



Title: Diversity Strategic Plan	Author: F. Giles	Date: 08/15/2014
NRAO Doc. #:		Version: 2.0

NRAO Diversity Strategic Plan

PREPARED BY	ORGANIZATION	DATE
Faye Giles	NRAO	August 15, 2014

Change Record

VERSION	DATE	REASON
5.0	8/15/2014	Updated to Align with FY15 and FY16 POP – Programs Only
4.0	8/8/2014	Comments/Suggestions from Director - Formatting
3.0	5/7/2014	Final Revisions (Feedback from Coordination Group & EDG Members)
2.0	03/27/2014	Revisions
1.0	12/23/2013	Initial Draft

TABLE OF CONTENTS

- 1 COMMITMENT..... 2**
- 2 ROLES & RESPONSIBILITIES..... 3**
- 3 PROGRAMS 4**
- 4 INTERNAL - RECRUITMENT, HIRING & RETENTION 8**
 - 4.1 Multi-Cultural Workforce..... 8**

For the past several years, NRAO has taken several concrete steps towards improving diversity and broadening participation within the Observatory and in the community. Emboldened by these steps and following the recommendation of the Diversity Review committee, we are creating a strategic plan that will ensure that there is a shared vision and commitment to enhancing and improving diversity across the Observatory. We will also focus on creating an effective communication strategy to ensure that the Observatory's definition of, and commitment to, diversity is understood and embraced by the entire workforce.

Diversity Defined at NRAO

The concept of diversity encompasses acceptance and respect. It means understanding that each individual is unique, and recognizes our individual differences. These can be along the dimensions of race, ethnicity, gender, sexual orientation, socio-economic status, age, physical abilities, religious beliefs, political beliefs, or other ideologies. It is the exploration of these differences in a safe, positive, and nurturing environment. It is about understanding each other and moving beyond simple tolerance to embracing and celebrating the rich dimensions of diversity contained within each individual. From a practical view, diversity is the synthesis of many human resource-related laws and best practices. From a personal view, diversity is how we appear and behave towards the people we work with or those who seek our service.

The primary areas of focus for the immediate future:

- Support the recommendations from the 2013 Diversity Review Committee.
- Clarify diversity initiatives and how they relate to the NRAO mission and our future.
 - Develop a robust communication strategy that encourages continuous discussion throughout the observatory.
- Do an internal review with the staff building on the external review report and develop recommendations, priorities and an implementation plan.
 - Establish an annual diversity summit with managers, diversity advocates and staff.
 - A report will be submitted to the Director.
- Establish accountability measures for success of diversity initiatives for middle management.
 - Incorporate in 360 Evaluation Process.
 - Establish metrics to monitor and evaluate success of initiatives
- Adopt and implement new recruitment guidelines for supporting diversity hiring.
 - Verify compliance with guidelines.
- Continue and fund diversity issues under broader impact in the scientific community.
 - Establish a continuous and sustainable funding stream for existing and new initiatives.
- Integrate diversity elements into Education & Public Outreach, Recreation Committee, and Science User Support.
 - Establish diversity goals for each area and encourage collaborations amongst them.
- Identify and fund opportunities for Diversity Professional Development.
- Identify and increase the number of diversity champions across the Observatory.
 - Provide public recognition and opportunities for individual development.
- Identify incentives and recognition for individuals and groups supporting this Strategic Plan.

I COMMITMENT

I.1 Communication:

Develop a coordinated communication strategy:

- Communicate the message that diversity is not an HR-only initiative; Diversity is an organizational priority.
- Include a diversity message on Careers web page.
- Enhance the diversity vision statement which syncs the science and diversity mission.
- Create a Director's video promoting diversity on main web page and diversity webpage.
- Agenda item at the Director's All Hands Meeting.
- Weekly Coordination Meeting – Director check-in.
- Departmental/Division Meetings – Diversity topic, agenda items incorporated.
- Recognition of diversity/broader impact activities by management.
- Emails, posters, presentations, diversity web site separated from HR web page.

I.2 Management Accountability:

- Management must be champions of diversity (job requirement).
 - They may designate their staff to actively engage and participate in diversity initiatives.
 - Encourage and recognize staff who are involved with diversity initiatives.
- Include diversity goals/objectives in all management performance evaluations.
 - Director's office will establish a set of yearly goals for the management.
 - Additional goals/competencies should be added by the manager as relevant to their team.
 - Managers will announce their diversity goals at a team meeting.
- Recommend a suite of skills that supervisors should demonstrate competence to maintain a supervisory position, or to be considered for a supervisory position.
 - These will be included as part of the NRAO's 360 feedback process.
- Managers are required to attend all diversity related presentations and encourage their staff to attend.
 - Managers are expected to brief the main points of these presentations to their team at their team meeting.

I.3 Financial Commitment:

- Dedicated Funding for Diversity Initiatives must be an annual line item at the current level of support for the current suite of programs.
 - NRAO: (1.5% of total NRAO budget)¹
 - Funding for the employee's effort (an independent WBS code for Diversity)
 - Additional funds for special programs or new initiatives
- AUI may fund additional programs / activities in collaboration with NRAO staff.

¹ Assumes 15K each for two students from Howard, a 2nd HBCU and a HSI per year, 15K for two LSAMP students, 25K for professional development, 5K for Socorro summer youth, ~20K for Rec, EPO and other special programs).

1.4 Improve the internal culture and environment for diversity:

- Diversity is critical to the success of NRAO and all managers.
- All supervisors and managers have a responsibility to promote and support NRAO's Diversity initiatives.
- Managers will strongly encourage attendance for diversity training topics.
- Recruit diversity advocates and employee diversity group members who are motivated and engaged.
- Management will participate, support and encourage staff in their participation of diversity initiatives.
- Incorporate specific diversity training component for Supervisors training in Diversity issues, including best practices in hiring and management of a diverse workforce.
- Develop a set of matrices for evaluating areas of success in improving the work climate for under-represented employees, and areas that need improvement.
- Develop and sponsor at least four training events that focus on: (i.e. Unconscious bias, privilege, LGBTQ).
- Train and deploy Diversity Advocates whose role in the organization is to promote the advancement of diversity within Advocates NRAO site. The advocate will work directly with the NRAO Employment and HR manager/diversity lead.

2 ROLES & RESPONSIBILITIES

2.1 Roles:

The NRAO Diversity Lead will coordinate the overall diversity initiatives being organized throughout the Observatory and carry forth the main goals described above.

A lead diversity advocate (rotating every two years) will act as the site's lead diversity spokesperson for the site's diversity group(s).

An AUI-NRAO Diversity Lead will be appointed to coordinate the joint diversity initiatives between NRAO and AUI such as the international partnerships with South Africa, China, Chile and majority institutions nationally, including AUI member institutions (or board member's institutions, e.g. Wisconsin, Cornell etc.), and the new partnership with the NSBP and the National Consortium of HBCUs and majority institutions.

The NRAO Diversity Lead and the AUI-NRAO Diversity Leads will work closely to maximize the synergy between the programs and leverage common resources, ideas and funds.

3 PROGRAMS

STEM Pipeline Initiatives:

As a national observatory it is our mission to train the next generation of scientists and engineers. It is especially important to help build the STEM pipeline in minority and under-represented groups because this is the fastest growing sector of the US population. Efforts described here are a long term plan towards building a vibrant STEM pipeline with national and international partners. This work will be done jointly by Diversity Advocates, New Initiatives Office, SUS and HR.

3.1 Program Integration – EPO/SUS/Diversity:

In order to maximize the myriad of activities within EPO, SUS and through our diversity initiatives, better integration and coordination is required. A concerted collaboration amongst these groups will allow AUI and NRAO to utilize existing resources rather than three different areas within the organization operating independently.

3.2 Broader Impact - Community:

The broader impacts of our operations are one of the two evaluation criteria by the National Science Foundation that funds the bulk of our activities. Efforts ranging from education and public outreach to reaching a broader science community are encapsulated within this evaluation criterion. The goals described below relate to diversity initiatives and will be undertaken by EPO, HR and SUS. In FY15 and FY16.

National Programs:

3.3 SEDUIP

The Socorro Electronics Division has been utilizing the Undergraduate Intern Program (UIP) to involve students in the production of NRAO hardware, software, and in drafting and design activities. Over 50 students have participated in the UIP in the last 12 years, many of whom are Hispanic engineering students native to New Mexico. This program is extremely beneficial to the students, introducing them to a professional laboratory environment, and providing mentors to guide them while they make meaningful contributions to ongoing technical design, assembly, and documentation projects at the Observatory. An added benefit of the program is that it increases the visibility of NRAO and AUI in the community in New Mexico, and trains potential future employees who will be well qualified to help NRAO retain its current world-class status for cutting edge radio signal processing technology. At present, this program is limited to the New Mexico Institute of Mining and Technology students who hear about the opportunity through word-of-mouth. This program would allow us to actively recruit students from a larger number of HSIs in NM, such as the University of New Mexico and New Mexico State University, and would support one or two additional positions which we would use to increase the diversity within the program, targeting particularly female and Native American students attending these universities. We would also make use of these recruiting avenues to attract Hispanic and Native American students to the existing astronomy programs at all NRAO sites.

3.4 VA-NC Louis Stokes Alliance for Minority Participation LSAMP

The LSAMP (NSF funded) program is targeted to under-represented minorities in STEM. MSIs are solidly established and UVA is the lead collaborator. Summer Research students will conduct hands-on research using the state of art lab facilities, observe at GB and the VLA, use advanced software

applications and participate in classroom activities. NRAO's funding commitment will be to sponsor two students who will be named NRAO-LSAMP fellows. The LSAMP students have combined many aspects of their program into the NRAO REU program. This partnership has resulted in optimizing resources from UVA that has benefited the NRAO Astronomy Consortium Cohort and the NRAO Summer REU program.

3.5 (NAC) - National Consortium in Astronomy for Creating Future STEM leaders

The mission of the NAC is to build a pipeline for future STEM leaders from under-represented groups using a cohort model, multiple mentors, professional development and life-long career mentoring. At Charlottesville and Socorro we will host 2 yearly cohorts of 4 students each. Over the summer the students will interact with other REU students to take advantage of shared resources (colloquia, lectures, site visits, etc.).

The model will consist of two cohorts of four students each. The cohort will be hosted at NRAO-Socorro and NRAO-Charlottesville contingent upon funding resources and staff availability. The students will be recruited via visits to Minority Serving Institutions (MSIs) in the fall of 2015 and interactions at the AAS and possibly the SACNAS meetings. Applications will be due to participate in the NAC on Feb 1, 2015 and pre-summer orientation and preparation will be done in the spring of 2015. Students will be hosted at the NRAO sites for 10-12 weeks from Jun--August and will have the opportunity to interact with the REU students. The NAC may also add another cohort of four students at Wisconsin and some of the activities will be coordinated via the NAC lead in Charlottesville.

3.6 NAC Workshop

In September of 2015, a third annual NAC workshop will be held which will bring back NAC alumni and partners to continue discussing, collaborating, and learning from each other and expanding the program. The main purpose of the workshop is to maintain and increase participation from MSIs and Majority Serving Institutions and Universities to build and sustain an enduring, sustainable pipeline for training future STEM leaders from under-represented groups.

3.7 Socorro Employee Summer Youth Program:

Each summer, the City of Socorro partners with area employers to provide work experience for High School age children in the community. The youth work at the AOC and are assigned tasks that will prepare them for future work opportunities. This is known as the Summer Youth Employment Program (SYEP). SYEP participants are assigned to partnering area employers where the student will gain "real life" working experience. The program is fully sponsored by the City of Socorro (the City pays the students). The sessions run for six weeks.

3.8 PING:

Physics Inspiring the Next Generation (PING): Investigating the Universe at the National Radio Astronomy Observatory program is a joint venture between the National Society of Black Physicists (NSBP) and the National Radio Astronomy Observatory (NRAO), and Associated Universities Inc. (AUI). The two part program is designed to support multiple levels of the physics and astronomy pipeline. PING: Investigating the Universe at NRAO includes a two week summer program designed to expose middle school students to the fields of physics and astronomy and an eight week program

designed to cultivate interest in radio astronomy research in undergraduate students. The undergraduate students selected for the program, will begin an "REU like" experience at the National Radio Astronomy Observatory in Green Bank, WV around June 1, 2015 and will end their experience around August 1. As part of this program the undergraduates will serve as instructors and mentors for middle school students during a 2-week summer camp. In addition to the summer camp, undergraduates will be partnered with an astronomer or engineer at the Green Bank facility where they will engage in various cutting edge research for the remainder of the 8-week experience.

3.9 Native American Outreach:

NRAO will explore opportunities for establishing a partnership with Native Americans in an effort to extend pipeline opportunities starting with the Pathkeepers for Indigenous Knowledge Organization. Through this collaboration, it is our intention to seek opportunities for STEM opportunities in Charlottesville and New Mexico.

3.10 African American Teaching Fellows (AATF):

The mission of the [AATF](#) is to recruit, support, develop and retain a cadre of African American teachers to serve the schools of Charlottesville and Albemarle County. Nearly 30 percent of school-age children in Charlottesville and Albemarle County are African American, but less than 10 percent of their teachers are. The absence of African American teachers leaves many African American students feeling disconnected from school, and the disparity creates misperceptions and stereotypes that disadvantage all students, regardless of race. The absence of diverse teaching staffs affects every one of our children. They rarely witness cross-cultural collaboration, hardly benefit from diverse mentorship. A generation is growing up without an appreciation of cultural differences, without understanding that despite our varied experience, our similarities unite us. African American students suffer the most: in Charlottesville and Albemarle County, they are three times more likely to drop out of school than their white peers. They lack mentors who share their sociological and cultural roots, who can address the needs of a diverse student population. NRAO would like to establish a partnership with AATF to provide financial support for two Fellows. One of the Fellows will be awarded the NRAO Science Fellow to support teaching in the STEM area. This initiative will assist NRAO to build a pipeline to support science careers in the community and aligns with our broader impact initiatives.

International Partnerships:

3.11 (NINE) NRAO National/International Exchange:

Preface: In the United States (and across the planet), the National Radio Astronomy Observatory has been the leader in enabling cutting edge scientific research with its world leading radio facilities. Today, the landscape of radio astronomy is fast changing as countries such as China, South Africa, Chile and India are fast developing the next generation of radio astronomy facilities. These nations are also keen in developing the human capacity that will be essential to build, innovate, and operate these facilities. In the U.S. there is also a strong desire to develop further our human capacity in the STEM fields, especially within traditionally under-represented groups. Within the mandate and mission statement of NRAO we define under-represented groups to mean all of the following but not limited to people of color, women, economically disadvantaged and first-generation college students. The challenges and obstacles faced by under-represented groups in the U.S. and overseas are similar. Increasing diversity and improving the environment for diversity are essential ingredients for human capacity development. The program, NINE, described below is geared towards building the next generation of scientists and engineers in STEM fields nationally and internationally.

NINE Partners:

US: NRAO, NSBP, Cornell, U. Wisconsin-Madison, U. Maryland, Howard University

Potential International: South Africa (SKA-HCD, UCT, UWC, UNW, UKZN, Wits); China (Shanghai, others); Chile (U. Chile, PUC, Concepcion); India (RRI, NCRA, TIFR, IUCAA)

At each NINE node there will be a designated NINE faculty or staff member who will be responsible for helping to coordinate the local logistics, keep everyone in the program up to date on the local news, needs and developments. Ideally for each of the international partners there would be a designated (or elected) representative for the country. For the U.S., the NINE NRAO office will coordinate the efforts stateside and the overall coordination of the program.

Framework & Essential Components of NINE:

1. Co-mentoring and exchange of students and postdocs following the “posse” model
2. Exchange of faculty on short and long time scales
3. Yearly workshops to foster collaboration, professional development and networking
4. Quarterly meetings to evaluate progress, critique program and set goals
5. Several working meetings (e.g. JEDI) and virtual classrooms

An outcome of the NINE program will be partnerships with countries with fast growing radio astronomy communities with the intent of establishing stronger ties to them by exchanging faculty and co-mentoring Masters and Ph.D level students. In steady state we anticipate two MSc students at each NRAO site for three months and one Ph.D student at each site for six months.

3.12 Partner Countries Chilean Student Partnership:

In Chile, astrophysics and astronomy are rapidly growing fields due to the increase in outstanding new telescope facilities being constructed there. The opportunities for females, however, are lagging far behind as the historically conservative culture struggles to adapt traditional family roles to a modern egalitarian society. In 2012, according to La Nación newspaper, only three astronomy PhDs had been awarded to female students in the country’s history. Astronomy students are increasingly aware of opportunities abroad, however, and particularly at NRAO and the University of Virginia, due to active collaborations between the ALMA and the local universities in Santiago and Valparaiso. This provides us with the opportunity to support qualified female PhD candidates at UVA who can then take faculty jobs back in Chile and in turn support additional bright and motivated female graduate and undergraduate students at their local universities. This is a unique opportunity to use NRAO facilities to perceptibly improve the climate for females in one of our partner countries. At present we have one student who has passed her candidacy exam and would benefit greatly from 12-18 months of support to allow her to complete her PhD at UVA with an NRAO staff person as her research advisor utilizing faculty connections at Chilean universities to recruit beyond FY15. Dr. Alison Peck will lead this initiative.

4 INTERNAL - RECRUITMENT, HIRING & RETENTION

4.1 Work Force Diversity:

There are three key aspects in improving the work force diversity: Recruitment, Hiring and Retention. The two main goals described below will require a strong commitment from management to ensure that the enhanced recruitment guidelines that center around improving diversity are shared by those who have hiring and management responsibilities.

4.2 Diversity and Cultural Awareness Training

4.2.1 Multi-Cultural Workforce

Finding common ground in an environment rich with varying opinions and perspectives can be an organizational challenge. Education and awareness initiatives that teach employees how to succeed and perform optimally across a multi-cultural workforce can directly support diversity efforts in the workplace. Diversity education encourages thoughtfulness and consideration between co-workers of different nationalities and backgrounds. Cultural awareness is achieved when all employees in a company can appreciate the benefits of cultural diversity. The numerous benefits of cultural diversity stem from the fact that people from different cultures bring different perspectives to the table, introducing new ideas, perspectives and personalities into strategic planning processes and workplace activities in general. A culturally diverse and aware workforce can create a culture of mutual respect and dignity, garnering a reputation as a fair employer in the job market. Diversity awareness sessions will be offered across the Observatory utilizing a mixture of outside speakers and sessions which will be facilitated by NRAO staff and Diversity Advocates. Diversity awareness will also be incorporated in supervisor and management trainings.

4.2.2 Recruitment & Hiring

A staff recruiting guide that draws upon recent studies on diversity hiring and recruitment, a comprehensive recruitment guide will be implemented that provides details in regards to increasing minority applicants and targeted advertising to underrepresented populations. It is intended that this guide will be used for all subsequent hiring within the observatory. Amongst other items, the guide details required steps for formation of a search committee, and its subsequent training in the review process to avoid unconscious biases. The guide will seek to implement a uniform and fair process for all applicants and describe the requirements for documenting specific efforts undertaken by the committee to improve diversity. The guide will also contain guidelines on broader transparency in the hiring process that will provide necessary information to the applicants and to any staff members within the observatory.

4.2.3 Retention

In the second half of FY2014, NRAO will implement a process to review the current status of under-represented staff members and investigate means to their improved retention and advancement. The recommendations from this process will be communicated to the Director by September of FY2014.

As noted above, diversity training will continue to be conducted across the observatory. Emphasis on incorporating diversity training within the supervisory/management training will be completed.