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

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