Introduction to NIST Ties with Academia

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NIST and Academia Programs

- NIST's collaborations with academia, with formal programs and with academic partnerships, make significant contributions to NIST's core mission
- These collaborations include:
  - NIST-specific programs
  - NIST Joint Institutes
  - Other University ties (formal and informal)
  - Guest Researchers (Domestic and International)

NIST-Specific Programs

- NIST – National Research Council (NRC) Postdoctoral Research Associateships Program
- National Institutes of Health (NIH)/National Institute for Biomedical Imaging and Bioengineering(NIBIB)/NIST NRC Joint Postdoctoral Research Associateships Program
- Summer Undergraduate Research Fellowship (SURF) Program
- Professional Research Experience Program (PREP) (Boulder)

NIST NRC Research Associateship Programs

Regular NIST NRC Postdoctoral Research Associateship Program

- Congressionally-mandated program with a line item in the NIST budget (approximately $10M per year)
- Limit of 120 slots per year, with central funding available for approximately 40 -45
- Provides two-year excepted service appointments for outstanding scientists and engineers

NIH/NBIB/NIST Joint NRC Postdoctoral Research Associateship Program

- Provides two-year guest researcher appointments for up to five outstanding scientists and engineers per year
- Research Opportunities emphasize the biophysical sciences
- Each Postdoctoral Associate has two Advisers, one at NIH and one at NIST, and the Associate spends time at both institutes

NRC Postdocs contribute to the overall research and mission at NIST

- 22 of higher level managers who now work at NIST were past NRC postdocs
- 8 of the present 29 NIST Fellows are past NRC postdocs
- 3 members of the National Academy of Engineering and the National Academy of Sciences were past NIST postdocs

Summer Undergraduate Research Fellowship Program (SURF)

- SURF is a partnership, supported by NIST, NSF, and the participating colleges/universities, for students majoring in science, mathematics and engineering
- Ten week fellowships are available in all the NIST laboratories, both in NIST Gaithersburg and NIST Boulder.
- Students apply through their respective university; grants are awarded to the university.
- The 2008 SURF Program:
  - Gaithersburg: 130 participants, 64 schools were given grants
  - Boulder: 22 participants, 17 schools were given grants
- NIST has benefitted not only from former SURF students returning for graduate or postgraduate studies, but several are now permanent NIST staff members

Professional Research Experience Program (PREP)

- **PREP** was established in 1991 at NIST's Boulder Laboratories in cooperation with the University of Colorado at Boulder.
- This program awards fellowships to qualified applicants and provides valuable laboratory experience to undergraduates, graduate students, and postgraduates.
- Currently, the PREP program includes participation from Colorado School of Mines, Colorado State University, University of Denver, and University of Colorado at Boulder.
- In FY 2007, the program included 58 participants
- All PREP applicants must be full-time students, who are U.S. citizens (or hold permanent residence visas) and have and maintain at least a 3.0 GPA.
- Students are paid through their universities
- NIST benefits:
  - short-term contributions of PREP students and postdocs to NIST research programs
  - Long-term contributions by PREP students and postdocs who become NIST staff

Other NIST-Specific Programs

- DHS Summer Internship Program
- Postdoctoral Program with the Central Intelligence Communities

NIST Collaborations with Academia

Joint Institutes

- JILA (with University of Colorado)
- U of MD Biotechnology Institute (with University of Maryland)
- HML (with College of Charleston, the Medical University of South Carolina, NOAA and South Carolina Department of Natural Resources)
- Joint Quantum Institute (with University of Maryland)

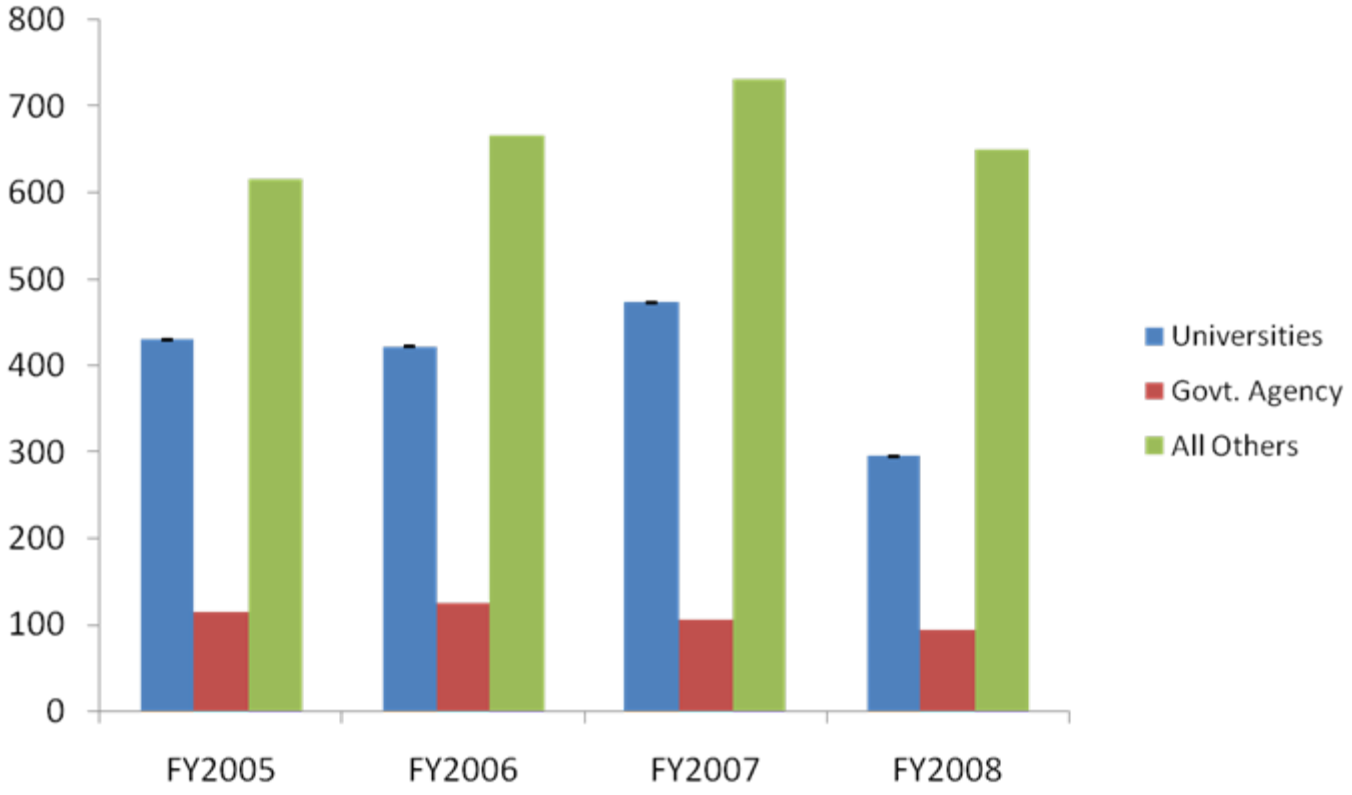
General:

- University of Maryland, College Park
- University of Colorado, Boulder Campus
- Utah State University
- University at Albany -State University of New York.
- University of Maryland, Baltimore Campus

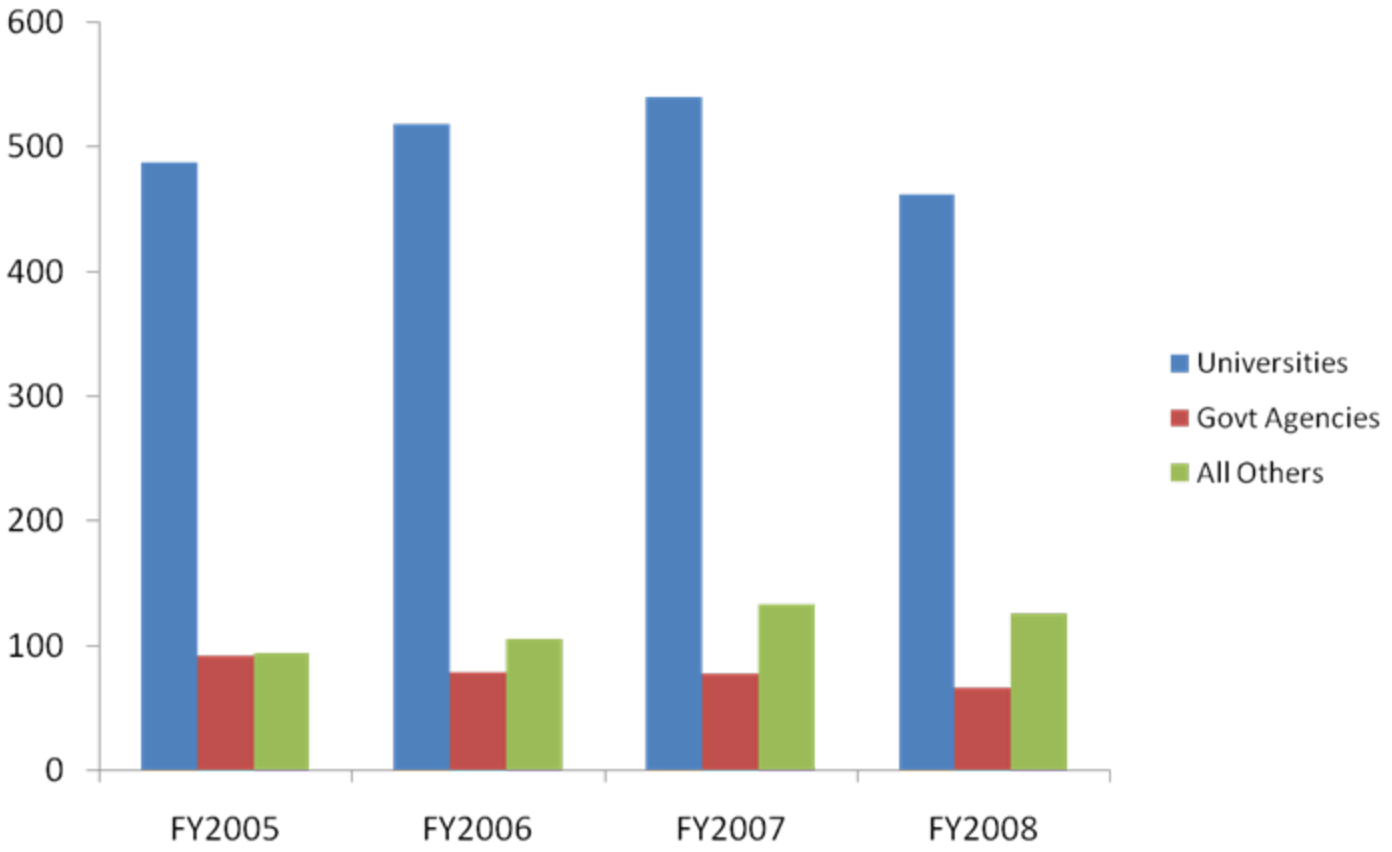
Additional Academic Opportunities

- Precision Measurement Grants
- University of Maryland Chemical Physics Program
- NIST- University of Maryland Dolphous E. Milligan Graduate Student Fellowship Award
- Guest Researcher Program (Domestic and International)

Domestic Guest Researchers



International Guest Researchers



Why Should NIST Have Ties To Academia?

•Postdoctoral scientists and guest researchers from universities (both domestic and international) bring new ideas and skills, adding value to NIST research programs and aiding in achieving our core mission of promoting U.S. innovation and industrial competitiveness

•Engaging with universities in joint institutes and other university collaborations leverages our resources, adding value to research dollars, and giving support to achieving our program goals across NIST

•Undergraduate and graduate student programs at NIST provide opportunities for our nation's next generation of scientists and engineers to engage in world-class research at the premier metrology facility of the U.S., and represents part of NIST's contribution to advance the technical strength of America's future workforce