



U.S. DEPARTMENT OF
ENERGY

Office of
Science

Recent SC- and EESSD-wide Initiatives

ARM/ASR PI Meeting

August 7, 2023

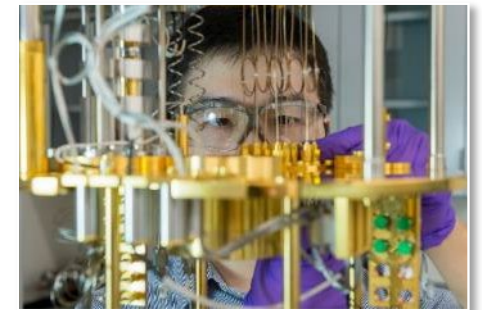
Brian Benscoter (Brian.Benscoter@science.doe.gov)

Program Manager, BER Environmental System Science

Funding for Accelerated, Inclusive Research (FAIR)

FAIR will enhance research on clean energy, climate, and related topics at minority serving institutions (MSIs), including underserved and environmental justice regions

- ▶ First solicitation issued in FY23
- ▶ Builds research capacity, infrastructure, and expertise at MSIs and Emerging Research Institutions (ERIs)
- ▶ Develops mutually beneficial relationships between institutions and DOE national laboratories and user facilities
- ▶ Majority of funds will go directly to MSIs and ERIs, with a portion will fund the partnering institution (e.g., R1 university or DOE National Lab)

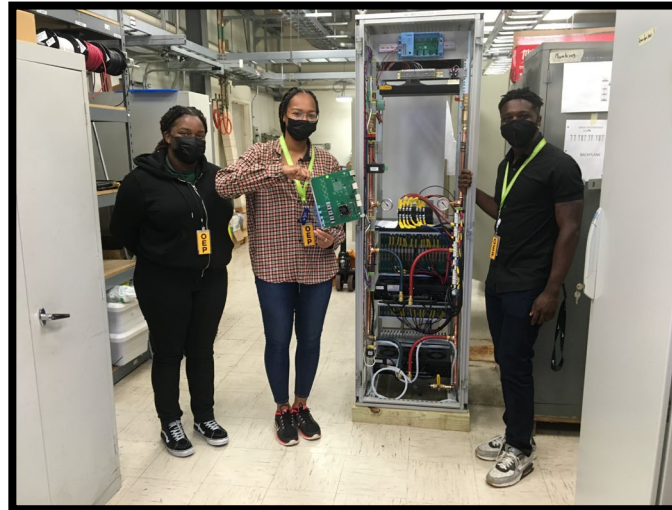


Reaching a New Energy Sciences Workforce (RENEW)

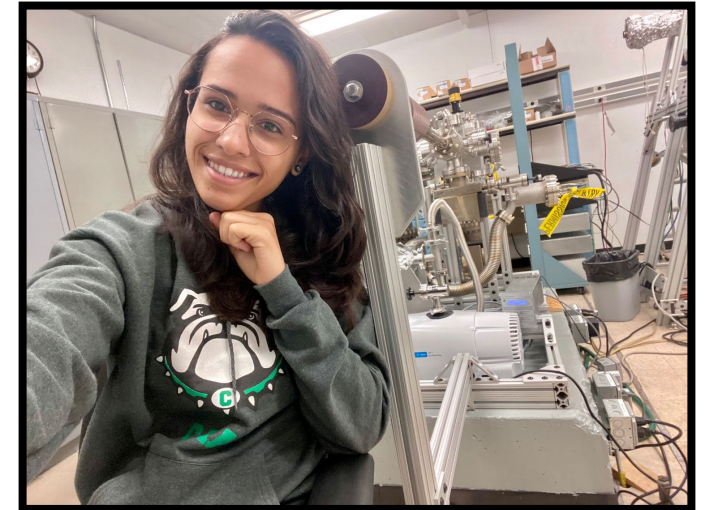
Building foundations through undergraduate and graduate training opportunities for students and institutions historically underrepresented in the SC research portfolio



- SC conducted outreach and listening sessions in FY21-22 on barriers to participation in SC opportunities to inform FY 2022 FOAs.



- FY 2022 FOAs piloted models of support that directly address barriers to participation in SC supported fields of research.



- FY 2023 doubled investment and commitment to advance discovery and innovation by increasing the diversity of individuals and institutions supported.

FY22 RENEW-Earth and Environmental Systems FOA

- Elvia Meléndez-Ackerman, University of Puerto Rico at Rio Piedras, “Reaching a New Energy Sciences Workforce Through Atmospheric Research at The University of Puerto Rico Rio Piedras (RENEW-AR-UPRRP)”, collaboration with BNL-ANL PASCCALS SFA
- Jonathan Coop, Western Colorado University, “From forests to floodplains to functioning watersheds: Catalyzing collaborative research and inclusive training partnerships between Western Colorado University and DOE's National Laboratory system”, collaboration with LBNL-SLAC Watershed Function SFA
- Laurie Huning, California State University, Long Beach, “Climate-Ready Engineers for Water Resources Applications”, collaboration with LBNL CASCADE SFA
- Sean Zeiger, Lincoln University, “Training a diverse STEM workforce to measure and model energy, water, and carbon budgets”, collaboration with ORNL TES SFA

Climate Resilience Centers (CRC)

VISION: A network of climate resilience centers at HBCUs, MSIs, and Emerging Research Institutions (ERIs) for two-way translation of basic climate science towards equitable solutions



MISSION AND SCOPE:

- ▶ Engage basic research from across the DOE complex to focus on local climate impacts, resilience, and equitable energy solutions.
- ▶ Resource and representation for local-level climate research.
- ▶ Leverages ongoing foundational investments in BER research.
- ▶ Identify basic science needs to inform future research priorities.
- ▶ Provides outreach, community engagement, training, and collaboration opportunities among participants and community level stakeholders.



Brief Side-by-Side Comparison

Funding to Accelerate Inclusive Research (FAIR)

- PI research capacity building to accelerate competitiveness

Reaching a New Energy Sciences Workforce (RENEW)

- Experiential training of students in BER science areas

Climate Resilience Centers (CRC)

- Pursuit and translation of basic climate science for climate resilience

Urban Integrated Field Laboratory (Urban IFL)

- Multi-institution projects focused on basic research in urban systems



National Virtual Climate Laboratory (NVCL)



The screenshot shows the NVCL web portal homepage. At the top, there is a navigation bar with the NVCL logo on the left and the U.S. Department of Energy Office of Science logo on the right. Below the navigation bar is a large banner image featuring a collage of climate-related images: a satellite view of a coastline, a close-up of a tree trunk, a city skyline, and server racks. Below the banner is a white box with the NVCL logo and the text "NATIONAL VIRTUAL CLIMATE LABORATORY". Below this box is a paragraph of text describing the portal's purpose. Below the text is a section titled "NVCL OBJECTIVES" with three numbered items: 1. CENTRALIZE ACCESS TO DOE CLIMATE RESEARCH, 2. LIST CLIMATE TRAINING OPPORTUNITIES, and 3. ENCOURAGE COLLABORATIONS. Each item has a brief description and a "VIEW RESEARCH" link. Below the descriptions are three small images: a globe, a group of people, and three people working together.

NVCL NATIONAL VIRTUAL CLIMATE LABORATORY

The National Virtual Climate Laboratory (NVCL) web portal provides access to U.S. Department of Energy (DOE) climate science, connecting users at research universities and other interested organizations to a wide range of experts, programs, projects, activities, and user facilities that are engaged in climate research across the national laboratory complex.

NVCL OBJECTIVES

- 1 CENTRALIZE ACCESS TO DOE CLIMATE RESEARCH**
Offer a well-curated, easily accessible, plain-language inventory of DOE Biological and Environmental Research (BER) projects related to climate research and user facilities with continuously updated portal content.
[VIEW RESEARCH »](#)
- 2 LIST CLIMATE TRAINING OPPORTUNITIES**
Provide students, faculty, and early career scientists access to lab-based education and training opportunities at the national laboratories, including coaching and mentoring opportunities in the skills they need to ensure success in their careers.
- 3 ENCOURAGE COLLABORATIONS**
Facilitate robust, self-sustaining collaborations between national laboratories and interested organizations, including colleges and universities that serve underrepresented students.

DOE's new portal (launched May 2023) will catalyze engagement with BER climate science, SC Scientific User Facilities, and DOE National Laboratory resources to train the next generation of climate scientists and professionals.

[NVCL.energy.gov](https://nvcl.energy.gov)



U.S. DEPARTMENT OF
ENERGY

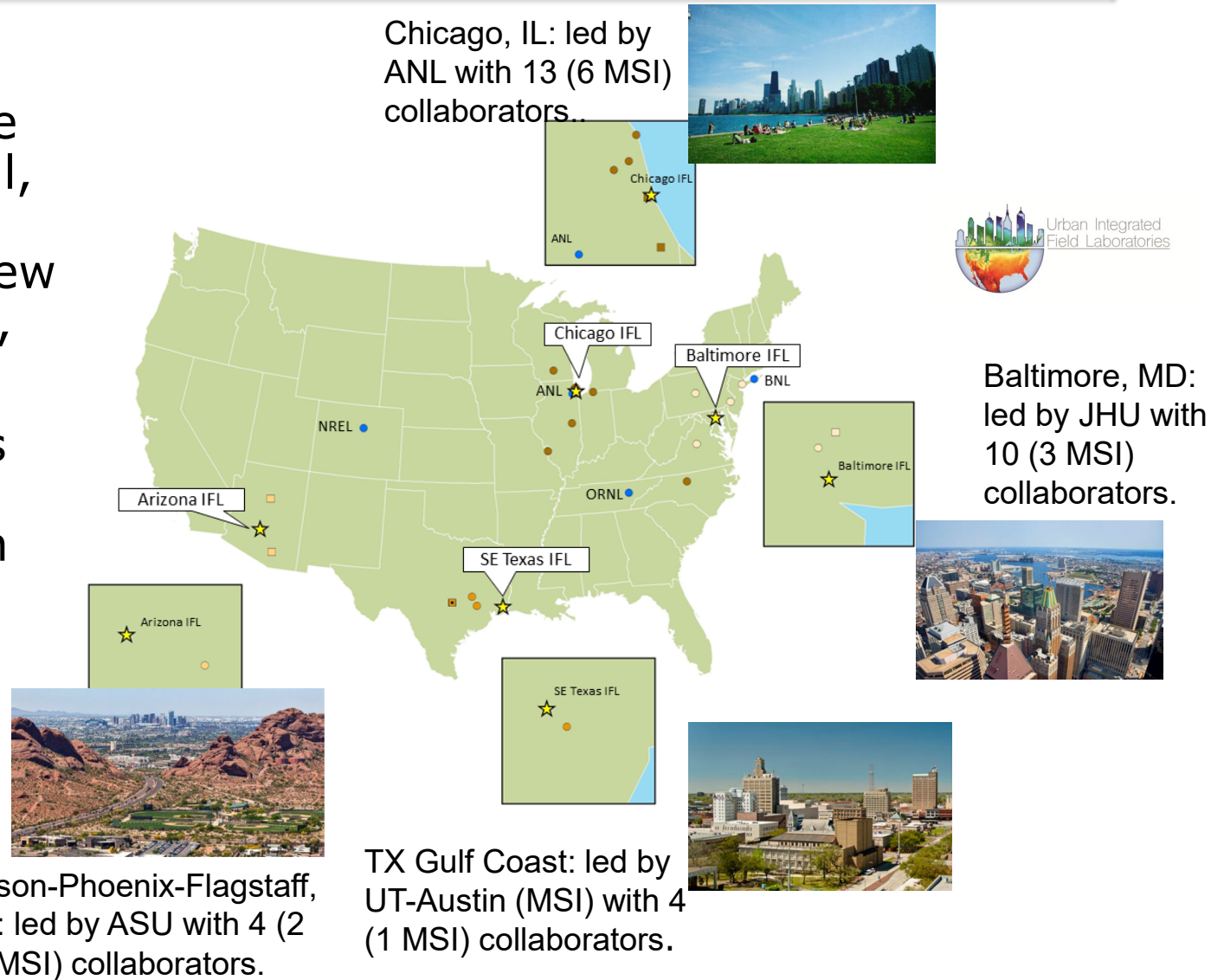
Office of
Science

Brian Benscoter

Brian.Benscoter@science.doe.gov

Urban Integrated Field Laboratories (Urban IFLs)

- Large multi-disciplinary, multi-institutional projects that emphasize the basic sciences of climate, environmental, ecological, and urban change affecting heterogeneous urban regions, with a view towards informing sustainable, resilient, and equitable solutions.
- Integrated research: spatial variabilities leading to microclimates and micro-environments, atmospheric composition and biogeochemical cycling, and quantifying equitable climate solutions.
- Four selections in FY22, 5 years each, \$94M.
- Each project will develop specific innovations in observing and modeling urban systems and will leverage DOE capabilities as well as those from other agencies.



<https://ess.science.energy.gov/urban-ifls/>