

# Committee on the State of the Science and Future Needs for Nonhuman Primate Model Systems – Public Workshop

August 25, 2022, 8:30 am – 5:30 pm (ET)

## WORKSHOP AGENDA

Link to view Workshop live Webcast: <https://www.nationalacademies.org/event/08-25-2022/committee-on-the-state-of-the-science-and-future-needs-for-nonhuman-primate-model-systems-meeting-3-public-workshop>

### OBJECTIVES

This workshop, convened by the National Academies of Sciences, Engineering, and Medicine's Committee on the State of the Science and Future Needs for Nonhuman Primate Model Systems, will feature invited presentations and discussions to:

- Engage diverse stakeholders in exploring the landscape for nonhuman primate research supported by the National Institutes of Health, including opportunities, challenges, and projections for future needs; and
- Explore emerging technologies and innovative applications of current methodologies that have the potential to refine, reduce, and replace nonhuman primates in NIH-supported biomedical research, including issues of translatability, validation, and benchmarking requirements

**THURSDAY, AUGUST 25, 2022**

**8:30 am WELCOME AND OPENING REMARKS**

KENNETH RAMOS, *Committee Chair*  
Texas A&M University

**8:45 am**      **SESSION I – LANDSCAPE ANALYSIS AND FUTURE PROJECTIONS FOR NONHUMAN PRIMATE USE IN RESEARCH TO ADVANCE HUMAN HEALTH AND SAFETY**

Purpose:

- Explore current strengths and weaknesses of NIH-supported biomedical research using nonhuman primates (NHPs), current and future research priorities, and opportunities to improve human health;
- Consider the current state of nonhuman primate availability and implications for biomedical research and public health; and
- Reflect on the infrastructure investments that are needed to address current challenges and pursue future opportunities related to NHP research, including supply issues.

**8:45 am**      **Opening Panel Session Remarks from Committee Moderator**  
ELIZA BLISS-MOREAU, *Committee Member*  
University of California, Davis

**8:50 am**  
(20 min)      **Panel 1: NIH Perspectives**

ROBERT EISINGER  
Acting Director of the Division of Program Coordination,  
Planning, and Strategic Initiatives  
National Institutes of Health

RICHARD WYATT  
Deputy Director, Office of Intramural Research  
National Institutes of Health

STEPHEN DENNY  
Director, Office of Animal Care and Use  
Office of Intramural Research  
National Institutes of Health

**9:10 am**  
(20 min)      **Committee Q&A**

**9:30 am**  
(15 min)      **Panel 2: Other Federal Agency Perspectives**

**Perspective from the FDA**  
NAMANDJÉ BUMPUS  
Chief Scientist  
Food and Drug Administration

**Perspective from ASPR/BARDA**  
APRIL BRYS  
Director of Nonclinical Development  
Biomedical Advanced Research & Development Authority  
Administration for Strategic Preparedness and Response

**9:45 am**  
(20 min)      **Committee Q&A**

10:05 am  
(20 min)

**Panel 3: Industry and Research Advocacy Organization Perspectives**

SEAN MAGUIRE  
Comparative & Translational Sciences Director & Associate Fellow  
GlaxoSmithKline  
3Rs Translational and Predictive Sciences Leadership Group  
International Consortium for Innovation and  
Quality in Pharmaceutical Development

JOEL PERLMUTTER  
Elliot Stein Family Professor of Neurology  
Head of Movement Disorders  
Professor of Radiology, Neuroscience, Physical Therapy and Occupational Therapy  
Washington University in St Louis  
Scientific Director, Dystonia Medical Research Foundation

MATTHEW BAILEY  
President  
National Association for Biomedical Research

10:25 am  
(20 min)

**Committee Q&A**

10:45 am

**BREAK (10 min)**

10:55 am

**SESSION II – PERSPECTIVES FROM NATIONAL PRIMATE RESOURCES**

Purpose:

- Reflect on the strengths, opportunities, and challenges of NHP research from the perspective of the national primate resource centers;
- Explore priorities driving the investments in NHP research and infrastructure at these centers; and
- Discuss approaches to overcoming NHP supply issues (overall NHP numbers, species type, genetic variability) and other challenges.

10:55 am

**Opening Panel Session Remarks from Committee Moderator**

RICARDO CARRION, JR., *Committee Member*  
Texas Biomedical Research Institute

11:00 am  
(45 min)

**Panel 1: National Primate Research Center Perspectives (Moderated Discussion)**

MICHELE A. BASSO  
Director, Washington National Primate Research Center

NANCY HAIGWOOD  
Director, Oregon National Primate Research Center

PAUL JOHNSON  
Director, Yerkes National Primate Research Center

JON LEVINE  
Director, Wisconsin National Primate Research Center

JOHN MORRISON  
Director, California National Primate Research Center

JAY RAPPAPORT  
Director, Tulane National Primate Research Center

CORINNA ROSS  
Associate Director of Research, Southwest National Primate Research Center

11:45 am  
(45 min)

**Panel 2: Perspective from Other National Nonhuman Primate Resource Centers (Moderated Discussion)**

WILLIAM HOPKINS  
Director, Michale E. Keeling Center for Comparative Medicine and Research  
MD Anderson Cancer Center

ERIC HUTCHINSON  
Director of Research Animal Resources  
Johns Hopkins University School of Medicine

MATTHEW JORGENSEN  
Director, Wake Forest Vervet Research Colony

MELWEEN MARTINEZ  
Director, Caribbean Primate Research Center

FRANCOIS VILLINGER  
Director, New Iberia Research Center

GREG WESTERGAARD  
President and CEO, Alpha Genesis Inc.

BILL YATES  
Vice Chancellor of Research Protections, University of Pittsburgh

12:30 pm

**LUNCH BREAK (1 hour)**

1:30 pm

**SESSION III – VALIDATION AND TRANSLATABILITY OF EMERGING TECHNOLOGIES AND INNOVATIVE METHODOLOGIES**

Purpose:

- Explore the potential for emerging technologies and innovative applications of existing methods to refine, reduce, and replace NHPs in NIH-supported biomedical research;
- Discuss the validation and benchmarking needs for such technologies for specific contexts of use; and
- Consider the opportunities for collaboration between NHP researchers and those developing emerging technologies.

1:30 pm

**Opening Panel Session Remarks from Committee Moderator**

MYRTLE DAVIS, *Committee Member*  
Bristol Myers Squibb

1:35 pm  
(50 min)

**Panel 1 Presentations: Emerging Technologies and Innovative Applications of Existing Methodologies**

**Cell-Based Models**

JOSEPH WU  
Director, Stanford Cardiovascular Institute  
Simon H. Stertzer, MD, Professor of Medicine and Radiology  
Stanford University

**Artificial Intelligence and Machine Learning, from Behavioral to Neuroimaging**

JAN ZIMMERMANN  
Assistant Professor, Department of Neuroscience  
University of Minnesota Medical School

**Genetic Engineering and Imaging**

AFONSO SILVA  
Endowed Chair Professor of Translational Neuroimaging and Neurobiology  
University of Pittsburgh

**Behavioral Management**

MARK PRESCOTT  
Director of Policy and Outreach  
National Centre for the Replacement, Refinement and Reduction of Animals in Research

**2:25 pm  
(20 min)**

**Panel 2 Presentations: Translatability and Validation of Models to Refine, Reduce, and Replace NHPs in NIH-Supported Biomedical Research**

**US FDA Perspective**

NAKISSA SADRIEH  
Associate Director for New Alternative Methods, Office of New Drugs  
Center for Drug Evaluation and Research  
Food and Drug Administration

**European Experiences**

SONJA BEKEN  
Non-clinical Working Party  
European Medicines Agency

**2:45 pm  
(45 min)**

**Committee Q&A with Panels**

**3:30 pm**

**BREAK (10 min)**

**3:40 pm**

**SESSION IV – NONHUMAN PRIMATE RESEARCHER PERSPECTIVES ON THE RESEARCH LANDSCAPE AND EMERGING TECHNOLOGIES**

Purpose:

- Explore areas of emerging science that may benefit from NHP research;
- Discuss opportunities to promote rigorous science and to maximize the potential of NHP models;
- Discuss the impact of NHP availability on future NHP research in the field; and
- Consider the opportunities for collaboration between NHP researchers and those developing emerging technologies that may contribute to the 3Rs.

**3:40 pm**

**Opening Panel Session Remarks from Committee Moderator**

KELLY METCALF PATE, *Committee Member*  
Massachusetts Institute of Technology

3:45 pm  
(60 min)

**Perspectives from NHP Researchers (Moderated Discussion)**

**NHP Use in Infectious Disease Research**

DAN BAROUCH  
Director, Center for Virology and Vaccine Research  
Beth Israel Deaconess Medical Center  
Professor of Medicine  
Harvard Medical School

JOANNE FLYNN  
Department of Microbiology and Molecular Genetics  
University of Pittsburgh School of Medicine

**NHP Use in Transplantation Research**

CHRISTIAN LARSEN  
Professor of Surgery, Division of Transplantation, Department of Surgery  
Emory University School of Medicine

NORMA SUE KENYON  
Professor of Surgery, Microbiology & Immunology, Biomedical Engineering, Biochemistry &  
Molecular Biology  
Diabetes Research Institute  
Miller School of Medicine  
University of Miami

**NHP Use in Neuroscience and Aging Research**

GUOPING FENG  
Poitras Professor of Neuroscience  
McGovern Institute for Brain Research  
Massachusetts Institute of Technology

CAROL BARNES  
Regents' Professor of Psychology, Neurology and Neuroscience  
Director, Evelyn F. McKnight Brain Institute  
University of Arizona

**NHP Use in Reproductive Health Research**

SHAWN CHAVEZ  
Associate Professor  
Division of Reproductive & Developmental Sciences  
Oregon National Primate Research Center  
Departments of Obstetrics & Gynecology and Molecular & Medical Genetics  
Oregon Health & Science University

4:45 pm

**SESSION V – REFLECTIONS ON FUTURE NEEDS RELATED TO NHPs IN BIOMEDICAL RESEARCH**

Purpose:

- Reflect on future needs and priorities for nonhuman primates in light of opportunities and challenges discussed throughout the day.

**Opening Panel Session Remarks from Session V Moderator**

KENNETH RAMOS, *Committee Chair*  
Texas A&M University

**Session Highlights from Previous Session Moderators**

ELIZA BLISS-MOREAU, *Committee Member*  
University of California, Davis

RICARDO CARRION, JR., *Committee Member*  
Texas Biomedical Research Institute

MYRTLE DAVIS, *Committee Member*  
Bristol Myers Squibb

KELLY METCALF PATE, *Committee Member*  
Massachusetts Institute of Technology

**Reflections from Invited Participants**

**5:25 pm WRAP UP DISCUSSION AND CLOSING REMARKS**

KENNETH RAMOS, *Committee Chair*  
Texas A&M University

**5:30 pm ADJOURN**

**FRIDAY, AUGUST 26, 2022**

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**9:00 am – 3:00 pm CLOSED SESSION COMMITTEE DISCUSSION**

**3:00 pm ADJOURN MEETING**