

Addressing Neuroimaging Challenges Across Populations and Settings

September 21-22, 2020

Workshop Goals

This workshop seeks to identify best practices, gaps in knowledge, and promising new strategies for addressing neuroimaging challenges across a wide range of participant populations, settings, and approaches to study design and analysis. Participants will consider these issues across a range of neuroimaging modalities as well as their relevance to both clinical and research settings.

Day 1

Monday, September 21, 2020

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| 10:30 a.m. | Welcome
<i>Alison Cernich, Ph.D.</i>
<i>Deputy Director, NICHD</i> |
| 10:40 a.m. | Workshop orientation
<i>Tracy King, M.D., M.P.H.</i> |
| 10:50 a.m. | Introduction to keynotes
<i>Elliot Stein, Ph.D.</i> |
| 10:55 a.m. | Framing the issues: From the viewpoint of a clinician/clinical researcher
<i>Susan Bookheimer, Ph.D.</i> |
| 11:35 a.m. | Framing the issues: From the viewpoint of a technical developer/researcher
<i>Kamil Ugurbil, Ph.D.</i> |
| 12:15 P.M. | QUESTION & ANSWER SESSION (Keynotes) |
| 12:30 P.M. | BREAK |



Session A: Maximizing inclusion in neuroimaging studies across populations

- 1:00 p.m.** **Session introduction**
Susan Perlman, Ph.D.
- 1:05 p.m.** **Participants who move (e.g., movement disorders, wiggly toddlers)**
Deanna Greene, Ph.D.
- 1:25 p.m.** **Participants who have difficulty tolerating an imaging procedure (e.g., anxiety, sensory sensitivities, pain, physical issues such as cerebral palsy, morbid obesity)**
Olusola Ajilore, M.D., Ph.D.
- 1:45 p.m.** **Other vulnerable populations (e.g., pregnant women/fetuses)**
Moriah Thomason, Ph.D.
- 2:05 p.m.** **Participants with indwelling devices**
Laleh Golestani Rad, Ph.D.
- 2:25 P.M.** **QUESTION & ANSWER SESSION (Session A)**
- 2:55 P.M.** **BREAK**
- 3:05 p.m.** **Breakout 1: Clinical populations**
- 3:05 p.m. Introduction
- 3:15 p.m. Breakout groups
- 4:30 p.m. Break while leaders assemble report-backs
- 4:45 p.m.** **Lightning report-backs and open discussion**
John Gabrieli, Ph.D.
- 5:45 p.m.** **Adjourn**

Day 2

Tuesday, September 22, 2020

10:30 a.m. **Welcome and brief recap**

10:40 a.m. **Keynote: Neuroethics for Neuroimaging**
Judy Illes, Ph.D.

Session B: Maximizing inclusion in neuroimaging studies across settings

11:10 a.m. **Session introduction**
Francis Shen, J.D.

11:15 a.m. **Critical care settings**
Esther Yuh, M.D., Ph.D.

11:35 a.m. **Community-based and low-resource settings**
Kirsty Donald, MBChB., Ph.D.

11:55 A.M. **QUESTION & ANSWER SESSION (Keynote and Session B)**

12:15 P.M. **BREAK**

Session C: Addressing challenges in study design and analysis

12:45 p.m. **Session introduction**
Simon Warfield, Ph.D.

12:50 p.m. **Challenges in study design (e.g., longitudinal versus cross-sectional, comparison groups, developmental considerations)**
Damien Fair, P.A.-C., Ph.D.

1:10 p.m. **Challenges in analysis (harmonization across sites/platforms, combining imaging methods, use of artificial intelligence including potential biases)**
Hugh Garavan, Ph.D.

- 1:30 p.m.** **Keynote: What's coming down the road?**
Bruce Rosen, M.D., Ph.D.
- 2:00 P.M.** **QUESTIONS AND ANSWERS (Session C and Keynote)**
- 2:30 P.M.** **BREAK**
- 2:40 p.m.** **Breakout 2: Settings, research issues, and level of analysis**
- 2:40 p.m. Introduction
- 2:50 p.m. Breakout groups
- 4:00 p.m. Break while leaders assemble report-backs
- 4:15 p.m.** **Lightning report-backs and open discussion**
Randy Buckner, Ph.D.
- 5:15 P.M.** **BREAK**
- 5:25 p.m.** **Closing: Synthesis and Next Steps**
Peter Bandettini, Ph.D.
- 6:00 p.m.** **Adjourn**