

## DUAL USE RESEARCH ON MICROBES – BIOSAFETY, BIOSECURITY, RESPONSIBILITY

DECEMBER 10 – 12, 2014

VENUE: HERRENHAUSEN PALACE, HANOVER

The publication of two papers reporting the engineering of highly pathogenic avian H5N1 influenza A viruses so that they can be efficiently transmitted by respiratory droplets resulted in a heated debate about the risks and benefits of conducting and publishing such forced evolution research. The work is referred to as on gain of function (GOF) research, or Dual Use Research of Concern (DURC). Concerns were raised about the potential of causing a devastating pandemic in case of accidental release or intentional misuse of microbes e.g. through the copying of methods developed in academic laboratories. Dual Use Research of Concern (DURC) with microbes raises special issues concerning biosafety, biosecurity, and potential limits to the freedom of research. How should we balance the freedom of the individual scientist, the interest in unlimited communication of research results, and the interest of society not to be exposed to avoidable or potentially uncontrollable risks? Different governmental and institutional regulations or codes, both national and international, provide frameworks and guidance that in most cases were developed in response to particular discoveries. The rapid development of biomedical research including genome editing and synthetic biology creates the need for a broader agreement on potential limits to certain experiments that can lead to harm. New international codes and regulations need to be discussed and adapted in an open exchange between scientists, governmental and research institutions as well as representatives of scientific societies and public stakeholders. The goal of this meeting will be to discuss different approaches and perspectives to regulate Dual Use Research of Concern focusing on the pressing issue of lab made microbes.

### INTERNATIONAL ADVISORY BOARD

**Marion Koopmans**, Erasmus University of Rotterdam

**Sir John Skehel**, The Royal Society

**Volker Stollorz**, Cologne, Science Journalist

**Silja Vöneky**, (Co-)Director of the Institute for Public Law, University of Freiburg

**Simon Wain Hobson**, Institut Pasteur, Paris

## PROGRAM

WEDNESDAY, DECEMBER 10, 2014

12.00 REGISTRATION, LUNCH

13.00 WELCOME ADDRESS

**Wilhelm Krull**

Secretary General, Volkswagen Foundation

**Ulrich Sieber**

Max Planck Institute, Freiburg

13.20 GAIN OF PATHOGENICITY / TRANSMISSIBILITY RESEARCH

Chair: **Wilhelm Krull**, Volkswagen Foundation

**Harvey Fineberg**, Institute of Medicine, Washington

DECISIONS ABOUT GAIN-OF-FUNCTION RESEARCH: WHO BEARS THE BURDEN OF PROOF?

**Ron Fouchier**, Erasmus University, Rotterdam

VIRUS TRANSMISSION STUDIES ON RESPIRATORY PATHOGENS

**Peter Palese**, Icahn School of Medicine at Mount Sinai, New York

INFLUENZA VIRUSES – FACTS, NOT FEAR

**Yoshihiro Kawaoka**, University of Wisconsin

DISCUSSION

16.00 COFFEE



16.30

Chair: **Marion Koopmans**, Erasmus University of Rotterdam

**Simon Wain Hobson**, Institut Pasteur, Paris

PROBLEMS WITH AVIAN INFLUENZA OF VIROLOGY

**Adel Mahmoud**, Princeton University

VACCINES: HOW PROTECTION IS ELICITED?

**Marc Lipsitch**, Harvard University, Boston

RISKS AND BENEFITS OF POTENTIAL PANDEMIC PATHOGEN CREATION:  
HOW SHOULD WE EVALUATE THEM, AND WHAT ALTERNATIVES EXIST?

DISCUSSION

19.00

DRINKS

DINNER AT THE PALACE

THURSDAY, DECEMBER 11, 2014

09.00 BIOSAFETY, BIOSECURITY, RISK COMMUNICATION

Chair: **Lars Schaade**, Vice President, Robert Koch Institute, Berlin

**Paul J Huntly**, Managing Director & CEO, Riskren, Singapore  
BIORISK MANAGEMENT – STANDARDS, RISKS AND OVERSIGHT

**Peter Clevestig**, SIPRI, Stockholm  
EFFECTIVE BIORISK MANAGEMENT FOR GAIN-OF-FUNCTION EXPERIMENTS

**Raymond Zilinskas**, Monterey Institute of International Studies  
GAIN OF FUNCTION AND THE BIOLOGICAL AND TOXIN WEAPONS  
CONVENTION

DISCUSSION

10.45 COFFEE

11.30 PUBLICATION, REGULATION, COMMUNICATION

Chair: **Bernhard Fleckenstein**, University of Erlangen

**Cornelius Schmaltz**, European Commission,  
Directorate General for Research and Innovation  
PROVISIONS FOR RESEARCH IN THE EU EXPORT CONTROL LEGISLATION

**Veronique Kiermer**, Nature  
CONSIDERING PUBLICATION OF DUAL USE RESEARCH OF CONCERN

DISCUSSION

13.00 LUNCH



14.30

**HARD LAW, SOFT LAW, INSTITUTIONAL RESPONSIBILITY**

Chair: **David Relman**, Stanford School of Medicine

**Rüdiger Wolfrum**, Heidelberg

WHY NOT ALL RESEARCH IS FREE – CONSTITUTIONAL LIMITS OF SCIENCE

**Ulrich Sieber**, MPI Freiburg

SELF-REGULATION FOR DUAL USE OF RESEARCH CONCERN

16.00

**COFFEE**

16.30

**Silja Vöneky**, (Co-)Director of the Institute for Public Law,  
University of Freiburg

BIOSECURITY – FREEDOM AND RESPONSIBILITY OF RESEARCH

**André Kottnerus**, Scientific Council for Government Policy, The Hague

**DISCUSSION**

19.30

**DINNER AT MEYER'S LEBENSLUST**

FRIDAY, DECEMBER 12, 2014

09.00 PERPECTIVES FROM BEYOND

Chair: **Harvey Fineberg**, Institute of Medicine, Washington

**Michael Specter**, The New Yorker  
FINDING THE BALANCE BETWEEN FEAR AND PROGRESS

**Volker Stollorz**, Cologne, Science Journalist e. g. Frankfurter Allgemeine  
Sonntagszeitung  
DILEMMAS OF DUAL USE RESEARCH REPORTING: WHAT'S NEW AND WHAT'S  
IN THE PUBLIC INTEREST?

**David A. Relman**, Stanford School of Medicine  
THE MORAL AND ETHICAL RESPONSIBILITIES OF LIFE SCIENTISTS

PERSPECTIVE OF JUNIOR SCIENTISTS – BRIEF STATEMENTS

**Benjamin G. Hale**, University of Glasgow, Centre for Virus Research

**Silke Stertz**, University of Zurich, Institute of Medical Virology (IMV)

DISCUSSION

11.00 COFFEE

11.30 WAYS AHEAD

Chair: **Wilhelm Krull**, Volkswagen Foundation

OPENING STATEMENT / PANEL DISCUSSION

**Marc Yarborough**, Dean's Professor of Bioethics, University of California  
Davis Medical School

**Peter Palese**, Icahn School of Medicine at Mount Sinai, New York

**Michael Specter**, The New Yorker

**Silja Vöneky**, (Co-)Director of the Institute for Public Law,  
University of Freiburg

**Simon Wain Hobson**, Institut Pasteur, Paris



Volkswagen**Stiftung**



MAX-PLANCK-GESELLSCHAFT

13.00

FINAL REMARKS

**Wilhelm Krull**

LUNCH

END OF MEETING