

**Division of Particles & Fields**

# **Town Hall Meeting @ DPF 21**

**July 14, 2021**

**Tao Han**

University of Pittsburgh

On behalf of the DPF Executive Committee  
& the Snowmass Steering Group

# Agenda

## **From the DPF community**

- CPAD Updates
- Early Career Activities Update
- Public Education & Outreach Activities
- Ethics Advisory Committee Activities Update

## **Snowmass Update; Q&A**

# APS Code of Conduct

- <https://www.aps.org/meetings/policies/code-conduct.cfm>

- Excerpt:

“It is the policy of the American Physical Society (APS) that all participants, including attendees, vendors, APS staff, volunteers, and all other stakeholders at APS meetings will conduct themselves in a professional manner that is welcoming to all participants and free from any form of discrimination, harassment, or retaliation. Participants will treat each other with respect and consideration to create a collegial, inclusive, and professional environment at APS Meetings. Creating a supportive environment to enable scientific discourse at APS meetings is the responsibility of all participants.

Participants will avoid any inappropriate actions or statements based on individual characteristics such as age, race, ethnicity, sexual orientation, gender identity, gender expression, marital status, nationality, political affiliation, ability status, educational background, or any other characteristic protected by law. Disruptive or harassing behavior of any kind will not be tolerated.”

Report violations or submit questions by

- E-mail event organizers: [dpf21@physics.fsu.edu](mailto:dpf21@physics.fsu.edu)
- Contact: [tadams@hep.fsu.edu](mailto:tadams@hep.fsu.edu) or [reina@hep.fsu.edu](mailto:reina@hep.fsu.edu)
- Submit a report to APS via EthicsPoint

## From the DPF community

- CPAD Update  
Karsten Heeger, Yale University  
Co-Chair of Coordinating Panel for Advanced Detectors
- Early Career Activity Update  
Julia Gonski, Columbia University  
DPF EC Early Career number
- Public Education & Outreach  
Azwinndini Muronga, Nelson Mandela University, SA  
E&O co-convener, Snowmass Advisory Group member
- Ethics Advisory Committee Activity Update  
Ruth Van de Water, Fermilab  
Chair for EAC

# The need for Snowmass 2021

## Snowmass Goals:

- To define the most important questions for the field of particle physics
- To identify promising opportunities to address them
- **Timing:** 2014 P5 recommendations are being favorably carried out, and it is time to embark the next strategic plan: 2023 – 2025.
  - **Related US domestic programs:**
    - NAS 2020 Decadal survey on Astronomy & Astrophysics
    - NAS Survey for Particle Physics (2021)
  - **Global programs:**
    - 2017 JAHEP; Hyper-K; ILC ...
    - 2020 Update of European Strategy for Particle Physics
    - Latin America: Strategy Forum for Research Infrastructure

# Snowmass 2021 organization

## Steering Group 2021

Chair: Tao Han

Chair-elect: Joel Butler

Vice Chair: Sekhar Chivukula

Past Chair: Young-Kee Kim

Ex Officio: Prisca Cushman

DPB: Sergei Nagaitsev  
DNP: Yury Kolomensky  
DAP: Glennys Farrar  
DGRAV: Nicolas Yunes

## Advisory Group 2021

- DPF Executive Committee
  - Secretary/Treasurer: Mirjam Cvetič
  - Councilor: Elizabeth Simmons
  - Member-at-Large: Natalia Toro
  - Member-at-Large: Andre de Gouvea
  - Member-at-Large: Mary Bishai
  - Member-at-Large: Lauren Tompkins
  - Member-at-Large: Mayly Sanchez
  - Member-at-Large: Gordon Watts
  - Early Career Member: Julia Gonski
- Editor and Communication
  - Editor – Michael Peskin
  - Communication – Bob Bernstein
- Representatives from the Int. Community
  - Africa / Middle East
    - Azwinndini Muronga, Nelson Mandela Metropolitan Univ, South Africa
  - Asia / Pacific
    - Atsuko Ichikawa, Kyoto University, Japan
    - Xinchou Lou, IHEP, China
  - Canada
    - Heather Logan, Carleton University
  - Europe / Russia
    - Val Gibson, Cavendish Laboratory, UK
    - Berrie Giebels, CNRS, France
  - Latin America
    - Claudio Dib, Universidad Tecnica Federico Santa Maria, Chile

# Snowmass 2021 organization

10 Frontiers	80 Topical Groups
Energy Frontier	Higgs Boson properties and couplings, Higgs Boson as a portal to new physics, Heavy flavor and top quark physics, EW Precision Phys. & constraining new phys., Precision QCD, Hadronic structure and forward QCD, Heavy Ions, Model specific explorations, More general explorations, Dark Matter at colliders
Frontiers in Neutrino Physics	Neutrino Oscillations, Sterile Neutrinos, Beyond the SM, Neutrinos from Natural Sources, Neutrino Properties, Neutrino Cross Sections, Nuclear Safeguards and Other Applications, Theoretical Neutrino Physics, Artificial Neutrino Sources, Neutrino Detectors
Frontiers in Rare Processes & Precision Measurements	Weak Decays of b and c, Strange and Light Quarks, Fundamental Symmetries, Lepton Number Violation, Charged Lepton Flavor Violation, Baryon and Lepton Number Violation, Hadron spectroscopy
Cosmic Frontier	Dark Matter: Particle-like, Dark Matter: Composite, Dark Energy & Cosmic Acceleration: The Modern Universe, Cosmic Dawn & Before, Dark Energy & Cosmic Acceleration: Cosmic Frontiers
Theory Frontier	String theory, Quantum field theory techniques, CFT and formal QFT, Scattering amplitudes, Effective field theories, Lattice QCD, Collider phenomenology, BSM model building, Quantum information science, Theory of Neutrino Physics
Accelerator Frontier	Accelerators for Education, Accelerators for Neutrinos, Accelerators for Electroweak and Higgs Physics, Accelerators for Physics Beyond Colliders & Rare Processes, Advanced Accelerator Concepts, Accelerator Technology R&D: RF, Magnets, Targets/Sources
Instrumentation Frontier	Quantum Sensors, Photon Detectors, Solid State Detectors & Tracking, Trigger and DAQ, Micro Pattern Gas Detectors, Calorimetry, Electronics/ASICS, Noble Elements, Cross Cutting and System Integration, Radio Detection
Computational Frontier	Experimental Algorithm Parallelization, Theoretical Calculations and Simulation, Machine Learning, Storage and processing resource access (Facility and Infrastructure R&D), End user analysis
Underground Facilities and Infrastructure Frontier	Underground Facilities for Neutrinos, Underground Facilities for Cosmic Frontier, Underground Detectors
Community Engagement Frontier	Applications & Industry, Career Pipeline & Development, Diversity & Inclusion, Physics Education, Public Education & Outreach, Public Policy & Government Engagement

**30 Frontier conveners, ~250 Topical Group conveners, >40 Inter-Frontier Liaisons, ~25 Early Career Liaisons.**

Snowmass Early Career

- 1) to represent early career members and promote their engagement in the Snowmass 2021 process;
- 2) to build a long-term HEP early career community that persists after the Snowmass process.

**Broad coverage/connection in science and global community !**

# Snowmass 2020 activity

## Snowmass Community Planning Meeting

Oct. 5-8, 2020 (FNAL, virtual)

- ~ 3,000 people registered !
- 63 submissions to the “Voices from the Community”
- 25 Plenary speakers; 5 “Future Facilities” panelists
- 101 Breakout sessions

## Contributed (“white”) Papers (new deadline: March 15, 2022)

- Specific scientific areas, technical articles presenting new results on relevant physics topics, and reasoned expressions of physics priorities, including those related to community involvement.
- Part of Snowmass proceedings. Remain part of the permanent record of Snowmass 2021, all on arXiv
- Submission instructions: <https://snowmass21.org/submissions/>.

**Were heading to Community Summer Study (CSS):  
Snowmass 2021 in July 2021, UW-Seattle, but ...**



# Snowmass New Timeline (January 29, 2021)

Because of the COVID-19 pandemic, the Snowmass Report and the Community Summer Study meeting (CSS) will be delayed by one year until 2022. The overall schedule for the Snowmass process will be adjusted accordingly. After extensive consultation with our community and the frontier conveners/advisors, the Snowmass Steering Group recommends the following general guidelines for the implementation of the Snowmass delay:

- High-level activities will be on hold until the end of June, 2021. These activities include Frontier-level and Topical Group-level workshops, All-conveners meetings, Advisory Group meetings and Newsletters.
- Other Topical Group and cross-frontier activities should be either paused or reduced to a significantly lower level, proceeding only as necessary to ensure scientific continuity, meet essential programmatic needs, or maintain collaborative work with other units and communities.
  - No critical decisions will be made during the hiatus.
  - No individuals should feel obligated to participate in these activities.
- Individual, collaborative and self-organized work can continue at the discretion of the individuals involved.

All paused individual or group activities will continue to receive full consideration once the Snowmass process formally resumes.

Individual frontiers exercise their own practice to accommodate the difficult situations

Update: **Snowmass wiki** <https://snowmass21.org/start>

Thank you Sergei Chekanov for the upgrade/new look !

# DPF Ethics Advisory committee (EAC)

In November 2020, DPF EC established the DPF Ethics Advisory Committee  
<https://snowmass21.org/cpcg/start>

Inaugural members are (November 2020 - October 2022):

- **Kétévi Assamagan**
- Bill Barletta
- Melissa Franklin
- Maria Elena Monzani
- Pavel Fileviez Perez
- **Amber Roepe** (early career: graduate student)
- Pekka Sinervo
- **Ruth Van de Water** (chair)
- **Jeremy Wolcott** (early career: postdoc)

DPF Ethics Task Force

Members (April 2020 - October 2020)

- **Ketevi Assamagan**
- Carla Bonifazi
- Mu-Chun Chen
- Prisca Cushman
- **Andre de Gouvea**
- Young-Kee Kim (ex-officio)
- Samuel Meehan
- **Sara Simon**
- **Lauren Tompkins (chair)**
- **Elizabeth Worcester**

Responsibilities of the Ethics Advisory Committee include:

- Participating in training and self-educate in anti-harassment and anti-racist practices.
- Identifying and making available educational materials as needed to support ethical best practices involving physicists at educational institutions, and in governmental and industrial research laboratories.
- Proposing and overseeing the development and implementation of ethics policies for the DPF.
- Regularly reviewing, and when necessary modifying, the DPF Core Principles and Community Guidelines (CP&CG) for consistency with current standards and practices, or in response to current events and community feedback.
- Resolving complaints of CP&CG violations as outlined in the CP&CG accountability document.
- Referring issues to the APS Ethics Committee when appropriate.

# We Are (essentially) Out of The Woods ! (of course caution is needed\* )

## We are coming back to our normal lives & work !

\*

 WYPR

### Fauci Says With Variants, End Of Pandemic Not Clear

Dr. Anthony Fauci said with the rise of COVID-19 variants like Delta, it's not clear when we can put the pandemic behind us.

22 hours ago



# Snowmass Early Career

DPF EC Early Career  
representatives,

plus many active  
members



Fernanda Psihas, 2019  
(Fermilab)



Sara Simon, 2020  
(Fermilab)



Julia Gonski, 2021  
(Columbia)

## Key Initiatives

We are organized into five key initiatives:

1. **In-reach:** Professional development and building cohesion within the early career community
2. **Diversity, Equity, and Inclusion (DEI):** Work on initiatives to make the HEP community representative, welcoming, inclusive, and equitable
3. **Survey:** Survey the early career membership
4. **Long-Term Organization:** Define the long-term structure of the early career organization after the Snowmass process
5. **Snowmass Coordination:** Coordinate with the Snowmass frontiers and help get early career members involved in the Snowmass process

# Status & Start Up Plans

- Latent since shutdown period, with one “heartbeat” meeting in April to discuss start up strategy
- **Next steps:**
  - EC reps from all frontiers have been re-established
  - First meeting planned for next week & will proceed monthly
  - Update Snowmass EC twiki, establish concrete role descriptions
  - Harmonized white paper database & transparent timelines per frontier

# Community Engagement Frontier

## Co-Conveners



Kétévi Assamagan  
(BNL)



Breese Quinn  
(Mississippi)

Topical Group		Topical Group co-Conveners			
Comm01	Applications & Industry	Farah Fahim (FNAL)	Alex Murohk (RadiaBeam)	Koji Yoshimura (Okayama)	
Comm02	Career Pipeline & Development	Sudhir Malik (UPRM)	Julia Hogan (Bethel Univ.)	Aneliya Karadzhiniva-Ferrer (Ruđer Bošković Institute)	
Comm03	Diversity & Inclusion	Mu-Chun Chen (UCI)	Johan Bonilla (UC-Davis)	Carla Bonifazi (UFRJ)	Cindy Lin (SNOLAB)
Comm04	Physics Education	Randy Ruchti (Notre Dame)	Sudhir Malik (UPRM)	Sijbrand de Jong (Radboud)	
Comm05	Public Education & Outreach	Sarah Demers (Yale)	Kathryn Jepsen (SLAC)	Don Lincoln (FNAL/Notre Dame)	A. Muronga (Nelson Mandela)
Comm06	Public Policy and Government Engagement	Rob Fine (Rochester)	Louise Suter (FNAL)	Brajesh Choudhary (Delhi)	
Comm07	Environmental and Social Impacts	Ken Bloom (Nebraska)	Véronique Boisvert (Royal Holloway)	Mike Headley (SDATA/SURF)	

## Comm Eng Frontier slow-down mode:

The D&I topical group have been organizing monthly town hall discussions—this is a slowdown compare to the normal rate of every 2 weeks. The details are the available on Indico here, <https://indico.fnal.gov/category/1157/> ; The next town hall will be organized jointly with the Early Career group on June 8 at 11:00 EDT, about “Navigating Mentor/Mentee Relationship”;

Other topical groups have been having discussions / meetings are reduced rates to define the white paper study groups and their scopes;

We’ve been holding topical group conveners and liaisons meetings every 2 months; this is a reduction from the normal monthly meetings. The next meeting will be on May 28.

We will continue as in 1) until Snowmass re-starts. The folks that are on full pause will be able to join the efforts, without any negative impacts resulting from the pause.

### New Comm 07 Activities:

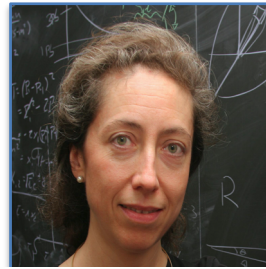
- The first topical group meeting is planned for July 22 at 9:00 Central <https://indico.fnal.gov/event/49647/>
- Coordinating with Workshop “Sustainable HEP” <https://indico.cern.ch/event/1004432/> .

# Energy Frontier

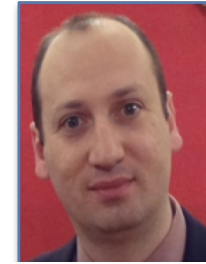
## Co-Conveners



Meenakshi Narain  
(Brown U)



Laura Reina  
(FSU)



Alessandro Tricoli  
(BNL)

Topical Group		Topical Group co-Conveners			
EF01	EW Physics	Higgs Boson properties and couplings	Sally Dawson (BNL)	Andrey Korytov (U Florida)	Caterina Vernieri (SLAC)
EF02		Higgs Boson as a portal to new physics	Patrick Meade (Stony Brook)	Isobel Ojalvo (Princeton)	
EF03		Heavy flavor and top quark physics	Reinhard Schwienhorst (MSU)	Doreen Wackerath (Buffalo)	
EF04		EW Precision Phys. & constraining new phys.	Alberto Belloni (Maryland)	Ayres Freitas (Pittsburgh)	Junping Tian (Tokyo)
EF05	QCD and Strong Interactions	Precision QCD	Michael Begel (BNL)	Stefan Hoeche (FNAL)	Michael Schmitt (NW)
EF06		Hadronic structure and forward QCD	Huey-Wen Lin (MSU)	Pavel Nadolsky (SMU)	Christophe Royon (Kansas)
EF07		Heavy Ions	Yen-Jie Lee (MIT)	Swagato Mukherjee (BNL)	
EF08	BSM	Model specific explorations	Jim Hirschauer (FNAL)	Elliott Lipeles (UPenn)	Nausheen Shah (Wayne State)
EF09		More general explorations	Tulika Bose (UW-Madison)	Zhen Liu (Maryland)	Simone Griso (LBL)
EF10		Dark Matter at colliders	Caterina Doglioni (Lund)	LianTao Wang (Chicago)	



# EF activities during the Snowmass pause

Some activities continued at a much slower pace:

- All TG had only informal conversations
  - LOI submitters presented voluntary updates.
  - Scientific continuity and support of ongoing activities were maintained.
  - All TG will resume regular (biweekly) meetings starting July 1, 2021.
- Exception: some EF06-07 activities continued at normal pace
  - Due to scheduling constraints driven by the EIC Yellow Report and the Nuclear Physics long-range planning process.
- Coordination of Monte Carlo production activities have continued
  - The EF Monte Carlo Task Force met as needed to coordinate and support sample production.
- Planned first EF Workshop for Aug 30-Sep. 3 2021
  - Regroup.
  - Assess progress, new developments.
  - Identify gaps.
  - Update TG report plans.
  - Discuss EF funding issues and their impact on Snowmass activities.

# Accelerator Frontier

## Co-Conveners



Steve Gourlay  
(LBNL)



Tor Raubenheimer  
(SLAC)



Vladimir Shiltsev  
(FNAL)

Topical Group		Topical Group co-Conveners		
AF01	Beam Phys & Accel. Education	Z. Huang (Stanford)	M. Bei (GSI)	S. Lund (MSU)
AF02	Accelerators for Neutrinos	J. Galambos (ORNL)	B. Zwaska (FNAL)	G. Arduini (CERN)
AF03	Accelerators for EW/Higgs	M. Ross (SLAC)	Q. Qin (IHEP, Beijing)	Georg Hoffstaetter (Cornell)
AF04	Multi-TeV Colliders Jingyu Tang (IHEP)	M. Palmer (BNL)	A. Valishev (FNAL)	N. Pastrone (INFN, Torino)
AF05	Accelerators for PBC and Rare Processes	E. Prebys (UC Davis)	M. Lamont (CERN)	Richard Milner (MIT)
AF06	Advanced Accelerator Concepts	C. Geddes (LBNL)	M. Hogan (SLAC)	P. Musumeci (UCLA)
AF07	Accelerator Technology R&D			
	Sub-group RF	E. Nanny (SLAC)	S. Posen (FNAL)	H. Weise (DESY)
	Sub-Group Magnets	G. Sabbi (LBNL)	S. Zlobin (FNAL)	S. Izquierdo Bermudez (CERN)
	Sub-Group Targets/Sources	C. Barbier (ORNL)	Y. Sun (ANL)	F. Pellemoine (FNAL)

Implementation Task Force (ITF) established

## Accelerator Frontier:

### **Some activities continued, but slower pace & limited progress since January:**

- a) AF1 had continue series of workshops on “Physics Limits of Ultimate Beams” and had three of them on Jan 22, Feb 19 and April 6;
- b) AF6 had converged on high level parameters of many multi-TeV advanced collider schemes/opportunities and communicated them to the EF;
- c) AF4 had taken part in the MuCollider Forum activities in the US and the MC-Collaboration events;
- d) Implementation Task Force (ITF) has slowed down, continued collecting information and started evaluations.

All AF topical group convener’s meeting in late August to discuss detail plans for the restart of the Snowmass activities

# Neutrino Physics Frontier

- Co-Conveners



Patrick Huber  
Virginia Tech



Kate Scholberg  
Duke University



Elizabeth Worcester  
BNL

- Topics relevant to the physics of neutrinos
- Topical Groups and Co-Conveners: note many overlaps in the topics

Topical Group		Topical Group co-Conveners			
NF01	Neutrino Oscillations	Peter Denton	Megan Friend	Mark Messier	Hiro Tanaka
NF02	Sterile Neutrinos	Georgia Karagiorgi	Bryce Littlejohn	Pedro Machado	Alex Sousa
NF03	Beyond the SM	Pilar Coloma	Lisa Koerner	Ian Shoemaker	Jae Yu
NF04	vs from Natural Sources	Yusuke Koshio	Gabriel Orebi Gann	Erin O'Sullivan	Irene Tamborra
NF05	Neutrino Properties	Carlo Giunti	Ben Jones	Lisa Kaufman	Diana Parno
NF06	Neutrino Cross Sections	Jonathan Asaadi	Baha Balantekin	Kendall Mahn	Jason Newby
NF07	Nuclear Safeguards and Other Applications	Nathaniel Bowden	Jon Link	Wei Wang	
NF08	Theory of Neutrino Physics	André de Gouvêa	Irina Mocioiu	Saori Pastore	Louis Strigari
NF09	Artificial Neutrino Sources	Laura Fields	Alysia Marino	Pedro Ochoa	Josh Spitz
NF10	Neutrino Detectors	Josh Klein	Ana Machado	Dave Schmitz	Raimund Strauss

- Also: “Liaisons” with other Frontiers

# Neutrino Frontier Update: Waking Up from the Pause

- Topical Group convener meetings have restarted
- Full resumption of activities by end of July 2021
- **NF meeting: March 16-18, 2022 @ ORNL** (virtual currently)
- Topical groups are resuming some other workshops: see calendar on wiki
- **Please let conveners know about white papers in progress:**
  - [Google form](#) on Snowmass wiki and [white paper spreadsheet](#) for community coordination purposes (*i.e., Who is working on what? Where can I contribute?*)
- **White Paper Coordination Sessions/Mini-Workshops** (virtual)
  - ~90 mins, highlight ~1-2 white-paper topics in-progress
  - Organized by topical group coordinators using LOIs and community input
  - Aims are primarily to optimize work in progress :
    - coordinating/consolidating multiple white papers on similar topics
    - finding new collaborators
  - Can feature Early Career input, connections with other Frontiers
  - First one (kickoff): July 28, 10 am US Eastern
  - Please see Snowmass calendar for reserved dates, every ~2 weeks; see [snowmass.org/neutrino/start](https://snowmass.org/neutrino/start)
  - We can have more if there is community demand
  - Please contact NF TG conveners if interested

# Precision & Rare Processes Frontier

## Co-Conveners



Marina Artuso  
(Syracuse U.)



Alexey Petrov  
(Wayne State U.)



Bob Bernstein  
(FNAL)

Topical Group		Topical Group co-Conveners	
RF01	Weak Decays of b and c	Angelo di Canto	Stefan Meinel
RF02	Strange and Light Quarks	Emilie Passemar	Evgueni Goudovski
RF03	Fundamental Physics and Small Experiments	Tom Blum	Peter Winter
RF04	Baryon and Lepton Number Violation	Pavel Filievez Perez	Andrea Pocar
RF05	Charged Lepton Flavor Violation	Sacha Davidson	Bertrand Echenard
RF06	Dark Sector at Low Energies	Stefania Gori	Mike Williams
RF07	Hadron Spectroscopy	Tomasz Skwarnicki	Richard Lebed

# Plans/Status

- RPF is already talking with PIP-II, Booster Upgrade and Snowmass Accelerator Frontier
  - Discussions are led by RF05: CLFV studies
  - There is a great interest in a dedicated muon facility at PIP-II and Booster Upgrade
    - Don't want to design out capabilities
- Some topical group meetings in September:
  - CLFV at least (virtual)
  - Heavy quark physics, facilities upgrade, technical paper finalization
  - More being planned
- Frontier-wide meeting in May 2022
- Several LOIs in muons already being prepared
- See <https://snowmass21.org/rare/start> for Slack, email, etc.

# Theory Frontier

## Co-Conveners



Nathaniel Craig  
(UCSB)



Csaba Csaki  
(Cornell)



Aida El-Khadra  
(UIUC)

Topical Group		Topical Group co-Conveners			
TF01	String theory, quantum gravity, black holes	Daniel Harlow	Shamit Kachru	Juan Maldacena	
TF02	Effective field theory techniques	Patrick Draper	Ira Rothstein		
TF03	CFT and formal QFT	David Poland	Leonardo Rastelli		
TF04	Scattering amplitudes	Zvi Bern	Jaroslav Trnka		
TF05	Lattice gauge theory	Zohreh Davoudi	Taku Izubuchi	Ethan Neil	
TF06	Theory techniques for precision physics	Radja Boughezal	Zoltan Ligeti		
TF07	Collider phenomenology	Fabio Maltoni	Shufang Su	Jesse Thaler	
TF08	BSM model building	Patrick Fox	Hitoshi Murayama	Graham Kribs	
TF09	Astro-particle physics and cosmology	Dan Green	Joshua Ruderman	Ben Safdi	Jessie Shelton
TF10	Quantum information science	Simon Catterall	Roni Harnik	Veronika Hubeny	
TF 11	Theory of neutrino physics	André de Gouvêa	Irina Mocioiu	Saori Pastore	Louis Strigari



## Theory Frontier

- The Theory Frontier plans to pause through August 2021, except we have followed the developments within the Snowmass Muon Collider Forum
- Resume communicating with TG conveners in July, 2021
- Engage the broader TF community in August 2021
- A frontier-wide Town Hall, tentatively Fall 2021
- Theory Frontier meeting at the KITP Spring 2022

# Cosmic Frontier

## Co-Conveners



Aaron Chou  
(Fermilab)



Marcelle Soares-Santos  
(U.Michigan)



Tim Tait  
(UC Irvine)

Topical Group		Topical Group co-Conveners			
CF01	Particle DM	Jodi Cooley (SMU)	Tongyan Lin (UCSD)	Hugh Lippincott (UCSB)	Tracy Slatyer (MIT)
CF02	Wavelike DM	Joerg Jaeckel (Heidelberg)	Gray Rybka (UW)	Lindley Winslow (MIT)	
CF03	DM Astro Probes	Alex Drlica-Wagner (FNAL)	Chanda Prescod-Weinstein (NH)	Haibo Yu (Riverside)	
CF04	DE & CA The Modern Universe	Jeff Newman (Pittsburgh)		Anze Slosar (BNL)	
CF05	DE & CA Cosmic Dawn & Before	Clarence Chang (ANL)	Deirdre Shoemaker (Georgia Tech.)	Laura Newburgh (Yale)	
CF06	Dark Energy complementarity	David Schlegel (LBNL)	Brenna Flaugher (FNAL)		
CF07	Cosmic Probes	Luis Anchordoqui (CUNY)	B.S. Sathyaprakash (Penn State)	Rana Adhikari (CalTech)	Ke Fang (Wisconsin) Kirsten Tollefson (MSU)

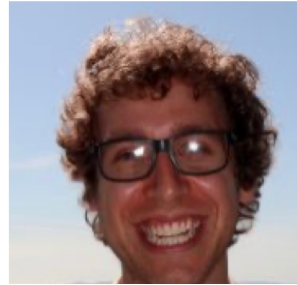
Cosmic Frontier is on a pause till late August (CF03 started meetings).

# Computational Frontier

## Co-Conveners



Steven Gottlieb  
(Indiana U.)



Ben Nachman  
(LBNL)



Oliver Gutsche  
(FNAL)

Topical Group		Topical Group co-Conveners		
CompF01	Experimental Algorithm Parallelization	Guseppi Cerati (FNAL)	Katrin Heitmann (ANL)	Walter Hopkins (ANL)
CompF02	Theoretical Calculations and Simulation	Peter Boyle (BNL)	Daniel Elvira (FNAL)	Ji Qiang (LBNL)
CompF03	Machine Learning	Phiala Shanahan (MIT)	Kazu Terao (SLAC)	Daniel Whiteson (Irvine)
CompF04	Storage and processing resource access (Facility and Infrastructure R&D)	Wahid Bhimji (NERSC)	Rob Gardner (U Chicago)	Frank Würthwein (UCSD)
CompF05	End user analysis	Gavin Davies (U.Mississippi)	Peter Onyisi (U Texas at Austin)	Amy Roberts (UC Denver)
CompF06	Quantum computing	Travis Humble (ORNL)	Gabriel Perdue (FNAL)	Martin Savage (U Washington)
CompF07	Reinterpretation and long-term preservation of data and code	Kyle Cramner (NYU)	Mike Hildreth (U Notre Dame)	Matias Carrasco Kind (Illinois/ NCSA)

Computational Frontier is on a full pause till late August.

# Instrumentation Frontier

## Co-Conveners



Phil Barbeau  
(Duke)



Petra Merkel  
(FNAL)



Jinlong Zhang  
(ANL)

Topical Group		Topical Group co-Conveners		
IF01	Quantum Sensors	Thomas Cecil (ANL), Kent Irwin (SLAC), Reina Maruyama (Yale), Matt Pyle (Berkeley)		
IF02	Photon Detectors	Juan Estrada (FNAL)	Mayly Sanchez (ISU)	Abigail Vieregge (Chicago)
IF03	Solid State Detectors&Tracking	Tony Affolder (UCSC)	Artur Apresyan (FNAL)	Lucie Linssen (CERN)
IF04	Trigger and DAQ	Darin Acosta (Florida)	Wes Ketchum (FNAL)	Stephanie Majewski (Oregon)
IF05	Micro Pattern Gas Detectors	Thomas Schwarz (Michigan)	Maxim Titov (SACLAY)	Sven Vahsen (Hawaii)
IF06	Calorimetry	Andy White (UTA)	Minfang Yeh (BNL)	Rachel Yohay (FSU)
IF07	Electronics/ASICS	Gabriella Carini (BNL)	Mitch Newcomer (UPenn)	John Parsons (Columbia)
IF08	Noble Elements	Eric Dahl (Northwestern)	Roxanne Guenette (Harvard)	Jen Raaf (FNAL)
IF09	Cross Cutting and System Integration	Jim Fast (PNNL)	Maurice Garcia-Sciveres (LBL)	Ian Shipsey (Oxford)
IF10	Radio Detection	James Beatty (Ohio State)	Abigail Vieregge (Chicago)	

Instrumentation Frontier is on a full pause till late August.

# Underground Facilities and Infrastructure Frontier



Laura Baudis (U. Zurich)



Jeter Hall (SNOLAB)



Kevin Lesko (LBNL)



John Orrell (PNNL)

Topical Group		Topical Group co-Conveners and Liaisons		
		Co-conveners		Liaisons
UF01	Underground Facilities for Neutrinos	<u>Accelerator Neutrinos</u> Tim Bolton	<u>OvBB</u> Patrick Decowski Danielle Speller	<u>Neutrinos</u> Albert de Roeck <u>Astronomical v</u> Gabriel Orebi Gann
UF02	Underground Facilities for Cosmic Frontier	<u>LXe DM</u> Kaixuan Ni  <u>Low Mass</u> Scott Hertel	<u>LAr DM</u> Emilija Pantic	<u>Particle DM</u> Hugh Lippincott Jodi Cooley <u>Instrumentation</u> Eric Dahl
UF03	Underground Detectors	<u>Gravity Waves</u> Laura Cadonati		<u>Instrumentation Frontier</u> Maurice Garcia-Sciveres
UF04	Supporting Capabilities	<u>Radon</u> Richard Schnee	<u>Cleanliness</u> Alvine Kamaha	<u>Low Background Assay</u> Brianna Mount
UF05	Synergistic Research	<u>Nuclear Astrophysics</u> Daniel Robertson	<u>Geo-microbiology</u> TBD	<u>Geo-engineering</u> TBD
UF06	An Integrated Strategy for Underground Facilities and Infrastructure	Laura Baudis Kevin Lesko	Jeter Hall John Orrell	<u>Early Career</u> Pietro Giampa William Thompson

Underground facilities Frontier is on a full pause.

# Where We Are, Chronologically

**SEC:** Continued, slowdown. A “Heartbeat” mtg in April, more mtgs late June

**CEF:** Continued, slowdown. Monthly contact meetings on going

**EF:** EF-06 (MuC), 07 (EIC) continued; TG activities from July 1; EF workshop on Aug.30

**AF:** AF-1, AF-4, AF-6 continued at a lower pace; TG meetings in August

**NF:** After a full pause, TG meetings already started; NF workshop on March 16, 2022

**RP & PF:** Discussions already started; TG mtgs in Sept.; Frontier workshop in May 2022

**TF:** Full pause (except muon collider activities); TG in August; TF workshop in Spring 2022

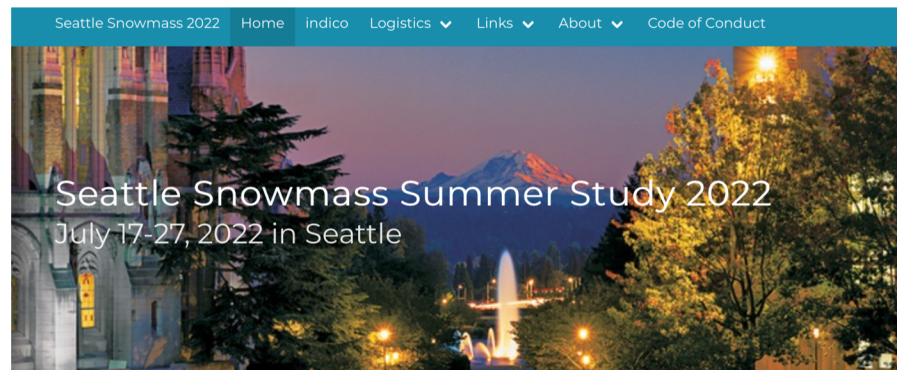
**CosmF:** Full pause, restart in August (except CF03 just started meetings)

**CompF:** Full pause, restart activities in late August

**IF:** Full pause, restart at end of August

**UF:** Full pause, restart as the others.

- **Upcoming:**
  - Snowmass SG Meeting tomorrow
  - All Convener's Meeting **July 26**
  - Advisory Group Meeting **July 30**
- **Full activities early September, 2021**
  - All virtual so far; will explore accessibility
  - ... ..
- **Community Summer Study (CSS, in person)**  
**July 17 – 27, 2022 @ UW - Seattle**



# Snowmass Timelines

