

# Snowmass 2021

# Instrumentation Frontier

Kick-Off Workshop, November 19<sup>th</sup> 2021

Phil Barbeau (Duke U.)

Petra Merkel (FNAL)

Jinlong Zhang (ANL)

# Instrumentation Frontier – Topical Groups

Topical Group	Co-Conveners			
Quantum Sensors	Thomas Cecil (ANL)	Kent Irwin (SLAC)	Reina Maruyama (Yale)	Matt Pyle (Berkeley)
Photon Detectors	Juan Estrada (FNAL)	Mayly Sanchez (ISU)		Chris Rogan (Kansas)
Solid State Detectors and Tracking	Tony Affolder (UCSC)	Artur Apresyan (FNAL)		Steve Worm (DESY)
Trigger and DAQ	Darin Acosta (Florida)	Wes Ketchum (FNAL)		Stephanie Majewski (Oregon)
Micro Pattern Gas Detectors	Bernd Surrow (Temple)	Maxim Titov (SACLAY)		Sven Vahsen (Hawaii)
Calorimetry	Andy White (UTA)	Minfang Yeh (BNL)		Rachel Yohay (FSU)
Electronics/ASICS	Gabriella Carini (BNL)	Mitch Newcomer (Penn)		John Parsons (Columbia)
Noble Elements	Eric Dahl (Northwestern)	Roxanne Guenette (Manchester)		Jen Raaf (FNAL)
Cross Cutting and System Integration	Jim Fast (PNNL)	Maurice Garcia-Sciveres (LBL)		Ian Shipsey (Oxford)
Radio Detection	Amy Connolly (Ohio State)	Albrecht Karle (Wisconsin)		

# Liaisons among Frontiers

- Liaisons are providing high-level and bi-directional communication b/w Frontiers.
- IF Liaisons:
  - Energy Frontier: [Caterina Vernieri](#) (SLAC), [Maksym Titov](#) (CEA Saclay)
  - Neutrino Physics Frontier: [Mayly Sanchez](#) (ISU), [NF10](#)
  - Rare Processes and Precision: [Marina Artuso](#) (Syracuse)
  - Cosmic Frontier: [Kent Irwin](#) (SLAC), [Hugh Lippincott](#) (UCSB)
  - Accelerator Frontier: [Andy White](#) (UTA)
  - Computational Frontier: [Darin Acosta](#) (Florida)
  - Underground Facilities: [Eric Dahl](#) (Northwestern), [Maurice Garcia-Sciveres](#) (LBNL)
  - Community Engagement: [Farah Fahim](#) (FNAL)

# Contributed White Papers

- Papers may include documents on specific scientific areas, technical articles presenting new results on relevant physics topics, and reasoned expressions of physics priorities
- Contributed papers will remain part of the permanent record of Snowmass
- LOIs are not required to submit contributed papers
- The 10 IF Topical Groups are organizing solicited White Papers on specific topics based on the received LOIs
- White Papers are due March 15, 2022 to arXiv
  - See <https://snowmass21.org/submissions/start> for more info also on how to submit

# Path to Snowmass Report

- White Papers will be basis for summaries by Topical Group
- Summaries will go into IF portion of Snowmass report
- Late White Papers will be part of online Snowmass repository, but might not make it into summaries
- Timeline:
  - White Papers: March 15
  - Preliminary TG Summary Reports: May 31
  - Preliminary Frontier Reports: June 30
  - Community Summer Study: July 17 – 27 in Seattle
  - Final Reports: September 30
  - Snowmass Book and online archive documents: October 31

# Snowmass-IF + CPAD Workshop

- **Last Snowmass:**
  - CPAD was the Instrumentation Frontier group
- **Since then:**
  - Vibrant, annual instrumentation workshops
  - Cross-cutting Quantum Sensing workshop
  - Workshop reports
  - Instrumentation Awards, Instrumentation Studentships GIRA, SBIR process, ...

## **Next Snowmass+CPAD Workshop:** February 15-18 @ Stony Brook

- Baseline plan is hybrid version, in-person participation highly encouraged
- Serve as Snowmass Instrumentation Frontier workshop: White Paper readiness
- Facilitate cross-fertilization with NP/EIC community
- Early Career plenary