

## A.32 NEW (EARLY CAREER) INVESTIGATOR PROGRAM IN EARTH SCIENCE

**NOTICE: The New Investigator Program (NIP) in Earth Science will not be competed in 2016. NIP is scheduled to solicit proposals in ROSES-2017. The text below is draft for ROSES-2017 and is included for reference only.**

### 1. Scope of Program

#### 1.1 Introduction

The New (Early Career) Investigator Program (NIP) in Earth Science is designed to support outstanding scientific research and career development of scientists and engineers at the early stage of their professional careers. The program aims to encourage innovative research initiatives and cultivate scientific leadership in Earth system science. The Earth Science Division (ESD) places particular emphasis on the investigators' ability to promote and increase the use of space-based remote sensing through the proposed research.

The NIP supports all aspects of scientific and technological research aimed to advance NASA's mission in Earth system science (<http://science.nasa.gov/about-us/science-strategy/>). In basic research and analysis, the Focus Areas include:

- Carbon Cycle and Ecosystems,
- Climate Variability and Change,
- Water and Energy Cycle,
- Atmospheric Composition,
- Weather, and
- Earth Surface and Interior.

In applied scientific research, the ESD encourages efforts to discover and demonstrate practical uses of NASA Earth science data, knowledge, and technology (see <http://appliedsciences.nasa.gov>). In technological research, the ESD aims to foster the creation and infusion of new technologies into space missions in order to enable new scientific observations of the Earth system or reduce the cost of current observations (see <http://esto.nasa.gov>). The ESD also promotes innovative development in computing and information science and engineering of direct relevance to ESD. See Appendix A.1 for more detailed descriptions of the Focus Areas, themes in applied sciences, and related research topics of high priority to the ESD.

The proposed research project must be led by a single, eligible (see further description below for eligibility) investigator serving as the Principal Investigator (PI). Indeed, this individual must be the only essential team member; no Co-Investigators (Co-Is), paid or unpaid, are permitted. The NIP does not accept proposals with Co-PIs nor two types of PIs, such as Science PI and Institutional PI. Students and postdoctoral fellows may participate as paid team members. The proposed research may include collaborations. See the *Guidebook for Proposers* at <http://www.hq.nasa.gov/office/procurement/nraguidebook/> for the definitions of Collaborator vs. Co-Investigator and descriptions of China-related restrictions.

This early career program, NIP in Earth Science, was established in 1996. The frequency of solicitation is currently every two years.

## 1.2 Eligibility

A NIP proposal PI must be a U.S. citizen or have lawful status of permanent residency (i.e., holder of a U.S. Permanent Resident Card, also referred to as the Green Card)<sup>1</sup>. He/she must be a recent Ph.D. recipient, defined as having graduated on or after January 1 of the year that is no more than five years before the issuance date of this ROSES NRA (i.e., after January 1, 2012).

Institutions and organizations are encouraged to submit proposals under the NIP on behalf of their outstanding new faculty members or employees in Earth system science and associated applications, as long as the individuals are the proposed PIs.

To be eligible for an NIP award, proposed PIs must meet the following requirements:

- Be employed at an institution in the U.S., its territories, or possessions, or the Commonwealth of Puerto Rico, which awards a baccalaureate or advanced degree in a field supporting the objectives of NASA Earth system studies, or be employed at any nonprofit research institution or other nonprofit organization that performs a significant amount of work in fields of research supporting the objectives of NASA Earth Science Program. Such organizations could include museums, observatories, Government or nonprofit research laboratories, as well as nonprofit entities in the private sector.
- Be in tenure- or nontenure-track positions in either teaching or research or both, as long as the employing institution assumes the responsibility of submitting the proposal with the individual as the proposed PI.
- Despite being more than five years beyond the receipt of their Ph.D. degrees, individuals who have interrupted their careers for reasons such as family leave or serious health problems may also be eligible. These applicants should make a written request for prior concurrence from NASA before the due date for Notices of Intent to propose. NASA will provide a written response within three weeks. Such exception is not intended for individuals who have had successful employment in technical fields in science and engineering, even though the employment is not a direct continuation of their Ph.D. research, nor is it intended for individuals with a recent Ph.D. degree after having already established a successful career in Earth system science and related disciplines.
- Not hold or have held tenure (or equivalent) on or before the submission deadline of this program.
- Not be a current or former recipient of the NIP or PECASE (see further below) award.

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<sup>1</sup> The prospective PI may submit a proposal to NIP if he or she is reasonably certain that the Green Card will be in hand soon after the proposal submission. The evaluation of proposals takes approximately five 5 months, and awards are made within a couple of weeks after the announcement of selections. NASA will not award a grant if the submitting institution cannot certify the PI's eligibility.

## 2. Programmatic Information

### 2.1 Funding

Proposals to the NIP are openly solicited approximately every two years. The anticipated average award is \$80-90K per year for a period of up to three years, subject to satisfactory progress and availability of funds.

### 2.2 Relationship between NIP and PECASE

The Presidential Early Career Awards for Scientists and Engineers (PECASE) recognize outstanding scientists and engineers who, early in their career, show exceptional potential for leadership at the frontiers of knowledge. Each year, NASA selects its nominees based on exceptionally meritorious accomplishments in research sponsored by NASA. The nominations are made by the NASA mission directorates and its field centers; individuals cannot apply for PECASE. The NIP awardees constitute an important, but not the only, source of nominations for the PECASE by the Earth Science Division. A current or former recipient of a PECASE award is not eligible to apply to the NIP.

### 2.3 Proposal Preparation

The NIP proposals should be prepared in accordance with the instructions given in the *ROSES Summary of Solicitation* and the *NASA Guidebook for Proposers*. The Science/Technical/Management section of the proposal should contain a detailed statement of the proposed research of no more than 15 single-spaced pages including figures and tables.

### 2.4 Budget Requirements

The NIP awards are typically three years in duration. The award amount for each is judged according to the scope of the proposed work and the overall competition. Salary for up to three months per year of PI time is allowable. NASA will not reimburse the salary if the PI is a Civil Service employee at a Federal agency, other than NASA. Funds may be used for support by students (undergraduate or graduate) and/or postdoctoral fellows who are involved in the proposed research; for research expenses, such as costs incurred in field experiments, purchase of equipment and/or supplies, computing, travel, etc. If research collaboration is a component of the proposal, it is presumed that the collaborator(s) have their own means of research support; that is, a NIP award may not include expenses for personnel or activities at collaborating institutions, nor salary costs for senior personnel, consultants, or subcontractors.

NASA strongly encourages, but does not require, that the submitting institution contribute to the cost of the proposed NIP project. Of special interest is cost sharing in which the employing institution would provide release time to enable the applicant to more fully concentrate on the activities related to the proposal. Institutional support of equipment purchase and co-funding of student and/or postdoctoral support would also be recognized as valuable cost sharing. Hardware purchased through start-up funds for a recently hired investigator or salary support provided

through other Federally sponsored research may not count as cost sharing for the purpose of a NIP proposal.

## 2.5 Proposal Review and Evaluation

The general evaluation factors, relevance to NASA's stated objectives, intrinsic merit, and the realism and reasonableness of its cost, are described in Appendix C of the *NASA Guidebook for Proposers* apply to the NIP proposals with the following exception:

- For the Research Plan, the relative weighting for Relevance to the strategic goals and objectives of Earth Science at NASA, Intrinsic Merit, and Cost is approximately 40%, 40%, and 20%. Furthermore, the Relevance criterion specifically includes the following factor: long-term commitment to the applicant's career development by the employing institution.

## 3. NASA Point of Contact concerning this Program

Ming-Ying Wei  
Earth Science Division  
Science Mission Directorate  
National Aeronautics and Space Administration  
Washington, DC 20546-0001  
Telephone: (202) 358-0771  
E-mail: [Ming-Ying.Wei-1@nasa.gov](mailto:Ming-Ying.Wei-1@nasa.gov)

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