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

Current Progress and Future Directions

November 13–14, 2018
Bethesda Marriott
5151 Pooks Hill Rd
Bethesda, Maryland 20814

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, with an emphasis on translation of HPP research into the clinic and low-resource settings.

Day 1
November 13, 2018

8:30 A.M. Welcome and introductions
Diana Bianchi, M.D., NICHD

8:35 A.M. Outline of the day
David Weinberg, Ph.D., NICHD
Afrouz Anderson, Ph.D., NICHD

8:45 A.M. The perspective of the participant
Angelica Hanley

9:00 A.M. NICHD support of pregnancy and placenta research
Diana Bianchi, M.D., NICHD
<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
<th>Speakers</th>
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<tbody>
<tr>
<td>9:30 A.M.</td>
<td>Placenta multi-parametric MRI and potential impact of air pollution</td>
<td>Sherin Devaskar, M.D., University of California, Los Angeles (UCLA) Kyung Sung, Ph.D., UCLA</td>
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<td>9:55 A.M.</td>
<td>Wave reflection in the umbilical artery</td>
<td>John Sled, Ph.D., University of Toronto</td>
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<td>10:20 A.M.</td>
<td>BREAK</td>
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<td>10:35 A.M.</td>
<td>The impact of fetal sex on the placenta</td>
<td>Margareta Pisarska, M.D., Cedars-Sinai Medical Center Tania L. Gonzalez, Ph.D., Cedars-Sinai Medical Center Tian Sun, Ph.D., Cedars-Sinai Medical Center</td>
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<td>11:00 A.M.</td>
<td>Trends in placental BOLD measurements over gestation: Preliminary results from a multisite trial</td>
<td>Antonio Frías, M.D., Oregon Health &amp; Science University (OHSU) Matthias Schabel, Ph.D., OHSU</td>
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<td>11:25 A.M.</td>
<td>Total uterine blood flow and perfusion by ultrasound and MRI</td>
<td>Dinesh Shah, M.D., University of Wisconsin Medical School Oliver Wieben, Ph.D., University of Wisconsin Medical School</td>
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<td>11:50 A.M.</td>
<td>LUNCH AND NETWORKING</td>
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<td>1:20 P.M.</td>
<td>Placental vascular flow and fetal growth restriction</td>
<td>Tony Odibo, M.D., University of South Florida</td>
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<td>1:45 P.M.</td>
<td>Placental MRI: Developing accurate quantitative measures of placental physiology to guide individual care</td>
<td>Ellen Grant, M.D., M.Sc., Harvard University Esra Abaci Turk, Ph.D., Harvard University</td>
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<td>2:10 P.M.</td>
<td>BREAK</td>
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<td>2:20 P.M.</td>
<td>Developing tools to measure placental oxygenation: MRI and near-infrared spectroscopy</td>
<td>Nadav Schwartz, M.D., University of Pennsylvania</td>
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<td>2:45 P.M.</td>
<td>Exosome-based placental-maternal-fetal communication</td>
<td>Yoel Sadovsky, M.D., UPMC Magee-Womens Hospital</td>
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3:10 P.M.  **Panel Presentations — Challenges of clinical translation**  
Jodi Dashe, M.D., University of Texas Southwestern Medical Center  
George Saade, M.D., University of Texas Medical Branch  
Vasum Peiris, M.D., M.P.H., Food and Drug Administration

3:30 P.M.  **Moderated panel discussion**  
Moderator: Catherine Spong, M.D., University of Texas Southwestern Medical Center

4:00 P.M.  **Poster/demo/networking session**

5:30 P.M.  **END OF DAY 1**
Day 2
November 14, 2018

8:30 A.M.  Welcome and outline of the day
Afrouz Anderson, Ph.D., NICHD

8:35 A.M.  Stillbirths and preterm births in low-resource settings:
Placental issues
Robert Goldenberg, M.D., Columbia University

9:00 A.M.  Opportunities and challenges of prenatal ultrasound in low-
resource settings
Alfred Abuhamad, M.D., Eastern Virginia Medical School

9:25 A.M.  Working on placenta in Africa: Triumphs and anguish as a
clinician-scientist
Moses Madadi, M.D., Ph.D., University of California, San Francisco

9:45 A.M.  Translational biophotonics in low-resource settings
Afrouz Anderson, Ph.D., NICHD

10:05 A.M.  BREAK

10:15 A.M.  Key factors for low-resource settings
Doris Rouse, Ph.D., RTI

10:40 A.M.  Facilitation of worldwide research on adverse pregnancy
outcomes: The CoLab experience
Leslie Myatt, Ph.D., OHSU

11:05 A.M.  Moderated panel discussion — HPP in low-resource settings
Moderator: Leslie Myatt, Ph.D., OHSU
Panelists:
Alfred Abuhamad, M.D., Eastern Virginia Medical School
Robert Goldenberg, M.D., Columbia University
Doris Rouse, Ph.D., RTI
Moses Madadi, M.D., Ph.D., University of California, San Francisco

11:30 A.M.  Closing remarks
David Weinberg, Ph.D., NICHD

12:00 P.M.  MEETING ENDS