

Proposal to Host Snowmass 2021 (July 11-20, 2021) Jointly by the University of Pittsburgh and Carnegie Mellon University

Snowmass@ThreeRivers

The University of Pittsburgh (UPitt) and Carnegie Mellon University (CMU) are proposing to co-host the next high-energy physics (HEP) Community Planning Exercise in the city of Pittsburgh located in western Pennsylvania at the confluence of the Allegheny, Monongahela and Ohio rivers (Snowmass@ThreeRivers). Both universities have dynamic programs in particle physics, astrophysics, and cosmology that have spanned several decades.



The University of Pittsburgh, founded in 1787, with almost 30,000 students, is a large state research university closely affiliated with the University of Pittsburgh Medical Center (UPMC). Its Department of Physics and Astronomy hosts the Pittsburgh Particle Physics Astrophysics and Cosmology Center (PITT PACC), which coordinates and enhances local activities in experimental and theoretical particle physics in these fields. Some of the department's first efforts in nuclear and accelerator research were pioneered by Alexander J. Allen, who designed one of the earliest cyclotrons and oversaw the construction of a cyclotron at UPitt in 1946. Current high-energy physics research activities include experimental work at ATLAS, BELLE II, T2K, MicroBooNE, NovA, and MINERvA. The department also has a very active theory group with a strong expertise in phenomenology. Additionally, the Department of Physics and Astronomy manages the Allegheny Observatory, founded in 1859, whose first director was Samuel P. Langley, who later went on to become the leader of the Smithsonian Institution. UPitt's long and illustrious history in astronomy later broadened to include research in general relativity and cosmology. Today, the astrophysics group has strong efforts in large surveys (including SDSS, CANDELS, DESI, LEGA-C, and LSST), supernova physics, and corresponding theory studies.

Carnegie Mellon University, founded in 1900 by Andrew Carnegie as the Carnegie Technical Schools, is a private research university with about 6500 undergraduate students. The HEP group in the Department of Physics has had a long and proud history in theory, as well as experiment. Its tradition in nuclear and particle physics

was born in 1946 when Department Head Frederick Seitz, a condensed-matter theorist, oversaw the creation of the Nuclear Research Center and initiated the construction of the 450 MeV Saxonburg Cyclotron that operated from 1951 - 1969. The department's strength in HEP theory has always been a combination of phenomenological work and interests in formal theory issues. The experimental HEP group has worked at the frontier of the field and was involved in experiments at Fermilab, CERN, Cornell, DESY, BEPC, and KEK. It is currently participating in the CMS, BESIII, Belle II, and COHERENT experiments and enjoys the vicinity of a strong medium energy group working at JLab as well as the McWilliams Center for Cosmology, which joins research efforts in astrophysics, particle physics, computer science, statistics, and other disciplines to unravel the mysteries of the universe with participation in SDSS-IV, LSST, HSC, WFIRST, Euclid, and major leadership roles in DES and LSST-DESC.

The Co-Chairs of the local organizing committee encompass expertise from the theory, cosmology, energy, and intensity frontiers. They are

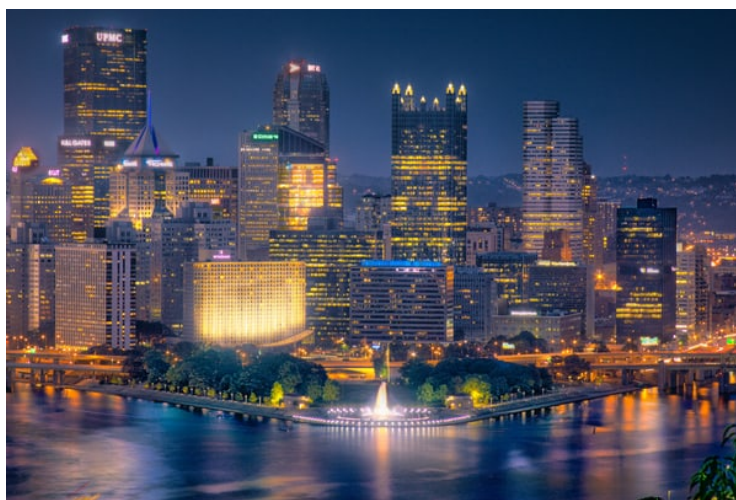
- Adam Leibovich (UPitt, theory, Co-Chair)
- Vittorio Paolone (UPitt, neutrino experiment, Co-Chair)
- Manfred Paulini (CMU, CMS, Co-Chair)
- Andrew Zentner (UPitt, Cosmology, Co-Chair).

The other local organizing committee members include:

John Alison (CMU), Brian Batell (UPitt), Joe Boudreau (UPitt), Scott Dodelson (CMU), Steve Dytman (UPitt), Ayres Freitas (UPitt), Joni George (UPitt), Tao Han (UPitt), Tae Min Hong (UPitt), Tina Kahniashvili (CMU), Arthur Kosowsky (UPitt), Rachel Mandelbaum (CMU), Jim Mueller (UPitt), Donna Naples (UPitt), Jeff Newman (UPitt), Diana Parno (CMU), and Ira Rothstein (CMU).

The local organizing committee is looking forward to working with the conference program committee for the academic programmatic arrangements.

Conference Venue



The conference venue will exploit the facilities at the Wyndham Grand Pittsburgh Downtown hotel (<https://www.wyndhamgrandpittsburgh.com>) for both lodging and conference rooms.

Conference Rooms

The plenary session will be in the 17,280 square foot Grand Ballroom that can hold up to 2,000 people theater style and has a built-in, hydraulic stage.

Space for parallel sessions can be arranged among 60,000 square feet of flexible meeting space out of a total of 30 meeting rooms with capacity ranging from 20 to 100 people.



All meeting rooms have comprehensive on-site Audio-Visual equipment, as well as wireless internet service. In addition, an experienced Convention Services team will be available to assist us with our event.

AV facilities

All of our AV equipment for our plenary and breakout rooms will be rented out by PSAV, a local full-service event production group, through the Wyndham Grand Hotel. The AV support will be for both the plenary room (about 1000-person occupancy) and at least 20 parallel rooms (between 50-100-person capacity). The AV packages that we plan to purchase for the rooms for the entire event are:

Meeting Room Projector Package - \$615

- AV cable lot Projection stand
- LCD projector Tripod screen

Podium Microphone Package - \$250

- Podium microphone
- Meeting room house sound
- 4-channel mixer

Conference Meals

We will start the morning conference sessions with a continental breakfast and fresh Starbucks coffee as well as specialty tea that will also be available during the two coffee breaks. For the afternoon coffee break, a light snack will also be available.

In the evening, we plan for one arrival reception with light appetizers, wine and beer for around 700 participants with an estimated cost of \$35 per person. In addition, in the middle of the week, one conference banquet is anticipated in form of a sit-down dinner with wine and beer at \$75 per person.

Both the dinner banquet and arrival reception for up to 700 people will be in the 10,080 square foot King's Garden Ballroom with soaring views of Point State Park.



Lodging

In general, the Wyndham Grand Hotel is home to 712 hotel rooms with an anticipated cost of \$150-\$189 per night, which can be shared by two participants for half price. If we book 500 rooms for every night from July 10 to July 20, 2021 at the Wyndham Grand, we are guaranteed the use of all the hotel conference rooms at no charge. It is possible that 250 rooms can be offered as dorm rooms where participants can share a room from July 10-July 20 and the remaining 250 rooms can be used as regular hotel rooms. Of course, all 500 rooms can also be used as regular hotel rooms.



Other hotel options near the Wyndham Grand Hotel are the Westin Hotel and the Omni William Penn from \$189-\$219 per night. Both hotels are within walking distance just minutes away. If needed, some student dorm rooms may be available on the UPitt and CMU campuses at a rate of about \$40 per night, about 20 minutes away with a direct bus ride from the conference site.

Environment

The Wyndham Grand Hotel is located in the heart of downtown Pittsburgh near the Market Square area where there are plenty of restaurants to eat and drink. It is within minutes of walking to the Fort Pitt Museum, Point State Park at the three-river intersection, Heinz Hall (Pittsburgh Symphony Orchestra), Benedum Center (opera and musicals), other theatres, and PNC Park, the home of the Pittsburgh Pirates.

The Wyndham Hotel and Visit Pittsburgh will also be available to assist us with any issues related to the workshop setup or planning local activities such as tour and sightseeing activities, e.g. tour by bike, bus or boat, around the city of Pittsburgh. Visiting local museums such as the Carnegie Museum, Science Center, Andy Warhol Museum, and the Children's Museum for a family-oriented visit will be available at a discount rate. Pittsburgh is also the home of the Steelers, Penguins, and Pirates who will be playing their regular season at the time of Snowmass@ThreeRivers.

Public Transportation

Pittsburgh has a modern and large airport with service to and from most major cities in the U.S. Convenient public transportation and shuttle service are available between the airport and downtown, with a public bus stop directly in front of the Wyndham Grand Hotel. In addition, the long-distance bus station and Amtrak train station are also located downtown. Other parts of the city can be visited by easily accessible public transportation or many private transportation options such as Uber or Lyft. Public transportation passes (<https://www.portauthority.org/>) can be made available for purchase to participants for the duration of the event.

Registration fee

The total cost for hosting the conference is estimated to be \$570K. With 1000 participants the registration fee (*with no external support*) is expected to be \$570 per person. We anticipate charging a slightly higher charge for regular participants therefore reducing the fees for postdoctoral researchers and graduate students. Both the University of Pittsburgh (via Pitt PACC) and CMU (via its Mellon College of Science) plan to contribute about \$40K in total to supplement the funds. We will also be actively seeking support from external funding agencies such as DOE and NSF as well as private sources to reduce the cost to the participants. The cost for meeting room equipment is a conservative estimate that may be reduced further depending on the exact needs of the conference program.

Conference Food Cost for 10 days	261,006	
AV Equipment Plenary Session	923	
Laptop for Parallel Session	6,658	
Meeting Room Projector Package	145,140	
Podium Microphone Package	59,000	
One Dinner Banquet	52,500	
One Dinner Reception	24,500	
Administrative costs	2,000	
Conference supplies, Ad	15,000	
Estimate Snowmass Workshop Cost:	\$ 566,726.90	
Registration Fees Rec.	\$ 300,000.00	500 people at \$600 per person registration
	\$ 150,000.00	300 people at \$500
	\$ 60,000.00	200 people at \$300
	\$ 510,000.00	Total Registration Received
Remaining Balance	\$ (56,726.90)	

In summary, *not counting any external support*, the total cost per person should be around \$570, including a banquet, a welcome reception, continental breakfasts, coffee breaks, facility costs, etc. The table above gives a breakdown of costs, with a hypothetical scenario using different charges for regular-fee/postdocs/students at \$600/\$500/\$300. We also intend to separate out the banquet and reception charges of \$110 as optional.

Companion Activities

There are plenty of activities available to explore within the city of Pittsburgh and the surrounding areas. We will coordinate with a city service called “Visit Pittsburgh” (<https://www.visitpittsburgh.com/>), and a university service to help arranging those. We will also arrange to provide assistance to attendees needing child-care.

Administrative Support

Both UPitt and CMU will have 2-3 administrative personnel each on hand for the preparation of and during the Snowmass@ThreeRivers event. The Wyndham Hotel and Visit Pittsburgh will also be available to assist with any issues related to the workshop setup at the hotel or for local activities such as sightseeing tours around the city of Pittsburgh, visiting local museums, shows, or sports events. We will recruit and encourage volunteers from Pittsburgh and elsewhere to support the events.