

NASA Harriett G. Jenkins Pre-doctoral Fellowship Project (JPFP)

Brenda Collins, Project Manager
Natalie Gore, Deputy Project Manager
NASA Ames Research Center
650-604-3540

PROJECT DESCRIPTION

In 2000, NASA introduced the Harriet G. Jenkins Pre-doctoral Fellowship Program (JPFP) to facilitate the development of a more inclusive, multicultural and sustainable workforce. The JPFP was developed, with a mission to increase the number of underrepresented persons with master's and doctoral degrees in the NASA pipeline, and ultimately in the science, technology, engineering and mathematics (STEM) workforce. This highly competitive fellowship annually provides up to 20 awards that provide support for a period of up to 3 years.

PROJECT GOALS

1. To develop U.S. science, technology, and engineering expertise in ethnic and gender groups that are considered underserved and underrepresented in the STEM workforce.
2. To offset financial barriers for students underrepresented in STEM fields pursuing a graduate education.
3. To provide hands-on research experiences at NASA Centers.
4. To expose students to the salient aspects of professional and career development.
5. To develop students' skill sets and competence in applied science and engineering by providing collective and individual outreach opportunities to the K-16 educational community.

PROJECT BENEFIT TO OUTCOME 1

Outcome 1: Contribute to the development of the STEM workforce in disciplines needed to achieve NASA's strategic goals, through a portfolio of investments.

1.2.1 Student Support: Provide NASA competency-building education and research opportunities to individuals to develop qualified undergraduate and graduate students who are prepared for employment in STEM disciplines at NASA, industry or higher education.

- The ultimate goal of the JFPF is to provide monetary support for fellows seeking advanced STEM degrees to relieve the financial burdens often associated with pursuing graduate degrees. Award packages may total up to \$35,000 /year and includes a stipend, tuition offset payment and a competitive mini-research award opportunity. The monetary support, accompanied with mentoring, networking and professional development training opportunities, lends the project to be all encompassing in preparing its fellows to enter the STEM workforce.
- The JFPF provides more than just monetary support for its fellows in an effort to achieve NASA's strategic goals. The JFPF seeks to strengthen NASA's and the nation's future workforce through fellow participation in hands on research, professional development training, and STEM outreach opportunities.
- Fellows are provided information and encouraged to continue in the NASA pipeline by exploring other NASA funding or job opportunities that will carry them beyond their JFPF tenure.

PROJECT ACCOMPLISHMENTS

For the period: October 1, 2008 through September 30, 2009

- Since inception, the JFPF has placed 171 (cohorts 1-9) outstanding scholars into NASA's educational and workforce pipeline;

- The JPFP fellows are highly sought and talented scholars with very diverse backgrounds. The current ethnicity breakdown is 52% Black, 24%Hispanic, 14% White, 8% Asian, 1% Native American and 2% Pacific Islander;
- JPFP produced 56 Ph.D. and 46 Master's degree recipients. All Ph.D. recipients are now gainfully employed in STEM industries;
- The STEM workforce currently employs more than 86 JPFP fellows, with 12 currently employed with NASA;
- To date, 9 successful JPFP application review panels have formed to evaluate applicants' potential for success in graduate school and the JPFP. These panels integrate scholars from academia, private industry and NASA STEM leadership; the most recent panel provided recommendations to NASA for the establishment of Cohort 9, who began their award in September 2009.
- A total of 105 JPFP fellows from Cohorts 1-8 have enjoyed hands-on research experiences at NASA installations via the Mini Research Award component;
- This past year alone, two fellows have graduated with their Ph.D. degrees and are now working as Postdoctoral Research Fellows. Five students have earned Master's degrees and are continuing to persist in Ph.D. programs.
- Fellows also report significant achievements during their tenure in the project. Along with conducting international research, being published in peer-reviewed scientific journals, and participating in scientific policy initiatives on Capitol Hill, the JPFP Fellows are being nationally recognized for their accomplishments. The success of JPFP fellows academically this year has specifically led to four (4) peer-reviewed publications, fourteen (14) regional, and national conference presentations, and two (2) international oral presentations. In addition, our fellows have reported over twenty-five (25) awards and recognitions for exemplary work and performance in STEM areas.
- Minority institutions (MIs) account for 20% of the JPFP graduate institutions; 17% of the JPFP Fellows matriculate at MIs; 40% of

the JPFP graduates received their doctorate degree from one of the top 50 U.S. doctoral programs.

- JPFP is most proud to report that six (6) fellows were selected this past year to serve as NASA Student Ambassadors:
 - Quenton Bonds (Cohort 6), University of South Florida
 - Erin Burke (Cohort 8), University of Washington
 - Moogega Cooper (Cohort 6), Drexel University
 - Brandon Jones (Cohort 7), Cornell University
 - Shannon Tronick (Cohort 8), Princeton University
 - Danielle Adams Wood (Cohort 5), Massachusetts Institute of Technology

PROJECT CONTRIBUTIONS TO PART MEASURES (INCLUDE DATA PLUS EXPLANATION)

For the period: October 1, 2008 through September 30, 2009

Total # participants reported FY08 (Cohorts 6, 7, 8): 50

1.2.2: Number of JPFP Fellows employed at NASA: 12

1.2.2: Number of JPFP Fellows employed in STEM occupations: 86

1.2.3: Number of participants seeking Adv STEM Degree in FY09: 50

1.2.5: Number of participants who were in previous NASA program and scholarship recipients: 15

1.5.2: Number of underserved/underrepresented students participating: 49

IMPROVEMENTS

Over the past year, the JPFP has worked to strengthen the various components that frame the entire project. By strengthening these areas over the past year, the project administrator was able to utilize funding more efficiently and ultimately providing a better fellowship experience for its participants. By strengthening the opportunity for the fellows to be successful during their fellowship, we increased our ability to be successful in meeting the overall program goals.

1. JPFP streamlined program communication to increase efficiency in fellow reporting, payments, etc.

2. Fellows received professional development trainings under the Special Programs Institute for Advancement (SPIA) program.
3. JPFP has capitalized on the use of technology (webinars, list-serves, chat communities) to keep current and Alumni JPFP cohort members informed and connected, thereby achieving an immediate sense of community and awareness.
4. JPFP had increased alumni advocacy in recruitment, mentoring, and outreach efforts.
5. For the first time, during this year's annual symposium event, private industry organizations attended as exhibitors and sponsors of the conference. Company representatives were able to meet and network with key NASA officials and program participants from five of NASA's higher education programs. It is believed that this interaction will result in potential employment and/or internship opportunities as well as research and funding opportunities for our fellows. It also develops an initial relationship between these organizations and NASA.

PROJECT PARTNERS AND ROLE OF PARTNERS IN PROJECT EXECUTION

The United Negro College Fund Special Programs (UNCFSP) administers the program, and ARC's Office of Education manages the project. Since 2001, students from over 70 institutions of higher learning have participated in the Harriet G. Jenkins Pre-Doctoral Fellowship Program.

The JPFP fellows in Cohorts 1-8 have had very productive years in the program. All of the scholars exceeded the "B" average (3.0/4.0 grade point average) minimum requirement to remain in the program. In fact, the average G.P.A. of the fellows is 3.6. From May 2006 to May 2009 the number of completed Ph.D. degrees has increased from 21 to 56. Additionally, the number of Master's degrees has increased to 46. This documented success has allowed the JPFP to surpass its goal of graduating 100 fellows with STEM graduate degrees by the year 2010.

While there are fellows who decided to enter the STEM workforce upon completion of the Master's degree, more than half of the Master's graduates decided to continue their education and pursue their doctoral degree. Proudly, the fellows who entered the STEM workforce have secured jobs in the aerospace industry with companies like Northrop- Grumman, Lockheed-Martin and Raytheon, just to name a few. Currently, 12 fellows have gained employment with NASA. This clearly says that early into this century, the nation will have some of the brightest STEM experts prepared to meet the emerging technological challenges. Proudly, these new leaders will be alumni of the NASA Harriett G. Jenkins Pre-doctoral Fellowship Program.