The University of Washington Department of Physics hosts the Frontiers of Physics Lecture series. These are large public lectures, typically filling up auditoriums seating over 500 people. Some of the past lectures have been given by William D. Phillips (1997 Nobel Prize), Sean Carroll, David Wineland (2012 Nobel Prize), and Lisa Randall.

6 Workshop Organization

The local organizing committee is co-chaired by G. Watts and S-H Hsu, professors at the University of Washington Department of Physics and PI and co-PI of this proposal. They work in close collaboration with a local organizing committee:

- Alvaro E. Chavarria, Assistant Professor at the University of Washington, helping to coordinate the crew and public events
- Jason Detwiler Associate Professor at the University of Washington
- Joey Shapiro Key, Assistant Professor at the University of Washington, helping to coordinate public events
- Alejandro Garcia, Professor at the University of Washington, helping with the reception and banquet
- Anna Goussiou, Professor at the University of Washington, helping with public events
- Laura Jeanty, Assistant Professor at the University of Oregon, helping with early career scientists and public events
- Henry Lubatti, Professor at the University of Washington, helping with the reception, banquet, and media
- Elise Novitski, Postdoc at the University of Washington, helping with accessibility
- Gray Rybka, Associate Professor at the University of Washington
- Jan Strube, Data Architectures and AI Physicists at Pacific Northwest National Laboratory, helping with Lab & Industry coordination.
- Lauren Tompikins, Assistant Professor at Stanford University, helping with diversity, equity, and inclusion
- Tin-Tien Yu, Assistant Professor at the University of Oregon, helping with Diversity, Equity, Inclusion and Lab & Industry coordination.

And up-to-date listing of the LOC and everyone else involved with the conference can be found on the conference's website[?].

The Scientific Program Committee is responsible for the content of the workshop. It includes:

- *Steering Group members: Tao Han, Joel Butler, Sekhar Chivukula, Young-Kee Kim, Prisca Cushman; Glennys Farrar (DAP), Yury Kolomensky (DNP), Sergei Nagaitsev (DPB), Nicolas Yunes (DGRAV)*
- *Frontiers representatives: Ketevi Assamagan, Phil Barbeau, Nathaniel Craig, Ben Nachman, Meenakshi Narain, John Orrell, Alexey Petrov, Vladimir Shiltsev, Tim Tait, Elizabeth Worcester*
- *Snowmass Early Career representatives: Garvita Agarwal (PhD student), Jacob Zettlemoyer (post-doc)*
- *Local Organizing Committee Chairs: Gordon Watts, Shih-Chieh Hsu*

References