National Science Advisory Board for Biosecurity

Preliminary Agenda*

June 30 and July 1, 2005

Hyatt Regency Bethesda

7400 Wisconsin Ave.

Bethesda, MD

Thursday, June 30, 2005

7:00 a.m.	**Registration**
8:00 a.m. – 8:20 a.m.	**Welcome and Swearing in Ceremony**
8:20 a.m. – 8:35 a.m.	**Opening Remarks** Elias Zerhouni, M.D. Director of the National Institutes of Health (NIH)
8:35 a.m. – 8:45 a.m.	**Chair's Remarks and Agenda Overview**
8:45 a.m. – 9:30 a.m.	**Introduction of NSABB Members**
9:30 a.m. – 9:45 a.m.	**Impetus for Establishing NSABB** Anthony Fauci, M.D. Director, NIH National Institute of Allergy and Infectious Diseases (NIAID)
9:45 a.m. – 9:55 a.m.	**NSABB Structure and Operations** Thomas Holohan, M.D. NSABB Executive Director, NIH Office of Biotechnology Activities
9:55 a.m. – 10:15 a.m.	**Break**
10:15 a.m. – 11:30 a.m.	**Perspectives on Biosecurity in the Life Sciences** NSABB Members and Ex Officios
11:30 a.m. – 1:00 p.m.	**Lunch**

Session I – The Development of Criteria for Identifying Dual Use Research and Research Results

The term "dual use" has been applied to life sciences research that has a legitimate scientific purpose, but also the potential to yield information or technologies that could be misused to harm national security or public health. A key component of oversight is the formulation of criteria for the demarcation of research with such potential. This session will explore the various viewpoints that have been offered with respect to proposed distinctions.

1:00 p.m. – 1:30 p.m.	**Introduction: Issues of Relevance to Criteria Development** Arturo Casadevall, M.D., Ph.D. Professor of Medicine and of Microbiology & Immunology and Chief of Infectious Diseases Albert Einstein College of Medicine
1:30 p.m. – 1:55 p.m.	**National Research Council Perspective: Experiments of Concern** Ron Atlas, Ph.D. Center for the Deterrence of Biowarfare and Bioterrorism University of Louisville
1:55 p.m. – 2:15 p.m.	**Dual Use Dilemma: What are the Best Parameters?** David R. Franz, Ph.D., D.V.M. Chief Biological Scientist Midwest Research Institute
2:15 p.m. – 3:00 p.m.	**General Discussion and Questions from the Board** Session I Speakers
3:00 p.m. – 3:30 p.m.	**Break**

Session II – Communication of Dual Use Research Results, Methods, and Technologies

One of the concerns that the life sciences research community must address today is the potential for malevolent use of its research information and technologies. Concerns have been raised about the public health and national security implications of communication of certain types of research technologies and results. Consideration of this issue must recognize that progress in the life sciences is predicated on the free exchange of scientific methods, materials, and findings, so that results can be verified and augmented.

3:30 p.m. – 3:40 p.m.	**The Challenge to the Life Sciences: Balancing Security and Academic Freedom** Judith V. Reppy, Ph.D. Associate Director, Peace Studies Program Cornell University
3:40 p.m. – 3:55 p.m.	**Past as Prologue: Are there Lessons to be Learned from the Nuclear Physics and Cryptography Communities** Thomas Bowles, Ph.D. Chief Science Officer Los Alamos National Laboratory
3:55 p.m. – 4:10 p.m.	**Scientific Publication and Security: The Perspective of Scientific Journal Editors and Authors** Phil Campbell, Ph.D. Editor-In-Chief *Nature*
4:10 p.m. – 4:25 p.m.	**Overview of Recent International Discussions** Wendy D. White Director, Board on International Scientific Organizations The National Academies
4:25 p.m. – 5:25 p.m.	**General Discussion and Questions from the Board** Session II Speakers
5:25 p.m. – 6:00 p.m.	**Public Comments**
6:00 p.m.	**Adjourn for the Day**

Friday, July 1, 2005

8:00 a.m. – 8:10 a.m. **Welcome and Agenda Overview**
NSABB Chair

Session III – Codes of Conduct in the Life Sciences

A code of conduct promotes positive behaviors and helps to define professional standards within the scientific community. Implementation of an appropriate code can serve as an effective mechanism for generating awareness among the scientific community and to establish universal norms of expected behavior. These behaviors are fundamental to the establishment of a culture of accountability in the research community.

8:10 a.m. – 8:35 a.m. **Promoting and Enhancing Responsible Research in the Life Sciences: The Role of a Code of Conduct**
Phillip A. Sharp, Ph.D.
Institute Professor at the Center for Cancer Research
Massachusetts Institute of Technology

8:35 a.m. – 9:00 a.m. **Challenges in Proposing a Code of Conduct with Dual Use Perspectives**
Brian Rappert, Ph.D.
University of Exeter, Exeter, U.K.

Malcolm Dando, Ph.D.
Bradford University, U.K.

9:00 a.m. – 9:30 a.m. **General Discussion and Questions from the Board**
Session III Speakers

Session IV - Dual Use Research: International Perspectives

Given the international nature of life sciences research, U.S. efforts to develop safeguards against the potential misuse of legitimate research will need to include collaboration with other countries and appropriate international organizations. There is considerable divergence in national legislative and regulatory frameworks for developing and implementing effective biosecurity policies and procedures. Therefore, an effective global dialogue on dual use research is critical to the ability of countries to achieve the appropriate balance between national security and public-health priorities.

9:30 a.m. – 10:00 a.m. **Dual Use Research: International Perspectives**
Shana Dale, Esq.
Chief of Staff and General Counsel
Office of Science and Technology Policy, White House

10:00 a.m. – 10:20 a.m. **Break**

Session V - Chemical Synthesis of Bacterial and Viral Genomes

Artificial synthesis of genes is based upon the ability to chemically connect fragments of DNA. Such fragments can be synthesized in individual laboratories or purchased from suppliers. The current technology permits bulk DNA synthesis of very long fragments that specify particular biologic functions (e.g., entire viruses and large subunits of bacterial genetic material). As the technology improves, genomes of large viruses or bacteria could be made in the laboratory. This presents the possibility of intentional synthesis of pathogens or encoding of highly lethal toxins and raises concerns regarding biosecurity.

10:20 a.m. – 10:40 a.m.	**Gene Synthesis Technology: State of the Science** J. Craig Venter, Ph.D. Founder and President J. Craig Venter Institute
10:40 a.m. – 11:00 a.m.	**Potential Risks and Benefits of Genome Synthesis** George Church, Ph.D. Professor of Genetics, Director of the Center for Computational Genetics Harvard Medical School
11:00 a.m. – 11: 20 a.m	**Biosecurity Concerns Involving Genome Services Providers: An Industry Perspective** John Mulligan, Ph.D. President and CEO Blue Heron Biotechnology
11:20 a.m. – 11:40 p.m.	**General Discussion and Questions from the Board** Session V Speakers
11:40 p.m. – 12:55 p.m.	**Next Steps** NSABB Chair
12:55 p.m. – 1:30 p.m.	**Public Comments**
1:30 p.m.	**Adjournment**

**Times for particular agenda items are approximate and subject to change depending on the availability of speakers and other factors.*