IWG-LNCV

UNIVERSITY OF BRADFORD

IWG – LNCV Biological Workshop and Round Table on

Fostering the Biosecurity Norm: An Educational Module for Life Sciences Students

Professional and Graduate-Level Programs on Dual Use Research and Biosecurity

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Professional and Graduate-Level Programs on Dual Use Research and Biosecurity

American Association for the Advancement of Science (AAAS)
Washington, DC

Project Collaborators:
AAAS Center for Science, Technology and Security Policy (CSTSP)
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AAAS
ADVANCING SCIENCE, SERVING SOCIETY

Scientific Responsibility

- Reviewing research for dual use implications is part of scientists' *social and scientific responsibility!*

- The scientific community has taken responsibility for their research when national security concerns were raised
  - Recombinant DNA
  - Cryptography
  - Journal Editors and Authors Group

…Dual Use Research and Biosecurity???

Background: The Call for Education and Raised Awareness

- *Statement on Biosecurity,* InterAcademy Panel, 2005
- *Report of the Meeting of States Parties*, States Parties to the BTWC, 2005
- *BTWC Sixth Review Conference Final Document*, UN, 2006

- National Science Advisory Board for Biosecurity (NSABB)
  - Set up in 2005 to help realize recommendations from National Academy of Sciences report, “Biotechnology Research in an Age of Terrorism”
  - Charged to provide “mandatory programs and training in biosecurity issues for all scientists and laboratory workers…”

Answering the Call: Existing Programs in the U.S.

- Methods - Collected information on existing programs
  - In collaboration with AAU, released survey to universities
  - AAAS staff
    - Searched the internet
    - Contacted instructors actively teaching the subject
- Findings - 4 general types of programs taught at the graduate/ professional level
  - For scientists*
  - For public health/bioterrorism preparedness
  - For biosafety training
  - For public policy

*Scientists include principal investigators, post-docs, and graduate students

AAAS Project Aims

- Convene groups of relevant experts to:
  - Evaluate existing programs and course materials
  - Provide recommendations for developing a module or course on ethical issues associated with dual use research
  - Highlight major challenges in developing and implementing educational initiatives on ethical issues related to biosecurity
- Will convene 4 workshops, each focusing on 1 of the 4 types of identified programs

Workshop 1:

Professional and Graduate-Level Programs on Dual Use Research and Biosecurity for Scientists*

AAAS Headquarters

Washington, DC

*Scientists include principal investigators, post-docs, and graduate students

Workshop 1: Agenda

- Review of NSABB's educational activities
- Review of Responsible Conduct in Research (RCR) education and resources
- Selected instructors will explain how their specific courses work and are designed
- Discussion of international education programs
- Discussion of findings and recommendations

Workshop 1: Key Questions to Address

1. What is the best program design?
   a. What is the best educational context for these programs (i.e. within RCRs, seminars)?
   b. What content/topics should be included in the program?
   c. What resources are already available and what additional resources are needed?

2. How can we effectively implement and evaluate these programs? What are the challenges for developing these programs?

3. How do these findings and recommendations fit both domestic and international needs?

Tools for Teaching Scientists*

- Resources available that are specific to dual use/biosecurity
  - Southeast Regional Center of Excellence for Biodefense and Emerging Infections (SERCEB) online module
    - http://www.serceb.org/modules/serceb_cores/index.php?id=3
  - Federation of American Scientists (FAS) online module
    - http://www.fas.org/biosecurity/education/dualuse/index.html
- Pacific Northwest National Laboratory (PNNL)

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Tools for Teaching Scientists*

- Responsible Conduct in Research (RCR) Education and Resources
  - Several U.S. government agencies (i.e. NIH, NSF)

    Have or are considering funding programs to develop and strengthen ethics education
  - Office of Research Integrity (ORI), U.S. Department of Health and Human Services (HHS)

    Offers funding to support and promote education and training in RCRs
  - Potential to add dual use/biosecurity as one of ORI's core instructional themes (currently there are 9)

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RCR Education and Resources

1. Data Acquisition, Management, Sharing and Ownership
2. Conflict of Interest and Commitment
3. Human Subjects
4. Animal Welfare
5. Research Misconduct
6. Publication Practices and Responsible Authorship
7. Mentor / Trainee Responsibilities
8. Peer Review
9. Collaborative Science

- *Dual Use and Biosecurity??*

AAAS Project: Professional and Graduate-Level Programs on Dual Use Research and Biosecurity

AAAS encourages the responsible conduct of all scientific research, including research with the potential for malicious use. We hope to inform the scientific community and others of appropriate design and implementation of programs that promote the responsible handling of dual use research, as well as the challenges that may be encountered. AAAS would also like to address whether common approaches in the international arena is necessary, feasible or appropriate.

Must keep in mind…

- Research is continually moving towards an interdisciplinary direction
- More physicists, chemists, and computer scientists working in the life sciences
- How do we establish programs that will reach a broader, yet applicable group of scientists?


THANK YOU!
Science
You can't start young enough
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