

# 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

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| <b>8:30 A.M.</b> | <b>Welcome and introductions</b><br>Diana Bianchi, M.D., NICHD                             |
| <b>8:35 A.M.</b> | <b>Outline of the day</b><br>David Weinberg, Ph.D., NICHD<br>Afrouz Anderson, Ph.D., NICHD |
| <b>8:45 A.M.</b> | <b>The perspective of the participant</b><br>Angelica Hanley                               |
| <b>9:00 A.M.</b> | <b>NICHD support of pregnancy and placenta research</b><br>Diana Bianchi, M.D., NICHD      |

- 9:30 A.M.**                    **Placenta multi-parametric MRI and potential impact of air pollution**  
Sherin Devaskar, M.D., University of California, Los Angeles (UCLA)  
Kyung Sung, Ph.D., UCLA
- 9:55 A.M.**                    **Wave reflection in the umbilical artery**  
John Sled, Ph.D., University of Toronto
- 10:20 A.M.**                    **BREAK**
- 10:35 A.M.**                    **The impact of fetal sex on the placenta**  
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
- 11:00 A.M.**                    **Trends in placental BOLD measurements over gestation: Preliminary results from a multisite trial**  
Antonio Frias, M.D., Oregon Health & Science University (OHSU)  
Matthias Schabel, Ph.D., OHSU
- 11:25 A.M.**                    **Total uterine blood flow and perfusion by ultrasound and MRI**  
Dinesh Shah, M.D., University of Wisconsin Medical School  
Oliver Wieben, Ph.D., University of Wisconsin Medical School
- 11:50 A.M.**                    **LUNCH AND NETWORKING**
- 1:20 P.M.**                    **Placental vascular flow and fetal growth restriction**  
Tony Odibo, M.D., University of South Florida
- 1:45 P.M.**                    **Placental MRI: Developing accurate quantitative measures of placental physiology to guide individual care**  
Ellen Grant, M.D., M.Sc., Harvard University  
Esra Abaci Turk, Ph.D., Harvard University
- 2:10 P.M.**                    **BREAK**
- 2:20 P.M.**                    **Developing tools to measure placental oxygenation: MRI and near-infrared spectroscopy**  
Nadav Schwartz, M.D., University of Pennsylvania
- 2:45 P.M.**                    **Exosome-based placental-maternal-fetal communication**  
Yoel Sadovsky, M.D., UPMC Magee-Womens Hospital

- 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

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- 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**