Partnerships: Expanding Our Community

Thoughts, ideas and strategies to create partnerships and expand our approach to engagement

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Weather research spans the forecast value chain.
**COORDINATING CONNECTIONS**

**Strategic Partnerships** are the bedrock underpinning weather research at NOAA.

NOAA facilitates R&D through partnerships with the Weather Enterprise, and shepherds that research through the R2O transition process including earth system modeling development.

The Unified Forecast System (UFS) is a **community-based coupled Earth modeling system**, designed to support the Weather Enterprise to enable the most accurate and reliable operational numerical forecast model in the world.
Now Generation Workforce
Expanding the search for diverse individuals

Insights into Inclusion
Learning and addressing barriers across the Weather Enterprise

Innovative Trailblazers
Stimulating creative thinking and nurturing innovative ideas

Champions for Change
Embracing new approaches to old challenges

“Strength lies in differences, not similarities” - Stephen R. Covey
THE NEED FOR PARTNERSHIPS.. INCLUSION

Peter Parker

Miles Morales

Unified Forecast System
Cooperative Institutes (since 1967)
A NOAA-supported, non-Federal, academic, and/or non-profit institution, that has an established, outstanding research program in one or more areas relevant to NOAA’s mission:

- Established degree programs in NOAA-related sciences;
- Engages in research directly related to NOAA’s long-term mission needs that require substantial involvement of one or more research units within the research institution(s), as well as one or more NOAA programs.
- Provides significant coordination of resources among all non-government partners and promotes the involvement of students and postdoctoral scientists in NOAA-funded research.

Cooperative Science Centers (since 2001)
A consortium of academic institutions led by an MSI (minority serving institution), that have demonstrated education and research performance in NOAA-mission sciences:

- Trains students in core NOAA mission fields (atmospheric sciences and meteorology; earth system sciences and remote sensing technology; coastal and marine ecosystems; and living marine resources)
- Supports increasing number of post-secondary grads with STEM degrees; creating new opportunities for underrepresented populations to be introduced to career paths within NOAA.
Most CIs are co-located with NOAA labs or centers, which allows for optimal collaborative opportunities.

Several CSC lead or partner institutions are also located within close proximity to NOAA facilities and CIs, creating an avenue for increased collaboration and support.

**Strategy:** Establish various CSCs, HBCUs, HSIs and MSIs as “UFS Modeling Centers of Excellence”
Earth Systems Community Modeling
What we need:

- Data Assimilation
- Atmospheric Physics
- Systems Architecture (coupling, workflow, continuous integration and development)
- Machine Learning/Artificial Intelligence
- Software Engineering
- Atmospheric Dynamics
- Verification and Validation (post-processing)
- Air Chemistry

Where we’ve been searching:

- AMS
- NCAR
- AGU
- UCAR
- IEEE
- ASCE
- AIChe
- SACNAS
- National Society of Black Engineers
- National Association of Black Geoscientists
- ACM
- UIFCW 2023

Strategy: Expand the search grid and criteria:
FINDING THE NEXT GENERATION WORKFORCE

- Society for Advancement of Chicanos/Hispanics and Native Americans in Science (SACNAS)
- National Society for Black Engineers (NSBE)
- National Association of Black Geoscientists (NABG)
- National Society of Black Physicists (NSBP)
- American Society of Civil Engineers
- American Institute of Chemical Engineers (AIChE)
- Women of Color (WoC) in STEM
- Association for Computing Machinery (ACM)
- Institute of Electrical and Electronics Engineers (IEEE)

#NSBE49 (March 2023) registered over 13,000 attendees!
EXPANDING THE COMMUNITY...

INNOVATION

**Strategy: Level the playing field:**

- Use social media and virtual connections, to meet the community where they are

- Reach out directly to HBCUs, HSIs, TCUs, and other MSIs, for ground-level engagement

- Integrate and mentor new talent in the workforce, earlier in the process

- Expand opportunities to court non-atmospheric science majors
<table>
<thead>
<tr>
<th>Opportunity</th>
<th>Career level</th>
<th>Duration</th>
<th>Former Students</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lapenta Scholars</td>
<td>Undergraduate and Graduate</td>
<td>Summer</td>
<td>Jackie Sepulveda, Stephen Wegmann, Ashley Stagnari, Donald Long, Mike Michaud, Sam Ephraim</td>
</tr>
<tr>
<td>Knauss Fellowship</td>
<td>Graduate</td>
<td>1 year</td>
<td>Renee Richardson (WPO contractor), Alison Agather (WPO contractor), Christine Bassett (WPO contractor), Melissa Pratt-Zossoungbo (WPO fed)</td>
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<tr>
<td>Pathways</td>
<td>High School, Undergraduate, Graduate, Post-Graduate</td>
<td>Varies</td>
<td>Leah Dubots (Pathways - OAR CFO), Ayesha Wilkinson (Pathways), Alexus Moore (Pathways), John Ten Hoeve (PMF)</td>
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<tr>
<td>Hollings / Educational Partnership Program</td>
<td>Undergraduate</td>
<td>Summer-9 weeks</td>
<td>Steve Elliott, Alice Grossman</td>
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<tr>
<td>AAAS Fellowship</td>
<td>Early Career</td>
<td>12-24 months</td>
<td>Steve Elliott, Alice Grossman</td>
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<tr>
<td>LANTERN and LCDP</td>
<td>Various</td>
<td>3-6 months</td>
<td></td>
</tr>
</tbody>
</table>
CURRENT WPO INTERNS

Aleksy Srinivasan
Lapenta Intern
EPIC Program

Emily Glenn
Lapenta Intern
ACES/Policy

Laura Dailey
Lapenta Intern
Innovations

Anthony David Jr.
Lapenta Intern
Social & Behavioral Science Program

Cameron Bennett
EPP/MSI Intern
WPO and AOML
EXPANDING THE WEB

- Broaden Earth System Community Modeling under UFS and EPIC
- Establish new collaborations with non-traditional partners
- Reinforce integration of social science into UFS applications
- Provide equitable resources and access for partners and new collaborators
- Leverage future opportunities, while promoting innovative high/risk high/reward approaches
- Create, develop, and sustain mechanisms to develop the next generation workforce
- Expand DEIJA efforts for UFS and its partners