Harriett G. Jenkins Pre-doctoral Fellowship Program (JPFP)

PERFORMANCE OUTCOMES DATA SUMMARY

Narratives Only

FISCAL YEAR 2007

Compiled by

NASA Research & Education Support Services

Jenkins Fellowship Program

United Negro College Fund Special Programs Corporation

Fairfax, VA 22031

JPFP: Harriett G. Jenkins Pre-doctoral Fellowship Program/UNCFSP

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PROGRAM DESCRIPTION

NASA's Office of Education provides education programs, like the Harriett G. Jenkins Pre-doctoral Fellowship Program (JPFP), that will not only inspire students to experience space exploration and discovery, but also develop skill sets necessary to successfully support and advance the aerospace industry. In 2000, NASA introduced the Harriett G. Jenkins Pre-doctoral Fellowship Program (JPFP) to facilitate the development of a more inclusive, multicultural and sustainable workforce. Today, just seven years after its inception, the JPFP has put 131 outstanding scholars into NASA's educational and workforce pipeline, and is highly recognized as one of the most prestigious federally-funded fellowship programs in the United States. The first seven years have been stellar. Remarkably, JPFP scholars have earned 35 doctoral and 33 master's degrees in this short period. At this rate, the JPFP will contribute 100 Ph.D. and over 100 M.S. recipients to the NASA pipeline and STEM workforce by the year 2020.

In keeping with the explicit aim to educate America's best and brightest underrepresented students, the new and enhanced JPFP will continue to provide underrepresented STEM graduate students with financial support for their education. Building upon the successes of the former JPFP, NASA will add 68 talented underrepresented STEM graduates to the agency's educational and workforce pipeline over the next three years through the new program. Each three-year fellowship includes mentoring, annual hands-on research experiences at a NASA Center, and professional development training. In addition to the wonderful program components currently offered, the new JPFP will provide leadership training and educational outreach opportunities. The new fellows will acquire the tools that will make them "ready to take the next steps of space exploration: human missions to Mars and to worlds beyond."

The JPFP is a value-added win for America. By significantly increasing the number of highly- trained scientists through programs like the JPFP, NASA will emerge as a major producer of scientific and innovative talent to the U.S. workforce. As the nation's need for scientists, engineers and technically skilled workers grows, the new JPFP will accept the President's challenge to "choose to explore space because doing so improves our lives and lifts our national spirit. So let us continue the journey."

PROGRAM RELEVANCE TO NASA

Plugging NASA's educational and workforce pipeline with skilled and talented trainees is crucial to agency's success. Thus, we are proud to note that fifty-six percent of the JPFP fellows entered the program with previous NASA-related experience through summer internships, space grant fellowships, co-ops, etc. In an effort to leverage the talent, the JPFP has established links to a number of NASA's Educational Programs. Linkages ascertained through NASA's Undergraduate Student Researcher Program (USRP), the Curriculum Improvement Partnership Award (CIPA) and NASA Academy allow the JPFP fellows to serve as mentors and role models to the "next generation of space explorers" from the K-16 educational level; thereby promoting science excellence and serving as advocates for the numerous scholarship and internship opportunities that the agency sponsors. The inspired young USRP and Academy students eventually become prime candidates for the JPFP. The JPFP has also expanded undergraduate students' awareness of and exposure to NASA-related disciplines, providing a candidate pool of thousands of underrepresented students to participate in NASA programs. At their home institutions, JPFP Fellows also assist their institutions ability to develop and/or strengthen their articulation agreement with NASA, so that faculty can seamlessly form collaborative research partnerships with the agency and strengthen the STEM curricula.

Furthermore, the JPFP has provided linkages to the NASA Administrators Fellowship Program (NAFP). Participants of the NASA Administrators Fellowship Program (NAFP), a professional development and leadership program, have also been very instrumental in the success of the JPFP. NAFP Fellow volunteers who expressed interest become official mentors through the JPFP's Mentor-Protégé Initiative activity. Based on their research interests, JPFP Fellows are matched with the NAFP Fellows. Once the connections are made, exciting new relationships flourished. Through email and in-person communications, the mentoring relationships are fostered. Thus, the bond between the two programs is set and strengthened. For several JPFP fellows, new research collaborations and job opportunities were pursued as a result of the mentoring relationship.

PROGRAM BENEFITS TO SOCIETY

JPFP has ensured the most rewarding research fellowships by matching the fellows research interests and expertise with appropriate NASA Centers, government agencies, or other appropriate organizations. These fellowship programs are equipping the minority higher education community to be value-added contributors in the nation's education and research agenda, and program participants are being proactively groomed for their positions as tomorrow's leaders and role models.

The JPFP continues to be one of NASA's most successful programs. To date, an estimated $10 million has been expended on fellow stipends, tuition and professional development activities. 131 fellows are currently enrolled in the program, and 68 students have earned graduate degrees as a result of the JPFP.

PROGRAM GOALS

Since the creation of the National Aeronautics and Space Administration, NASA has made a substantial commitment to education. As stated in the NASA 2006 Strategic Plan:

"NASA will continue the Agency's tradition of investing in the Nation's education projects and supporting the country's educators who play a key role in preparing, inspiring, exciting, encouraging, and nurturing the young minds of today who will manage and lead the Nation's laboratories and research centers of tomorrow."

At inception, the goals of the JPFP were congruent with NASA's interest to "advance scientific knowledge and understanding of the Earth, the Solar System, and the Universe and use the environment of space for research." Similarly, the national priorities of educational excellence and increased understanding of science and technology were addressed by implementation of the program.

The program currently has five main goals:

1. To develop U.S. science, technology, and engineering expertise in ethnic and gender groups that are currently 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 tudents' skill sets and competence in applied science and engineering by providing collective and individual outreach opportunities to the K-16 educational community

In conjunction with NASA's vision to inspire, engage, educate and employ, the JPFP will provide activities that foster this vision. The JPFP serves as a major link in the student pipeline used to address two of the three education goals from NASA's 2006 Strategic Plan:

- Strengthening NASA and the Nation's future workforce - NASA will identify and develop the critical skills and capabilities needed to ensure achievement of the Vision for Space Exploration. To help meet the demand, NASA will continue to develop the Nation's science, technology, engineering, and mathematics (STEM) workforce of the future through a diverse portfolio of education initiatives that target America's students at all levels, especially those in traditionally underserved and underrepresented communities.

- Attracting and retaining students in STEM disciplines - NASA will focus on engaging and retaining students in STEM education projects to encourage their pursuit of educational careers critical to NASA's future engineering, scientific, and technical missions.

PROGRAM ACCOMPLISHMENTS

The original JPFP plan was to provide financial support and hands-on research experiences at NASA Centers to 10 full-time graduate students. However, the high demand and quick program success led to major programmatic changes. These changes are briefly highlighted below, along with several measurable outcomes for the JPFP's first 6 years.

Since inception, the JPFP put 131 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 51% Black, 24% Hispanic, 14% White, 8% Asian, 2% American Indian and 8% Asian/Pacific Islander;

The research activities of the JPFP fellows encompass all of the NASA-related disciplines. The current breakdown of research disciplines is 47% Engineering, 22% Astronomy/Physics, 12% Biology, 11% Computer Science, 5% Mathematics and 4% Chemistry.

The JPFP produced 35 Ph.D. and 33 master's degree recipients. All Ph.D. recipients are now gainfully employed in STEM industries;
The STEM workforce currently employs 53 JPFP fellows, with 8 employed with NASA;

Sixty percent of the master's degree recipients immediately continued their education in an accredited STEM Ph.D. program;

To date, 7 successful JPFP application review panels have formed to evaluate applicant's potential for success in graduate school and the JPFP. These panels

integrate scholars from academia, private industry and NASA STEM leadership;

JPFP Cohorts 1-7 add a total of 131 fellows (57 females and 44 males) to NASA's educational and workforce pipeline;

Forty-five JPFP fellows (56%) entered the program with previous NASA-related experience through summer internships, space grant fellowships, co-ops, etc.;

Fifty-four JPFP fellows (67%)obtained their undergraduate degrees at Minority Institutions (MIs),while 22 fellows(27%)matriculate at MIs for their graduate studies;

A total of 84 JPFP fellows from Cohorts 1-6 have enjoyed hands-on research experiences at NASA installations via the Mini Research Award component;

Most importantly, by the end of the 2007-08 program year, the JPFP will give over $12million to 131 fellows for graduate study

STUDENT ACCOMPLISHMENTS

The JPFP fellows in Cohorts 1-6 have had very successful 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.

In 2003, the first fellow received a Ph.D. degree. Since then, several fellows have followed suit. As of December 2007, 33 fellows earned their doctorate degree and 35 fellows earned master's degrees. Eight fellows are currently employed with the NASA Johnson Space Center, NASA Jet Propulsion Laboratory, NASA Ames Research Center or the NASA Goddard Space Center.

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. 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!

PICTURES (1 image)