View from the Steering Committee

Priscilla Cushman University of Minnesota

CEF Online Workshop

October 29, 2021

Snowmass 2013



Snowmass 2021





- The General Public
- Policy Makers
- The Science Community
- Teachers and Students



Community Engagement Topical groups

- CommF1: Applications & Industry
- CommF2: Career Pipeline & Development
- CommF3: Diversity & Inclusion
- CommF4: Physics Education
- CommF5: Public Education & Outreach
- CommF6: Public Policy and Government Engagement
- CommF7: Environmental and Societal Impacts

Strategic Goals summarized by the Snowmass 2013 Report.

Some were consolidated by P5 into the Science Drivers.

Others are for the HEP community to prioritize, promote, organize, advertise and create lasting structures.

- Probe the highest possible energies and distance scales with the existing and upgraded Large Hadron Collider and reach for even higher precision with a lepton collider; study the properties of the Higgs boson in full detail.
- Develop technologies for the long-term future to build multi-TeV lepton colliders and 100 TeV hadron colliders.
- Execute a program with the U.S. as host that provides precision tests of the neutrino sector with an underground detector; search for new physics in quark and lepton decays in conjunction with precision measurements of electric dipole and anomalous magnetic moments.
- Identify the particles that make up dark matter through complementary experiments deep underground, on the Earth's surface, and in space, and determine the properties of the dark sector.
- Map the evolution of the universe to reveal the origin of cosmic inflation, unravel the mystery of dark energy, and determine the ultimate fate of the cosmos.
- Invest in the development of new, enabling instrumentation and accelerator technology.
- Invest in advanced computing technology and programming expertise essential to both experiment and theory.
- Carry on theoretical work in support of experimental projects and to explore new unifying frameworks.
- Invest in the training of physicists to develop the most creative minds to generate new ideas in theory and experiment that advance science and benefit the broader society.
- Establish a nationally coordinated communication, education and outreach effort, supported by a dedicated team, to convey the excitement and value of our field to others.

There is a well-trodden path from Snowmass Report → P5 → Projects

But Community Engagement is not a project.

The challenge for Community Engagement is not only about visioning the future but also ...

Creating the infrastructure needed to sustain the goals and forward momentum developed Consider from the beginning that our study should include the next step.

Consider a special APS report (beyond the Snowmass Final Report) with specific action items.

Maybe by topical group New funding initiatives for training Join with or expand APS Forums

What new ideas do we have??

APS Forums

Diversity and Inclusion (FDI)

Early Career Scientists (FECS)

Education (FEd)

Graduate Student Affairs (FGSA)

Forum on the History and Philosophy of Physics (FHPP)

Industrial and Applied Physics (FIAP)

International Physics (FIP)

Outreach and Engaging the Public (FOEP)

Physics and Society (FPS)



Explore how new HEP Public Engagement initiatives fit within the broader mission of APS. Create sustainable programs via collaboration

Publications Meetings & Events	Programs	Membership	Policy & Advoca	су
	Education		Action Center	
Programs APS develops and implements a range of programs physics, and reach out to physicists around the	Ethics		Reports & Studies	
	International Affair	rs	APS Statements	, increa
	Public Engageme	nt	Nuclear Threat Reduction	
	Women in Physics	s sics education,	Contact APS	
	Minorities in Phys	ics	Government Affairs	
	LGBT Physicists			
	Industrial Physics			
	Innovation	And not just APS.		
	Honors	Explore AIP (e.g. the TEAM-UP program)		
	Careers	Coordinate with AAS		

The work of Community Engagement is crucial to sustaining the rest of our plans. We need new physicists, new ideas, better training, a broad range of opportunities and a general populace that thinks we are worth funding.

Cross-fertilization multiplies innovation in both communities Spin-off technology sells HEP to general public and policy makers flexible career choices, nourish the field, encourage students CommF1: Applications & Industry Fully exploit talent - fix/broaden the pipeline CommF2: Career Pipeline & Development Innovation comes from diverse viewpoints CommF3: Diversity & Inclusion New ways of understanding work, community and families CommF4: Physics Education Engage undergrads and sustain grad students CommF5: Public Education & Outreach Train, network, and support teachers CommF6: Public Policy and Government Engagement Address enabling skills early (software, math) CommF7: Environmental and Societal Impacts Share the excitement Demonstrate our relevance **Promote Scientific literacy** Are we responsible stewards of our environment? Are we a positive force in our community?

Influence scientific priorities
Promote international cooperation

What questions are our future scientists asking?

(a quick sample from advising undergrads)

How can I make physics relevant to society?

How will physics save the planet?

What does a scientist do?

Do I need to sacrifice my <u>fill in the blank</u> to be a physicist? Insert: friends or family or cultural heritage or volunteer work or health or...

Can I retain my identity and still be a physicist? Or will I change?

How can I make a difference in my world?