

## **Developing an Interdisciplinary Research Agenda for Genetics of Birth Defects**

Wednesday, January 22, 2014

Washington Dulles Airport Marriott  
45020 Aviation Drive  
Dulles, VA 20166

We currently have an unprecedented opportunity to advance genomic research of birth defects. However, next steps toward capitalizing on such opportunities have obstacles. Primary among the obstacles is a lack of a coordinated interdisciplinary research agenda for the study of genetic etiologies of birth defects. The goal of this one-day meeting is to identify approaches and formulate strategies that are likely to have a substantial and sustained impact on discovering genomic and epigenomic risk factors for human structural birth defects. The meeting has been structured to optimize productive and engaging interactions between scientists with multiple point-counter point formal discussions on four pertinent topical areas. The meeting will assemble leading scientists from manifold disciplines including molecular biology, genetics, epidemiology, teratology, pediatrics, and obstetrics. The outcome of this meeting will be a comprehensive "white paper" that will characterize the discussions and provide a detailed prospectus for new research trajectories that can be broadly distributed.

### Steering Committee:

Dr. Gary Shaw, Stanford University School of Medicine

Dr. Charlotte Hobbs, University of Arkansas for Medical Sciences

Dr. Andrew Olshan, University of North Carolina Gillings School of Global Public Health

Dr. Lorette Javois, Eunice Kennedy Shriver National Institute of Child Health and Human Development,  
NIH

## AGENDA

8:00-8:05 Welcome remarks (Drs. Shaw, Javois, Hobbs, Olshan - Steering Committee)

8:05-8:30 NICHD Perspective (Dr. Alan Guttmacher)

8:30-10:00 TOPIC #1 How informative are experimental model systems for understanding human birth defect etiologies?

Point: Experimental model systems are critical to our understanding of human birth defects. (Dr. John Wallingford, University of Texas at Austin)

Counter-Point: Experimental model systems cannot sufficiently inform the complex environmental, social, and genetic underpinnings of human birth defects. (Dr. Jeff Murray, University of Iowa)

Discussant: Dr. Richard Finnell, University of Texas at Austin (5-10 mins)

10:00-10:30 Break

10:30-12:00 TOPIC #2 What is the preferred method(s) to discover genetic etiologies of human birth defects?

Point: Genome-wide association studies continue to be legitimate, and in some circumstances, the preferred approach (Dr. Stephen Chanock, National Cancer Institute, NIH)

Counter-Point: Genome-wide sequencing or exome sequencing would be preferred (Dr. Mike Bamshad, University of Washington)

Discussant: Dr. Terri Beaty, Johns Hopkins Bloomberg School of Public Health (5-10 mins)

12:00-1:00 Lunch

1:00-2:30 TOPIC #3 How valuable will the investigation of epigenomics be toward understanding the etiologies of human birth defects?

Point: Epigenomics have theoretical relevance but owing to logistical and scientific challenges such studies of human birth defects are currently impractical. (Dr. Jan Friedman, The University of British Columbia)

Counter-Point: Epigenomics represent a critical, timely, and currently practical area for focus towards understanding human birth defects. (Dr. Benjamin Tycko, Columbia University)

Discussant: Dr. Edward McCabe, March of Dimes Foundation (5-10 mins)

2:30-3:00 Break

3:00-4:30 TOPIC #4 Are epidemiological approaches suitable for answering pertinent questions involving risk/preventive factors for human birth defects?

Point: Modern epidemiologic approaches are invaluable to furthering our understanding of risk factors for human birth defects. (Dr. Sonia Hernandez-Diaz, Harvard School of Public Health)

Counter-Point: Current epidemiologic approaches are unlikely to offer additional salient information on causes of human birth defects. (Dr. Allen Wilcox, National Institute of Environmental Health Sciences, NIH)

Discussant: Dr. Michelle Williams, Harvard School of Public Health (5-10 mins)

4:30-5:30      General Discussion & Wrap-Up: What are the priorities and infrastructure needs to enhance an interdisciplinary agenda for the genetics of human birth defects? (All participants)

5:30            Adjourn

Future Call:    Steering Committee, Speakers, and Discussion Leaders meet to develop next steps and concepts for “white paper.”

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Funded by the Eunice Kennedy Shriver National Institute of Child Health and Human Development (U13HD076529) with co-funding from the Office of Rare Disease Research-National Center for Advancing Translational Sciences, the National Institute of Dental and Craniofacial Research, and the National Institute of Environmental Health Sciences.

\*\*\*A note about lodging\*\*\*

Stanford University has reserved a block of rooms at the Dulles Marriott for your convenience at the rate of \$119 per night before taxes or incidentals. If you would like to reserve a room at this location and rate, please call the Marriott at (703) 471-9500 and ask to place a reservation under the block of rooms reserved by Stanford University for the “Developing an Interdisciplinary Research Agenda for Genetics of Birth Defects” conference.

Please note that there is a limited number of rooms reserved under this block and the earlier you reserve your room, the more likely you are to receive one of the rooms at the blocked rate. Also note that any unfilled rooms within the block will be released on December 31st, 2013 at midnight. If you wish to reserve your room at the blocked rate you must place the reservations prior to that time.

Contact Information

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