



Snowmass Community Planning Meeting: Education, Outreach, and Diversity Session White Paper



Slides ([Dropbox Link, pdf](#))

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SLAC

Monday, November 22, 2021



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Snowmass Accelerator Frontier Topical Group AF1: *Beam Physics & Accelerator Education* has decided to organize three white papers

White papers should convey consensus on community strategic needs to DOE High Energy Physics and will be key in the upcoming P5 process

Our organization reflects the structure of this community planning meeting with our 3 AF1 conveners taking primary responsibility to coordinate:

1. ***Ultimate Limits of Beams*** Mei Bai (SLAC)
2. ***Beam Test Facilities*** Zhirong Huang (SLAC/Stanford)
3. ***Accelerator Education, Outreach, and Diversity***
Steve Lund (MSU/USPAS)



4. (1/2) **Computational Accelerator Physics with Computational Frontier**
Jean-Luc Vay, Ji Qiang, Axel Huebl (LBNL)

+ Additional Contributions are Encouraged! But please, if fit, incorporate in 1-4

White papers due: March 15, 2022

- Time ... but not a lot, need to organize contributions and start composition!
- AF1 conveners will help organize and compose, but the white papers should reflect community consensus on needs to convey to DOE HEP



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Accelerator Education, Outreach & Diversity session in this Snowmass community planning meeting should help focus needs

Snowmass Community Meeting: AF1 Beam Physics and Accelerator Education Session 2: Education, Outreach, and Diversity

Monday Nov 22, 1:00 pm – 4:30 pm PST

Time	Topic	Discussion Leader
1:00-1:45	Educational Needs	Swapan Chattopadhyay (Ret), Andrei Seryi (JLab), Bill Barletta (MIT)
1:45-2:15	USPAS	Steve Lund (USPAS/MSU)
2:15-2:45	DPB Outreach & Diversity	David Bruhwiler (RadiaSoft) & Todd Satogata (JLab)
2:45-3:00	Coffee Break	
3:00-3:30	DOE Traineeships	Yue Hao & Peter Ostroumov (MSU)
3:30-4:00	Diversity, Equity & Inclusion	Nicole Neveu (SLAC)
4:00-4:30	White Paper Organization	Steve Lund (USPAS/MSU) Moderator

We hope that all our contributors will take an active role in composition

- Including recruiting appropriate input



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Community White Paper Strategy: *Education, Outreach & Diversity*

Snowmass is to convey community consensus on strategic needs for DOE High Energy Physics. However:

- Accelerator topics in **Education, Outreach & Diversity** are inextricably linked with other accelerator sub-fields (Nuclear Physics, Basic Energy Sciences, Medical, Industry, ...)
- DOE High Energy Physics is still the steward of Accelerator Science & Technology in the USA

Logical to propose that we compose our specific *Education, Outreach & Diversity* white paper from the perspective of the full Accelerator community

- We will briefly justify choice in the opening

Per Accelerator Frontier Leader Tor Raubenheimer, white papers should:

- Highlight most important questions/concerns
- Identify promising opportunities & tools to address
- Provide info to Snowmass Conveners and P5 to develop a US strategy for the next big project (30+ years into future)
- **Must contain succinct messages in executive summary in front or risk being lost**

Proposed White Paper organization: *Education, Outreach & Diversity*

Compose on shared Google Doc on template + Outline we will provide:

- Share edit privilege to presentation teams in this session + additional people
- Possibly convert to LaTeX via Overleaf with a final edit team

Starting by distributing template/outline based on discussions in this meeting

- **Organization:**

Abstract

Executive Summary

All contribute but Lund + Conveners lead

Intro

Education

Outreach & Recruiting

Assignments: Lund help edit/coordinate

Diversity, Equity, and Inclusion

- **Assign specific people to lead compositions**

Who would be best? Volunteers?

- **Start with outline based on materials from this Community Planning Meeting and previously submitted Letters of Interest (Lols)**

Convener homework: Will distribute soon



Letters of Interest submitted on: *Education, Outreach & Diversity*

Education (8, 1 multi-category)

Lol File (Abbreviated)	Title	Submitting Author
1 AF1_Lund-023	US Particle Accelerator School Needs to Support Training Scientists and Engineers	Steve Lund
2 AF1_CommF_Jowett-027	The Joint Universities Accelerator School (JUAS)	John Jowett
3 AF1_Musumeci-037	Grand Challenges in Education and Outreach for accelerator science and technology	Pietro Musumeci
4 AF1_AF7_Barletta-099	University Research and Training of Accelerator Scientists and Engineers	William Barletta
5 AF1_Raubenheimer-121	Increasing the Pipeline of Graduate Students in Accelerator Physics	John Fox & Tor Raubenheimer
6 AF1_Swapan-174	Strategy for HEP Accelerator Workforce Training Coordination with BES, NP, and Industry	Swapan Chattopadhyay
7 AF1_Cook-186	Set For Success: How to Accelerate Early Career Accelerator Scientists	Nathan Cook
8 AF1_AF7_Patterson-227	At Risk: University-based Accelerator Science and Education	Ritchie Patterson



Letters of Interest submitted on: *Education, Outreach & Diversity*

Outreach (5, 1 multi-category)

LoI File (Abbreviated)	Title	Submitting Author
9 AF1_Zimmermann-157	High-Level Facility Summaries and Articles Promoting Accelerator Science	Frank Zimmermann
3 AF1_Musumeci-037	Grand Challenges in Education and Outreach for accelerator science and technology	Pietro Musumeci
10 CommF_AF1_Malik-006	HEP Industry partnership and mobility	Sudhir Malik
11 CommF_AF1_Bruhweiler-066	Collaboration between industry and the HEP community	David Bruhwiler
12 CommF_AF1_Barzi3-065	Expanding Fermilab's international outreach through European Networks	Emanuela Barzi

Diversity (2, 1 multi-category)

LoI File (Abbreviated)	Title	Submitting Author
13 AF1_Bai-080	Workforce Diversity in the Field of Accelerators and Beam Physics	Mei Bai
3 AF1_Musumeci-037	Grand Challenges in Education and Outreach for accelerator science and technology	Pietro Musumeci



Bill Barletta proposes that we compose our *Education, Outreach & Diversity* white paper for publication

Aspects:

- arXiv at min
- Prefer refereed journal: *American Journal of Physics* suggested
- Refereed publication timeline inconsistent with Snowmass timeline, but provides a way to ensure message gets out with max impact
- At min, journal ambition motivates a better composition!

Model motivated by 2011 article (20 pages) published in *Reviews of Accelerator Science & Technology* on “Educating and Training Accelerator Scientists and Technologists for Tomorrow” by Bill Barletta, Swapan Chattopadhyay, and Andrei Seryi

https://uspas.fnal.gov/about/recognition/RAST_Education_Paper.pdf

Several have endorsed Bill’s publication ambition on our present white paper

Other AF1 coordinated white papers in **Ultimate Limits of Beams & Beam Test Facilities** may also follow this model

- Logic strong for **Ultimate Limits of Beams** For community/recruit/students



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Archive of previous 2013 Snowmass White Papers

See 2013 Snowmass Proceedings Report:

<https://www.slac.stanford.edu/econf/C1307292/>

- Link conveyed by *Accelerator Frontier* Convener Stephen Gourlay (LBNL)
- 2013 Snowmass Proceedings Report
- White papers contained within links under the frontiers (see 1st page), Example: Accelerator Capabilities:

<https://www.slac.stanford.edu/econf/C1307292/docs/AcceleratorCapabilities.html>



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