The Human Placenta Project: Understanding Human Placental Structure and Function in Real Time

Current Progress and Future Directions

July 24–25, 2017
Natcher Auditorium, NIH Campus
Bethesda, Maryland

Workshop Goals

- Bring together a group of multidisciplinary experts and broad thinkers, including computer scientists, engineers, placental biologists, clinicians, and patients, to discuss how to achieve the HPP goals
- Highlight the progress to date of HPP-funded projects through presentations, posters, and demonstrations
- Provide thought-provoking presentations to inspire current and potential grantees to think about the HPP’s future directions

Day 1
July 24, 2017

8:30 a.m. Outline of the Day
Dr. David Weinberg, NICHD

8:35 a.m. Welcome and Introductions
Dr. Diana Bianchi, NICHD

8:45 a.m. Why You Do What You Do: The Perspective of the Patient
Ms. Tara Shafer, Reconceiving Loss

9:15 a.m. HPP: Where We Are, Where We Are Going
Dr. Diana Bianchi, NICHD

9:45 a.m. Update on Placental MRI
Dr. Ellen Grant, Harvard Medical School

10:15 a.m. BREAK
<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
<th>Presenter</th>
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<tbody>
<tr>
<td>10:30 a.m.</td>
<td><strong>MR Imaging of the Placenta- Down to Detail</strong></td>
<td>Dr. Mary Rutherford, King’s College</td>
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<td>11:00 a.m.</td>
<td><strong>Lipidomics to Detect Placental Dysfunction</strong></td>
<td>Dr. Charles Chalfant, Virginia Commonwealth University</td>
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<td>11:30 a.m.</td>
<td><strong>LUNCH AND NETWORKING</strong></td>
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<td>1:00 p.m.</td>
<td><strong>Leveraging Omics Data to Study Pregnancy and Preterm Birth</strong></td>
<td>Dr. Marina Sirota, University of California, San Francisco</td>
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<td>1:30 p.m.</td>
<td><strong>RNA Data</strong></td>
<td>Dr. Zev Williams, Columbia University Medical Center</td>
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<td>2:00 p.m.</td>
<td><strong>Liquid Biopsy for Placental Biology</strong></td>
<td>Dr. Daniel Chiu, University of Washington</td>
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<td>2:30 p.m.</td>
<td><strong>The Impact of Placenta Sex</strong></td>
<td>Dr. Claire Roberts, University of Adelaide</td>
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<td>3:00 p.m.</td>
<td><strong>Molecules to Organs, Multi-scale Analysis of the Placenta</strong></td>
<td>Dr. Brian Cox, University of Toronto</td>
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<td>Dr. Shannon Bainbridge, University of Ottawa</td>
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<td>3:30 p.m.</td>
<td><strong>How Zika Virus Shifted the Paradigm of Scientific Data Sharing</strong></td>
<td>Dr. Dawn Dudley, University of Wisconsin</td>
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<td>4:00 p.m.</td>
<td><strong>POSTER/DEMO/NETWORKING SESSION</strong></td>
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<td>5:30 p.m.</td>
<td><strong>END OF DAY 1</strong></td>
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Day 2  
July 25, 2017

8:30 a.m.  
Welcome and Outline of the Day  
Dr. David Weinberg, NICHD

8:35 a.m.  
Ultrasound Imaging of the Human Placenta: New Approaches for Diagnosis of Fetal Health  
Dr. Alfred Abuhamad, Eastern Virginia Medical School

9:05 a.m.  
Fully Automated Segmentation of the Placenta Using Convolutional Neural Networks  
Dr. Padraig Looney, University of Oxford

9:35 a.m.  
Emerging Chip Technology  
Dr. Raeka Aiyar, Stanford University

10:05 a.m.  
BREAK

10:30 a.m.  
Leveraging Organ-on-a-Chip Technology to Study the Human Placenta  
Ms. Cassidy Blundell, University of Pennsylvania  
Dr. Dan Huh, University of Pennsylvania

11:00 a.m.  
The Era of Cognitive Computing: The Next Frontier for Health Care  
Ms. Julie Hunter, IBM Watson  
Dr. Marilyn Miller, National Institute on Aging

11:45 a.m.  
Closing Remarks  
Dr. Diana Bianchi, NICHD

12:00 p.m.  
MEETING ENDS