

National Institutes of Health
Brain Research through Advancing Innovative Neurotechnologies®
(BRAIN) Initiative
Workshop on Research with Human Neural Tissue

Agenda

March 28, 2018

NIH Campus
Building 31, 6th floor C wing, room 6

9:00 AM **Welcome and Opening Remarks**
Walter Koroshetz, MD, NINDS

Session 1: Research with *ex vivo* brain tissue

9:15 AM **Panel Presentations**

Moderator:

James Eberwine, PhD, University of Pennsylvania

Panelists:

Jonathan Ting, PhD, Allen Institute for Brain Science

Anna Devor, PhD, University of California, San Diego

Nenad Sestan, MD, PhD, Yale University

10:00 AM **Discussion**

- What scientific questions are best addressed through use of *ex vivo* brain tissue?
- What advances have been made using these models and what advances are on the horizon?
- Are there technical limitations for these models?
- Would the use of tissue from animals be informative? If so, what approaches would promote harmonization of model systems research with human tissue research?

10:30 AM **BREAK**

Session 2: Research with human cerebral organoids

11:00 AM **Panel Presentations**

Moderator:

Arnold Kriegstein, MD, PhD, University of California, San Francisco

Panelists:

Sergiu Pasca, MD, Stanford University

Paola Arlotta, PhD, Harvard University

Rusty Gage, PhD, Salk Institute for Biological Studies

- 11:30 AM** **Discussion**
- What scientific questions are best addressed through use of human cerebral organoids?
 - What advances have been made using these models and what advances are on the horizon?
 - What are the technical limitations for these models?
 - Would it be informative to leverage animal models?

12:00 PM **LUNCH**

Session 3: Ensuring the responsible conduct of research with human neural tissue

1:00 PM **Panel Presentations**

Moderator: Nita Farahany, JD, PhD, Duke University

Panelists:

James Bernat, MD, Geisel School of Medicine at Dartmouth
David DeGrazia, PhD, George Washington University and NIH
Laurie Zoloth, PhD, University of Chicago

- 1:45 PM** **Discussion**
- What methods exist for assessing the maturity of neural circuitry in brain models and the functional significance of that circuitry?
 - What neuroethical questions do these models raise?
 - How might existing oversight structures be leveraged to evaluate and/or mitigate these issues, both today and as the technologies advance?
 - Are there particular experimental outcomes that should be avoided?
 - What roles do various stakeholders have in promoting accurate understanding of this kind of research?

2:45 PM **BREAK**

3:15 PM **Panel Presentations - continued**

Moderator: Hank Greely, JD, Stanford University

Panelists:

Insoo Hyun, PhD, Case Western Reserve University
Jeantine Lunshof, PhD, Harvard University
Jonathan Moreno, PhD, University of Pennsylvania

4:00 PM **Discussion - continued**

5:00 PM **Wrap-Up and Concluding Remarks**

Joshua Gordon, MD, PhD, NIMH

5:15 PM **Adjourn**