

Ensuring a world-class scientific and technical NIST workforce: Thoughts from one NIST Fellow

VCAT

February 3, 2016



MICHAEL R. MOLDOVER

NIST Fellow

Leader, Fluid Metrology Group

What Works: NRC-Administered Postdoc Program

~65 Postdocs/year

attractive stipend, \$67 k/year

postdoc chooses research area from NIST-wide list of possibilities

centrally funded – incentive for postdoc advisors to recruit

~50 % become employees or Guest Researchers (2% of Tech Staff /yr)

rarely in postdoc research area (for me, 4/6 stayed at NIST)

Not Perfect:

most applicants in Physical Measurement & Materials Measurement Labs

only 3% in Engr. Lab, only 1 % Information Tech,

Why?

- 1. A postdoc at NIST is not part of engineering culture**
- 2. Metrology is not an academic discipline in USA**
- 3. Does NRC prefer academic proposals?**

Promising Innovation: NIST Director's Postdocs

Each of ~40 NIST Fellows allotted a centrally funded Postdoc

**Postdoc project initiated by Fellows; approved by NIST Director
(Fellows less concentrated in PML and MML)**

Fellows can and do recruit

Director's Postdoc is an incentive to retain Fellows (like me)

What No Longer Works: Direct Hire

When NIST initiates a new program, we need posdocs with skill sets that match the program needs. The authority to find and directly hire physics postdocs no longer exists

USA JOBS processes do not work well

applicants exaggerate qualifications (no downside for lies)

20% of posted vacancies withdrawn—costs time!

Awkward Alternatives:

Contractors and Grants

Contractor's or Grantee's overhead is added to NIST overhead

Retention: Is this a problem?

“People don’t retire anymore”

Workforce is aging: average age in Sensor Science Div: ~50 years

“lost excellent technicians to other agencies—changed what we do”

Challenge to retain highest performing scientists:

Lose a few: Kent Irwin to Stanford; Steve Cundiff to U of Mich

Big win: NIST has retained all 4 of its Nobel Laureates

Tools that NIST competes with

base funding for groups

excellent on-site child care

diversity of disciplines--two body problem

Joint Institutes with Universities: JILA, JQI