

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, Reconciving 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

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

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**