Ethics in Science and Engineering: Redefining Tools and Resources

Jane Fountain, Political Science and Public Policy Director, National Center for Digital Government Director, Science, Technology and Society Initiative
Marilyn Billings, Scholarly Communications Librarian Michelle Goncalves, STS Research Associate Jessica Adamick, Scholarly Communications Librarian

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• Jane Fountain, PI
• Marilyn Billings, co-PI
• Jessica Adamick - ESENCe librarian
• Michelle Goncalves - Project Manager

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Regulatory Background
America COMPETES Act (ACA) Provisions of Interest to the Research Community

- Section 7008: Postdoctoral Research Fellows
- Section 7009: Responsible Conduct of Research
- Section 7010: Reporting of Research Results
- Section 7013: Cost Sharing
SEC 7008: Postdoctoral Research Fellows

• “Mentoring - The Director shall require that all grant applications that include funding to support postdoctoral researchers include a description of the mentoring activities that will be provided for such individuals, and shall ensure that this part of the application is evaluated under the Foundation's broader impacts merit review criterion. Mentoring activities may include career counseling, training in preparing grant applications, guidance on ways to improve teaching skills, and training in research ethics.

• Reports - The Director shall require that annual reports and the final report for research grants that include funding to support postdoctoral researchers include a description of the mentoring activities provided to such researchers.”

Implementation

• Section 7008 provisions are included in relevant sections of the Grant Proposal Guide (GPG), the FastLane Project Reporting System, and the Representative Activities of Broader Impacts document and are available on the NSF website.

• Each proposal that includes postdoctoral researchers must describe, in a supplementary document of one page, the mentoring activities that will be provided for such individuals. “This one-page limitation also is applied to proposals with subawards, and, separately submitted collaborative proposals.”

Proposals that do not describe mentoring activities for postdoctoral researchers will be returned without review.
SEC 7009: Responsible Conduct of Research

“The Director shall require that each institution that applies for financial assistance from the Foundation for science and engineering research or education describe in its grant proposal a plan to provide appropriate training and oversight in the responsible and ethical conduct of research to undergraduate students, graduate students, and postdoctoral researchers, participating in the proposed research project.”
“Responsible Conduct of Research

• NSF-funded workshop – Ethics Education: What's Been Learned? What Should be Done? held by the National Academies of Science & Engineering.

• NSF has added “responsible and ethical conduct of research” as a ‘representative activity’ in the list of Broader Impacts Representative Activities”
Beginning January 4, 2010, NSF requires “that at the time of proposal submission to NSF, a proposing institution's AOR must certify that the institution has a plan to provide appropriate training and oversight in the responsible and ethical conduct of research to undergraduates, graduate students, and postdoctoral researchers who will be supported by NSF to conduct research.”
Responsible Conduct of Research

• Proposed implementation:
  • Training plans are not required within proposals
  • “Standard Award Conditions modified: institutions must require RCR training
  • NSF will support development of an online digital library to include research findings, pedagogical materials, and promising practices regarding the ethical and responsible conduct of research.”

Guiding Questions for Today’s Workshop
Guiding Questions

• What feasible courses of action might be crafted for institutions that will be required to certify themselves in ethics and responsible conduct of research?

• To what extent might the new NSF requirements be used to encourage broader approaches in ethics training and socially responsible conduct of research?

• What do we know about how researchers and others are actually using digital tools to promote knowledge sharing in ethics and RCR?

• What empirical studies might provide guidance in this domain? What types of studies should be undertaken?

• Among the wide range of tools and applications that come under the Web 2.0 heading, which have the greatest potential to promote learning and knowledge sharing in the domain of ethics in science and engineering?

• In what way should we broaden the definitions of ethics in science and engineering to encompass greater need for diversity, social justice, globalization, and recognition of changes in the organization and conduct of research?
**Schedule**

9:00 AM – 9:30 AM    Welcome and Introductions
9:30 AM – 10:45 AM:  Plenary Group Session
10:45 AM – 11:00 AM:  Break
11:00 AM – 12:00 PM:  Break Out Groups
12:00 PM – 1:15 PM:  Working Lunch
1:15 PM - 2:30 PM:   Group Reports and Q&A
2:30 PM – 2:45 PM:   Break
2:45 PM – 3:15 PM:   Plenary Session: Potential and Limitations of Digital Environments
3:15 PM – 3:30 PM:   Break
3:30 PM – 4:30 PM:   Plenary Session: Priorities and Paths Forward
4:30 PM – 5:00 PM:   Discussion and Closing Remarks
6:00 PM    On-your-own Workshop Dinner: Those of you staying in Amherst for the night are invited to gather at the University Club on campus for a casual dinner.