

**CSE 2009 Annual Meeting**  
**Show Me the Data: The Science of Editing and Publishing**

Monday, 4 May 2009  
2:00 PM – 3:30 PM  
Session E1

**Ethics Clinic Case Study – Dual Use Research**

Dr. John Smith is a researcher at a prominent university with funding from the National Institute of Allergy and Infectious Diseases. His work is on the delivery of aerosolized drugs for asthma that could have a positive impact on the 20+ million Americans affected by this chronic disease. His research shows how to produce smaller particles in a novel way that makes them more effectively penetrate deep into the lung. Smith's research would allow patients to take medication less frequently and at lower doses. This delivery system opens the door for future applications that could include insulin, hormones, and monoclonal antibodies for treating viral diseases.

Dr. Smith submitted the paper to *Generic Allergy Journal*, a prominent journal that publishes its content online and makes it freely available. The paper was accepted and published.

However, inhaled aerosols can also transport materials that could have negative effects, such as anthrax, smallpox, and botulism pathogens. Because Dr. Smith's improved method is much more effective than existing ones, it could also have a more negative effect if purposefully misused.

After publication, the news media picked up the story and started drawing attention to the dual-use potential of the data with regard to terrorist activities.

**Note:** "Dual use research" is research with a legitimate scientific purpose that may be misused to pose a threat to public health or national security. "Dual use research of concern" (DURC), as defined by the National Science Advisory Board for Biosecurity (NSABB), is the subset of dual use research "that, based on current understanding, can be reasonably anticipated to provide knowledge, products, or technologies that could be directly misapplied by others to pose a threat to public health and safety, agriculture, plants, animals, the environment, or material."<sup>1</sup>

<sup>1</sup> National Science Advisory Board for Biosecurity. Proposed framework for the oversight of dual use life sciences research: strategies for minimizing the potential misuse of research information. June 2007 [Internet] [accessed 19 January 2009]. Available from: [oba.od.nih.gov/biosecurity/biosecurity\\_documents.html](http://oba.od.nih.gov/biosecurity/biosecurity_documents.html).

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**Questions for Discussion:**

Did the funding agency have any obligation to consider Dr. Smith's results for their dual-use potential?

Did the university have any obligation to consider the research for its dual-use potential? If so, at what stage(s) should the university consider such implications?

Do the institution and/or funding agency have any obligation to educate investigators conducting such studies about the potential for dual use?

Should this journal have any mechanisms to recognize the potential for Dual Use? If so, at what stage should it be recognized, and how should it be handled differently from other submissions? Should the

published article include all the information provided to the reviewers? Should the editor take any additional steps when the publication is released to the journal site and the media?

Can the U.S. government take actions against journals that might publish such studies?

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## Resources on DURC

Overcoming Challenges to Develop Countermeasures Against Aerosolized Bioterrorism Agents: Appropriate Use of Animal Models (2006)

<http://dels.nas.edu/dels/viewreport.cgi?id=3392>

Biotechnology Research in an Age of Terrorism

[http://www.nap.edu/catalog.php?record\\_id=10827#toc](http://www.nap.edu/catalog.php?record_id=10827#toc)

Survey of Attitudes and Actions on Dual Use Research in the Life Sciences: A Collaborative Effort of the National Research Council and the American Association for the Advancement of Science

[http://www.nap.edu/catalog.php?record\\_id=12460#toc](http://www.nap.edu/catalog.php?record_id=12460#toc)

Globalization, Biosecurity, and the Future of the Life Sciences

[http://www.nap.edu/catalog.php?record\\_id=11567#toc](http://www.nap.edu/catalog.php?record_id=11567#toc)

Nature Immunology editorial policies on security concerns

[http://www.nature.com/ni/about/ed\\_policies/index.html#security](http://www.nature.com/ni/about/ed_policies/index.html#security)

Centers for Disease Control and Prevention Bioterrorism Agents Category A

<http://www.bt.cdc.gov/agent/agentlist-category.asp#a>

PNAS policy on publication of sensitive material in the life sciences

(Editorial introducing the following statement)

<http://www.pnas.org/content/100/4/1463.full.pdf>

Uncensored exchange of scientific results

(Policy statement published simultaneously in Science, PNAS, Nature, and the American Society for Microbiology journals)

<http://www.pnas.org/content/100/4/1464.full.pdf>

'Statement on scientific publication and security' fails to provide necessary guidelines

(Rebuttal to above)

<http://www.pnas.org/content/100/10/5575.full.pdf>

SCIENCE AND SECURITY:

Practical Experiences in Dual-Use Review. From SCIENCE

(Includes several references to potentially useful resources)

<http://www.sciencemag.org/cgi/content/full/sci;316/5830/1432>