Diversity & Inclusion at NRAO
Charlottesville Town Hall – July 16, 2018
Director’s Office

The NRAO is fully committed to creating a culture and environment that is rich in diversity and naturally inclusive.
Purpose of Town Hall

• Describe importance of D&I to NRAO’s mission
  • Importance of D&I to NSF
• Briefly describe Broader Impact programs
• Briefly describe Diversity Advocate and Employee Diversity Group roles
• Inclusion exercise
Strategic Vision

To enable diversity to thrive in all areas of the Observatory in a seamless manner, wherein diversity becomes a natural part of the way we think about work, in the decisions we make, and in our behavior towards others.
Diversity Policy Statement

Our employees, essential to our success, are to be valued, treated with respect, and have opportunities to work in an inclusive, multicultural and gender diverse environment.

NRAO staff and management are responsible and accountable for achieving the above goals.
NRAO

https://info.nrao.edu/do/odi

NRAO’s Focus:

Diversity

Internal

Inclusion

External

Broader Impact
What do we mean by “Diversity”? 

• Understanding that each individual is unique, and brings a set of unique skills and experiences to NRAO

• Along the dimensions of race, ethnicity, gender, sexual orientation, gender identity, age, and physical abilities

GOAL: To ensure that NRAO is producing the best outcomes. Diverse groups make better decisions.
What do we mean by “Inclusion”?

- Recognizing and **valuing** individual identities and experiences
- Consciously including those who might otherwise be excluded
- Exploration of our diversity in a safe, positive, and nurturing environment
- Understanding the power of diverse ideas and experiences
What does NSF mean by “Broader Impact”? 

- Building STEM Talent
  RAP-NM, RAMP-UP, H2O, NAC, REU, Grad programs, PD programs
- Innovating for the Future
  Science, research opportunities
- Improving our society
- Reaching beyond borders
  NINE, ODI-Chile, Sister Cities
- Engaging a wider audience
  EPO

More about this!
In summary, NRAO is addressing several goals:

• Meeting NSF’s mandates toward Broadening Participation

• Building a diverse workforce that is representative of the larger U.S. and local communities
  • NRAO reports race and gender information to NSF

• Creating and maintaining a culture of inclusion so that a diverse workforce can flourish – and so that NRAO operates at its best
ODI and HR

https://www.nsf.gov/od/oia/special/broaderimpacts/

Training

• Unconscious Bias – required…
• Online
NRAO Broadening Participation
Research & Training Experiences Pipeline
Grade School through Professional

Career
NINE (professionals)
NAC Grads
ODI-Chile

NAC & LSAMP (undergraduate)

H2O w/ Hampton
(11th & 12th grade)

RAMP-UP w/ Hampton University
(8th-10th grade)

RAP-NM (rising 9th graders) - EPO
Broadening Participation
Education & Training “Pipeline”

**RAP-NM (EPO)**
- NRAO EPO STEAM Education Program
- Rising 9th-graders – Socorro, Magdalena
- Residential week-long summer camp
- Paired with NAC undergraduate mentors

**RAMP-UP**
- Hampton University NINE Hub
- Middle school – Hampton Virginia
- Optical Radio Jove builds
- Presentations at ERN, BEYA, and NSBP

**H2O**
- Hampton University NINE Hub
- NRAO-Hampton City Schools-Hampton Univ.
- College credit Astronomy course at HU
- Research and presentations at ERN, BEYA, NSBP

Middle School - High School
Broadening Participation
Education & Training “Pipeline”

- NRAO EPO STEAM Education Program
- Rising 9th-graders – Socorro, Magdalena
- Residential week-long summer camp
- Paired with NAC mentors

Pathway under development

Middle School - High School
Broadening Participation
Education & Training “Pipeline”

- Hampton University NINE Hub
- Middle school (8th-10th grade) – Hampton Virginia
- Optical and Radio Jove builds
- Presentations at ERN, BEYA, and NSBP

RAMP-UP

Middle School - High School
Broadening Participation
Education & Training “Pipeline”

H2O: Stimulating STEM Career Pathways

- Hampton University NINE Hub
- NRAO-Hampton City Schools-Hampton Univ.
- College credit Astronomy course at HU
- Research and presentations at ERN, BEYA, NSBP

Middle School - High School - College
Broadening Participation
Education & Training “Pipeline”

The NAC Undergrad Experience

- Under-represented minority students
- Strong, long-term mentoring and support
- Cohort and network building
- Research, engineering, software, etc. experiences

Grad school
NAC/NINE
Career

Undergraduate Students
Broadening Participation
Education & Training “Pipeline”

LSAMP
- VA-NC Alliance – UVA & NRAO + HBCUs
- Research and engineering experience – CDL
- “Folded into” NAC cohort
- Annual trip to Green Bank Observatory

Undergraduate Students

NAC Grad school
NAC/NINE Career
Broadening Participation

Education & Training “Pipeline”

- Students from universities near ALMA
- Mentored by NRAO/ALMA scientific staff
- 10 weeks during Chilean summer
- Present research at annual SOCIAS meeting

Undergraduate Students

Grad school Career
Broadening Participation
Education & Training “Pipeline”

- NAC student embedded in NINE program
- Learning Project Management skills
- Research or engineering experience
- Servant-Leadership training and experience

Undergraduate Students
Broadening Participation
Education & Training “Pipeline”

2018 NAC Fellows
Chima McGruder,
Harvard ’23
Moiya McTier,
Columbia ’22
Sinclaire Manning,
UT-Austin ’20

• NAC Alums in graduate school
• Eligible for NAC Fellowships
• Serve as mentors to NAC undergrads
• Support network for fellow graduate students

Career/Post-doc

Graduate Students
Broadening Participation
Education & Training “Pipeline”

The NINE Professional Experience

- Long-term Mentoring
- Grad school
- NAC/NINE Career
- Professionals at any career level
- Project Management (PM)
- Raspberry-Pi to combine & analyze astronomical data
- Hub development for home institution

Professionals
Broadening Participation
Outcomes - NAC

NAC Pipeline

February, 2018

- Cohort
- GradSchool
- Employment in STEM
- Post-Doc

- Still undergrads: 15
- NSF GRFs: 4
- NAC/NINE Leadership: 3
- In Grad school beginning 2018: 4
Broadening Participation
Outcomes - NAC

**POST-BAC NAC ALUMS**

<table>
<thead>
<tr>
<th>Year</th>
<th>MS</th>
<th>PHD</th>
<th>ENG</th>
<th>Post-Doc</th>
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<td>2024</td>
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</tbody>
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Post-Bac NAC Alums:
- Cal State LA
- New Mexico Tech
- Berkeley
- Princeton University
- University of Florida

Post-Doc NAC Alums:
- Columbia University
- University of Maryland
- University of Florida
- University of Texas
- University of California Santa Cruz

Years: 2017-2024
Broadening Participation
Outcomes - NAC

GRADUATE SCHOOLS – NAC Students

Berkeley University of California
UB Universitat de Barcelona
Columbia University
Fisk-Vanderbilt Master’s-to-Ph.D. Bridge Program
Harvard University
University of Maryland
University of Michigan
University of New Mexico
New Mexico Tech
Penn State
Princeton University
Rutgers University
Texas A&M University
University of New Jersey
W University of Washington
### Broadening Participation Outcomes - NAC

<table>
<thead>
<tr>
<th>Undergraduate School</th>
<th>Graduate School</th>
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<tbody>
<tr>
<td>Texas Christian University</td>
<td>Texas A&amp;M - College Station</td>
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<tr>
<td>Norfolk State University</td>
<td>Cal State Univ LA</td>
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<tr>
<td>College of Idaho</td>
<td>New Mexico Tech</td>
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<tr>
<td>Texas Southern University</td>
<td>Rutgers University</td>
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<tr>
<td>Whittier College</td>
<td>Leopold-Franzens Universität Innsbruck</td>
</tr>
<tr>
<td>City College of New York</td>
<td>Princeton</td>
</tr>
<tr>
<td>Howard University</td>
<td>University of Michigan Applied Physics</td>
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<tr>
<td>University of Alabama, Huntsville</td>
<td>Princeton</td>
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<tr>
<td>University of California - San Diego</td>
<td>University of Barcelona</td>
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<td>Howard University</td>
<td>University of Texas - Austin</td>
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<td>University of Tennessee, Knoxville</td>
<td>Harvard University</td>
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<tr>
<td>Harvard University</td>
<td>Columbia University</td>
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<td>Howard University</td>
<td>UC Berkeley College of Engineering</td>
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<tr>
<td>University of North Carolina, Chapel</td>
<td>Fisk Vanderbilt Bridge Program - MS</td>
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<td>Harvard University</td>
<td>UC Santa Cruz</td>
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<tr>
<td>New Mexico Tech</td>
<td>New Mexico Tech</td>
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<tr>
<td>Old Dominion University</td>
<td>New Mexico State University</td>
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<tr>
<td>Piedmont Virginia Community College</td>
<td>University of Virginia</td>
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<tr>
<td>University of Wisconsin</td>
<td>Banneker Institute at Harvard</td>
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<tr>
<td>CSU - San Bernadino</td>
<td>University of Maryland, College Park</td>
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<tr>
<td>Howard University</td>
<td>University of Washington</td>
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<tr>
<td>Howard University</td>
<td>Penn State</td>
</tr>
</tbody>
</table>

#### Undergraduate and Graduate Schools

- **Non-R1 School**
- **HBCU**
- **Hispanic-Serving Institution**
- **R1 School**
Broadening Participation
Outcomes - NINE

Recent & Up-coming NINE Hub Activities

2017-2018
- High school-college bridge
- 1st Radio Astronomy program at HBCU
- NSF Proposal for research and exchange – HBCU-UP

Summer, 2018
- High school students from South Africa and Hampton University
- Trip to NRAO, Green Bank Observatory & University of Virginia

Feb-Mar, 2018
- Education & Public Outreach
- MAPPP training by Lory Wingate
- Methodical approaches to proposals with PM

Joint activity
Exchanges
### Broadening Participation

**2018 NINE**

<table>
<thead>
<tr>
<th>Established International Hub</th>
<th>Developing U.S. Hub (HBCU)</th>
<th>Developing International Hub</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Anja Fourie</strong>&lt;br&gt;Science Promotions Coordinator at SKA Africa 2018 NINE PM</td>
<td><strong>Alex Fortenberry</strong>&lt;br&gt;Physics</td>
<td><strong>Jason Renwick</strong>, B.Sc., Electrical Engineering</td>
</tr>
<tr>
<td>Hub Lead: Lorenzo Raynard (Rob Adam)&lt;br&gt;SARAO/UWI collaboration</td>
<td>Hub Lead: Dr. David Morris</td>
<td>Hub Lead: Dr. Shirin Haque, Dep. Dean, Faculty of Science and Technology</td>
</tr>
</tbody>
</table>
Office of Diversity & Inclusion (ODI)

https://info.nrao.edu/do/odi/diversity-training

Diversity Training & Speaker Series

• Unconscious/Implicit Bias
• Safe Space/LGBT Cultural Awareness
• Disability Awareness & Etiquette
• Post-traumatic Stress Disorder (PTSD)
• Mentoring Students from a Diverse Background
• Imposter Syndrome
• Professional Skills Development for Women
• Anti-Harassment and Anti-Bullying
Office of Diversity & Inclusion (ODI)

https://info.nrao.edu/do/odi/diversity-advocates

Diversity Advocates & Employee Diversity Group

• Actively promote the benefits of diversity
• Speak up to address issues that fail to meet our standards of inclusion
• Value the power of diverse ideas and experiences
Office of Diversity & Inclusion (ODI)

Diversity Advocate
Office of Diversity & Inclusion (ODI)

Diversity Advocate

The Diversity & Inclusion (D&I) Advocate promotes the advancement of diversity and inclusion in Charlottesville, and across the Observatory. The D&I Advocate will coordinate activities with the Director of Diversity & Inclusion at NRAO to support specific D&I initiatives throughout the Observatory, in addition to providing recommendations that address Charlottesville-specific D&I issues. The D&I Advocate will act as the site’s lead spokesperson for D&I efforts.

The CV D&I Advocate will be selected by a committee composed of the ODI Director, the HR Director, and two other volunteers.
Office of Diversity & Inclusion (ODI)

Duties & Responsibilities:

• Serve as the primary point-of-contact at the site level for D&I related matters;
• Serve as chair of the Charlottesville Employee Diversity Group (EDG), and organize and lead quarterly EDG meetings;
• Represent diversity and inclusion ideals in daily interactions;
• Actively participate in D&I meetings, and communicate outcome of the meetings at each site;
• Manage D&I communication campaigns (post notices of upcoming trainings, events, etc.);
• Support D&I training programs by coordinating logistics, and making recommendations on targeted topics that are pertinent to Charlottesville;
• Champion and advocate all D&I events in Charlottesville;
• Serve as a role model regarding D&I issues at NRAO; and
• Provide site-specific information on D&I activities that NRAO needs to report to NSF on a quarterly basis.
Office of Diversity & Inclusion (ODI)

Qualifications:

• Demonstrated interest in promoting a culture of diversity and inclusion at NRAO
• Completion of the D&I Advocate suite of online training courses before service begins
• Demonstrated ability to lead by example, with a reputation for inclusive interaction with colleagues

Time Commitment:

Time commitments will vary depending on the work at hand. However, D&I Advocates should plan on devoting approximately five working hours per month for meetings, planning, and discussion with employees and managers. Note that this time should be coded as BI on your timesheet, but is still paid from your home account. Advocates serve at least one one-year term with the option to renew if mutually agreeable.
Office of Diversity & Inclusion (ODI)

To Apply:

• Send a letter of interest to Lyndele at odi@nrao.edu. Please include:
  • A statement of motivation (why is this of interest to you)
  • Background/experience in Diversity & Inclusion-related work

Process:

• A committee, composed of the ODI Director, the HR Director, and two other volunteers, will review the applications.

• All candidates, and the 2018/19 Advocate will be notified by September 3rd.

• Service will begin October 1, 2018
Employee Diversity Group Members
Office of Diversity & Inclusion (ODI)

Employee Diversity Group Members

The Employee Diversity Group should be attentive to opportunities to Increase awareness of diversity- and inclusion-related issues and, within the context of EDG meetings, recommend solutions.

Successful EDG members will be motivated to:

• work to promote respectful dialogues that explore the benefits of diversity and inclusion within NRAO;
• promote diversity and inclusion at Observatory sponsored events
• actively represent and promote inclusiveness and respect
Office of Diversity & Inclusion (ODI)

Duties & Responsibilities:

• Actively participate in CV Diversity meetings (monthly or quarterly, as determined by the EDG)
• Assist with sharing Observatory-wide D&I communications
• Serve as role model by attending diversity training and events
• Communicate and report diversity related information to Diversity Advocate
• Be attentive to opportunities to advocate for diversity & inclusion
• Complete assigned suite of D&I-related training courses
• Solicit ideas from employees regarding diversity oriented events/issues relevant to site
Office of Diversity & Inclusion (ODI)

Goals:

• Increase awareness of diversity- and inclusion-related issues and recommend solutions
• Promote a respectful dialogue that explores the benefits of diversity within NRAO
• Promote diversity and inclusion at Observatory sponsored events
• Actively represent and promote inclusiveness and respect
• Assist in developing funding requests to support site-based initiatives.
Office of Diversity & Inclusion (ODI)

Qualifications:

• Demonstrated interest in promoting a culture of diversity and inclusion at NRAO
• Completion of the D&I EDG suite of online training courses before service begins
• Demonstrated ability to lead by example, with a reputation for inclusive interaction with colleagues

Time Commitment:

It is expected that a EDG members will serve no more than one to two hours per month. This service time should be recorded as BI, and will be charged to the employee’s home account. EDG members serve 1 year appointments, renewable for an additional year. Appointments are effective at the beginning of each fiscal year.
Office of Diversity & Inclusion (ODI)

To Apply:

• Send a letter of interest to Lyndele at odi@nrao.edu. Please include:
  • A statement of motivation (why is this of interest to you)

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