NATIONAL ACADEMIES Sciences Engineering Medicine

Brain-Machine and Related Neural Interface Technologies: Scientific, Technical, Ethical, and Regulatory Issues

A Virtual Workshop

September 22-23, 2022

AGENDA

September 22, 2022

12:15 pm *	**Welcome**

Workshop Planning Committee Co-chairs:

John Donoghue, Brown University
Nita A. Farahany, Duke University Law School

Co-chair, National Academies' Committee on Science, Technology, and Law:

David S. Tatel, U.S. Court of Appeals for the District of Columbia Circuit

12:30 pm	**Brain-Machine and Related Neural Interface Technologies: The State and Limitations of the Technology**

Moderator: **John Donoghue**, Workshop Planning Committee Co-chair

Speakers: **Cindy Chestek**, University of Michigan
Tim Denison, Oxford University
Ana Maiques, Neuroelectrics
Krishnan Thyagarajan, Palo Alto Research Center
Sebastián Alvarado, City University of New York

1:20 pm	**Discussion with Committee**

2:05 pm	**Q&A with Audience**

2:15 pm	**Break**

2:30 pm	**Brain-Machine and Related Neural Interface Technologies: Reading and Writing the Brain for Movement**

Moderator: **Veljko Dubljević**, North Carolina State University

Speakers: **Vivian Mushahwar**, University of Alberta
Douglas Weber, Carnegie Mellon University
Jennifer L. Collinger, University of Pittsburgh
Geoffrey Ling, On Demand Pharmaceuticals
Justin Lowery, BrainGate Clinical Trial Participant
Cristin Welle, University of Colorado School of Medicine

3:30 pm	**Discussion with Committee**

4:15 pm	**Q&A with Audience**

4:25 pm	**Adjourn**

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12:00 pm	**Welcome**

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12:05 pm	**Brain-Machine and Related Neural Interface Technologies: Reading and Writing the Brain for Mood and Affect**

Moderator: **Marcello Ienca**,** Swiss Federal Institute of Technology in Lausanne (EPFL)

Speakers: **Andrew Krystal**, University of California, San Francisco
Talma Hendler, Tel Aviv University
Daniel Chao, Neurotechnology Entrepreneur
Brandy Ellis, Neuromodulation Patient Advocate
Vivek Pinto, U.S. Food and Drug Administration

12:55 pm	**Discussion with Committee**

1:40 pm	**Q&A with Audience**

1:50 pm	**Break**

2:05 pm	**Brain-Machine and Related Neural Interface Technologies: Reading and Writing the Brain for Thought, Communication, and Memory**

Moderator: **Nita A. Farahany**, Workshop Planning Committee Co-chair

Speakers: **Michael Kahana**, University of Pennsylvania
Rajesh P. N. Rao, University of Washington, Seattle
Leigh Hochberg, Massachusetts General Hospital
Andreas Forsland, Cognixion
Paul Larkin, ALS Association
Carlos Peña, The Jacobs Institute

3:05 pm	**Discussion with Committee**

3:50 pm	**Q&A with Audience**

4:00 pm	**Concluding Thoughts from Workshop Planning Committee**

Speakers: **John P. Donoghue**, Brown University
Nita A. Farahany, Duke University School of Law
Abidemi Bolu Ajiboye, Case Western Reserve University
Edward F. Chang, University of California, San Francisco
Marcello Ienca, Swiss Federal Institute of Technology in Lausanne (EPFL)
Helen S. Mayberg, Icahn School of Medicine at Mount Sinai
Gina Poe, University of California, Los Angeles
Kate Rosenbluth, Cala Health
Gaurav Sharma, Air Force Research Laboratory, Wright-Patterson Air Force Base

4:30 pm	**Adjourn**

***All times U.S. Eastern**
****Member of the workshop planning committee**