

National Aeronautics and  
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# The NASA Hubble Fellowship Program

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# NHFP Fellows Are a Driving Force of Astronomical Advancement

- Since its inception, the Hubble Fellowship (in combination with other NASA funded “named” fellowships) have provided support to more than 750 early career researchers to independently pursue cutting-edge science that often results in highly scientifically impactful publications
- Fellows have been nationally and internationally recognized as leaders in their respective fields, often becoming the “go to” experts in specific sub-fields of astrophysics (observational, theoretical, technology development)
- Former fellows hold prominent spots in many research-focused areas:
  - 68% are at R1 institutions
  - 23% are at Research Centers (NASA or otherwise)
  - 9% hold leadership roles (e.g. Dean, Chair, Directors)
  - 30% hold academic/research positions outside the U.S.



# Overview – Step 1: Merging the NASA Named Fellowships

- **In 2016**, NASA HQ's Astrophysics Division decided to merge the Hubble, Einstein, and Sagan fellowships into one NASA Hubble Fellowship Program (NHFP).
  - Retained the full range of science topics from the named fellowships
  - Fellows grouped to maintain their connection to Astrophysics division themes
    - How Does the Universe Work? - Einstein Fellows
    - How Did We Get Here? - Hubble Fellows
    - Are We Alone? - Sagan Fellows
  - Merging began in 2017, with first class of NHFP Fellows in 2018
  - NASA Astrophysics Advisory Committee recommended reviewing the newly merged program after 3-4 years

# Overview – Steps 2 & 3: Run Merged Program and Review

- Step 2: Ran the merged NASA Hubble Fellowship Program (NHFP) from 2018-2022 (5 years)
- Step 3: Held an external committee review of the NHFP in summer 2021
  - Premise: The NHFP supports outstanding postdoctoral scientists pursuing independent research that contributes to NASA Astrophysics, using theory, observation, experimentation, or instrument development.
  - Review was intended to assist NASA in increasing the effectiveness of the program, and bolstering its excellence. It focused on two main areas:
    1. Success of the NHFP under its current structure
    2. Diversity, equity, and inclusion of the program
  - Panel convened, comprised of a diverse group of astrophysicists and experts in diversity, equity, inclusion, and accessibility.
  - Panel wrote a report about its findings that led to 32 recommendations to the NASA Astrophysics Division of possible ways to improve the already successful program.

# NHFP Panel Report Findings

The NHFP Panel Report had 27 findings, 32 recommendations, in 5 broad topical areas. The report and a recording of the February 2022 webinar can be found [here](#). The broad topical areas were:

- Mission of the NHFP
- Management of the Program
- Application and Review Processes
- Diversity and Accessibility of the Program
- Support of the Fellows



## Two Recommendations with Fundamental Implications

- The NHFP aims at excellence, and the 21st-century Astrophysics landscape calls for *more than just scientific excellence* (...) if the great challenges of the future are to be met. **Teamwork, mentoring, and community building skills** should be paramount for the leaders of tomorrow.

**A new definition of excellence** is crucial for the NHFP and it must embrace the NASA/SMD core values. It must place a focus on inclusive, collaborative leadership as one of the defining criteria for the selection of Fellows.

- **Lower barriers to entry** to the field, as the NHFP embodies the aspirations, values, and standards of the Astrophysics community.

While “first order” changes have been presented and suggested in the review report as the first essential step, a much more challenging endeavor is to **change the culture of the community** - a “second order” change - to fully reflect the values of diversity and inclusion, without which significant innovation is not possible.

## Overview: Step 4 – Socialize the Report and Develop an Implementation Plan (2021-2023)

- Panel co-chairs (Rita Sambruna, GSFC, and Nicolle Zellner, NASA HQ and Albion College) debriefed the Astrophysics Director (Paul Hertz), NASA's Astrophysics Advisory Committee, and the Committee on Astronomy and Astrophysics
- NHFP Working Group was formed to develop an implementation plan based on the report recommendations
  - Consists of the NHFP Program Scientist, NHFP Leads, Hubble Program Scientist, Hubble Senior Project Scientist, Hubble Deputy Project Scientist, Hubble Project Manager, and several Astrophysics Program Scientists
  - Charged by Paul Hertz to develop a plan and timeline for discussing and implementing selected recommendations from the NHFP review report
  - We have been doing this with input from our community about what they see as priorities and how we might address some of the more challenging recommendations, and seeing how we align with the 2020 Decadal Survey

## Overview: Step 4 – Socialize the Report, its Response, and Develop an Implementation Plan (2022-2023)

- Report publicly released January 2022
- Full response to the report posted (August 2023) on [NASA page](#)
- New focused Community Feedback Form (closing October 2023)
- Public and community engagement efforts:
  - A webinar was held on February 22, 2022 (this was the **beginning** of our discussions with the community)
  - Paul Hertz briefed AAAC, CAA in Spring 2022
  - APAC March 2022
  - 240 AAS Meeting (Summer 2022) Splinter session and Feedback Form presentation
  - 241 AAS Meeting (Winter 2023) NHFP demographic studies poster
  - 242 AAS Meeting (Summer 2023) NHFP new Feedback Form
  - APAC October 2023
  - **243 AAS Meeting (Winter 2024) Special Session**

## Step 4: Implementation - Where are we now?

*NHFP Mission Statement (New)*

**The NASA Hubble Fellowship Program fosters excellence and inclusive leadership in astrophysics by supporting a diverse group of exceptionally promising and innovative early career astrophysicists.**

The NHFP program **has already enacted many of the Report recommendations**, e.g.:

- NHFP has implemented a new mandatory policy for host institutions to offer employment status to the fellows
- Improve programs documentation and streamlined communication process
- Improved the evaluation process:
  - Adoption of publicly available review criteria and piloting an evaluation rubric
  - Applicant first name removed from the application filename
- Implemented new career development opportunities for fellows
- Implemented a 4-year past PhD eligibility
- Enhanced Announcement of Opportunity outreach to SACNAS, NSBP, AWIS, Social Media
- New policy to allow NHFPs to be hosted at NASA Centers
- Enhanced NHFP Website information for prospective applicants

## Step 4: Implementation – Fellows' Initiatives

The NHFP Fellows have also decided to be proactive. They have launched the NHFP Fellows' Anti-Racism Initiative (FARI). FARI has already:

- Held a workshop for potential applicants in August 2021 called “Demystifying the Hubble Fellowship Program.”
- Held an orientation program for new Fellows.
- Launched <https://www.nhfp-equity.org/>
- Recruited [volunteer mentors](#) for applicants from among current and recent fellows.
- Initiated a NHFP [Application Feedback Program](#) to help applicants
- Started compiling a public database of past successful applications shared by volunteers.
- Some Fellows attend SACNAS/NSBP meetings
- In 2023, NHFP fellows spearheaded collaboration with other fellows (e.g. NSF, 51 Peg b) to expand the mentoring program beyond FARI (AMP-UP) to create a yearlong mentorship program aimed at institutionally underserved graduate students.
  - Received support from Heising-Simons foundation and Carnegie Science.
  - The 2023 2-days camp had 30 mentees and 13 mentors.

## Step 5: The Future of the NHFP

We are committed to support a NHFP program that:

- Is competitive with other fellowships and early career researcher funding opportunities
- Supports top early career researchers
- Provides career and personal advancement opportunities for the fellows
- Enables significant strides in our knowledge of the cosmos
- Aligns with the NASA core value of Inclusion
- Enhances the diversity of the astronomy and astrophysics community
- Supports the creation of research and inclusive leaders that are role models for future generations of astronomers