Approaches for Evaluating the NRC Resident Research Associateship Program at NIST (2007)

The National Research Council (NRC) Resident Research Associateship Program (RAP) at the National Institute of Standards and Technology (NIST) began in 1954. Administered by the Fellowships Office of the NRC and carried out at NIST, the program provides two-year temporary appointments for outstanding scientists and engineers chosen through a national competition. These appointments are designed to provide an opportunity for some of the nation's best scientists, mathematicians, and engineers to engage in state-of-the-art research. They work with senior research specialists at NIST and make use of the well-regarded research facilities at the agency.

Over the past 53 years, the program has supported over 1,300 Research Associates. It is seen by many as a successful way to engage postdoctorates in important research and training, as well as to assist NIST in meeting its mission and grow a larger and more talented pool of scientists and engineers.

At NIST's request, a committee of The National Academies examined the available data on the Research Associateship Program to see what kind of evaluation could be done. Based on those data, this report outlines the general characteristics of NIST applicants compared with the general pool of new science and engineering (S&E) doctorates, describes the experiences of Research Associates at NIST compared with those in other programs, and suggests approaches that NIST might consider in collecting data to evaluate the program more rigorously in the future. The committee particularly recommends a more in-depth assessment of the career outcomes of Research Associates to quantify the benefits of the appointment to the recipients, to NIST, and to national goals in science and engineering (S&E). Two overarching questions guided the committee's work:

1. Is NIST attracting the "best and the brightest" to the Research Associateship Program?

2. What is the impact of the program on the Research Associates, NIST, and relevant scientific fields in general?

PRELIMINARY RESULTS

Currently available data do not allow for a full program evaluation. The most thorough data are collected on applicants, but little data are collected on Research Associates' experiences, research advisors' evaluations of Research Associates, career outcomes of former Research Associates, or the value of the program to NIST and the broader S&E community. Based on available data, the committee did find the following preliminary results:

1. Outreach efforts produce more qualified applicants than NIST has slots to fill for Research Associates, and the pool of applicants includes many from top research institutions and is increasingly diverse.

2. Research Associates at NIST appear to be about as productive as Research Associates in other programs.

3. Research Associates are quite satisfied with the program. On a scale of 1 to 10, with 10 being excellent, Research Associates at NIST rated short-term and long-term value of the program, lab, advisor, and administrative support between 7.7 and 8.5.

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4. Research Associates contribute to the pool of qualified applicants for permanent positions at NIST. Among Research Associates completing their awards, 45 percent of those at NIST reported that their immediate post-tenure position was as a permanent, temporary, or contract NIST employee—a higher percentage than Research Associates at other federal agencies.

SOURCES OF INFORMATION
- Data on applicants and the experiences of Research Associates, collected by the NRC Fellowships Office
- Data on the careers of former Research Associates collected by NIST and the NRC
- Data on S&E doctorates and postdoctorates collected by the NSF
- Literature on S&E postdoctorates, including surveys of postdoctorates and evaluations of similar programs
- Interviews with three panels of current and former Research Associates and NIST staff

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RECOMMENDATIONS

The committee recommended that NIST conduct a multi-faceted evaluation of the Research Associateship Program, including the following:

1. An assessment of current outreach efforts;

2. Collection of information from individuals who decline offers of Research Associateships to determine why they decline and what they plan to do instead;

3. A more thorough examination of Research Associates' experiences during their tenure, including their satisfaction with the program and views on its benefits, along with similar questions to NIST program staff; and

4. A broad evaluation of career outcomes of Research Associates in the NIST program compared with similar postdoctorates to determine the program's impact on individual careers, NIST, and the broader S&E community.

In addition, the NRC should improve its administrative support by consolidating the number of fields listed on the application form and keeping the names of institutes or labs up to date.

COMMITTEE ON APPROACHES FOR THE EVALUATION OF THE NIST/NRC POSTDOCTORAL RESEARCH ASSOCIATESHIPS PROGRAM
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For More Information
Copies of *Approaches for Evaluating the NRC Resident Research Associateship Program at NIST* are available from the National Academies Press; call (800)624-6242 or (202)334-3313 (in the Washington metropolitan area), or visit the NAP Web site at www.nap.edu. For more information on the project, contact staff at (202) 334-2644 or visit the Policy and Global Affairs Web ite at www.nationalacademies.org/pga.