Chinese Biopharmaceutical Association, USA (CBA) With
China-U.S. Innovation Summit at the Johns Hopkins University

CBA
WORKSHOP SERIES
March 2, 2019

GENOME EDITING: OPPORTUNITIES & CHALLENGES

March 2, 2019 | Saturday | 9:30 am–3:00 pm

Remsen I at Johns Hopkins University • 3400 N Charles Street • Baltimore • MD 21218

With the shocking news of the first CRISPR edited twin babies born in November 2018 in China, the genome editing in clinical utilization and its ethical concern once again became an unavoidable hot topic. Despite of its great promises to improve human health and cure diseases, it also stirred up the fear to misuse this powerful tool for unethical and unnecessary uses.

In this workshop, distinguished speakers from NIH, NCI, NIST, Johns Hopkins University, Pacbio and MIT Technology Review will deliver presentations to:

1. Introduce the genome editing as a tool for scientific and clinical application.
2. Identify the challenges and address human genome editing safety concerns.
3. Discuss the ethical perspective of human cell genome editing.

Follow up by panel discussions with the audience, one in the morning and one in the afternoon.

Networking opportunities are available during lunch time and after the workshop. Free pizza and water will be served.

Workshop agenda is coming soon at CBA event page.

Co-sponsors

ASQ JOHNS HOPKINS NIH CSSA PACIFIC BIOSCIENCES®

Register here (or through QR code on right) today to reserve your seat ($5.00 for public, FREE for active members of CBA, and members of NIH/JHU-CSSA, ASQ509)

Agenda

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9:00 am — **Registration and Networking**

9:30 am — **Open remarks** (CBA president and CSSA President)

9:40 am — **Introduction and Announcement** (Yan Guo, Organizer, CBA)

9:50 am — **Basic and Translational Science Opportunities**
(Moderator: Dr. Hongjun Yang, CBA)

Harnessing genome engineering technologies to understand biology at a high resolution
Raj Chari, Ph.D., Director, Genome Modification Core NCI/FNLCR — 25 mins

The NIH Somatic Cell Genome Editing Program
Mary Ellen Perry, Ph.D., Program Leader, , NIH — 25 mins

NIST Genome Editing Program
Samantha Maragh, Ph.D., Leader, Genome Editing Program, NIST — 25 mins

11:05 am — **Break**

11:15 am

Measuring Genome Editing Outcomes
Emily Hatas, Ph.D., Sr. Director, Business Development, PacBio — 25 mins

11:40 am — **Panel Discussion (Translational and Basic Science Opportunities and Clinical Impacts)**
(Session Speakers)

12:10 pm — **Lunch and Networking**

1:00 pm — **Ethical Challenges** (Moderator: Dr. Xiaobin Lu, CBA)

Inside the CRISPR Baby Story—China on the cutting edge of stem cell biology and gene-editing
Antonio Regalado, Ph.D., Senior Editor, MIT Technology Review — 25 mins

CRISPR Babies, Ethics & Policy
Debra Mathews, Ph.D., MA, Assistant Director for Science Programs, Johns Hopkins Berman Institute of Bioethics — 25 mins

2:00 pm — **Panel Discussion (Regulatory and Ethical Challenges)**
(Session Speakers and a guest panelist: Dr. Linzhao Cheng, Johns Hopkins School of Medicine)

2:30 pm — **Wrap up and Adjourn**

Speaker Bios

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Raj Chari

Director, Genome Modification Core, Frederick National Lab for Cancer Research

Dr. Raj Chari obtained his bachelor's degrees in both biochemistry and computer science at the University of British Columbia. He then went onto doing his PhD under the supervision of Dr. Wan Lam at the British Columbia Cancer Research Centre, specializing in lung cancer genomics. Subsequently, he did his postdoctoral fellowship at Harvard Medical School with Dr. George Church where he helped develop genome engineering technologies. After briefly working in industry at AbVitro and Juno Therapeutics, he is now the director of the Genome Modification Core at the Frederick National Lab for Cancer Research.

Mary Ellen Perry, Ph.D.

Program Leader, OD/NIH

Since 2007, Dr. Mary Ellen Perry has been a program leader in the Office of Strategic Coordination, overseeing the development, implementation and assessment of several cutting-edge programs. Prior to joining the Office of the Director, Dr. Perry was a program director for the National Cancer Institute (NCI), where she oversaw a grant portfolio focused on research in aspects of molecular biology of particular relevance to cancer. Until 2016, Dr. Perry also maintained a laboratory at the NCI, employing genetically engineered mice to explore the relationship between development and cancer. Her background in cancer research is founded on a Ph.D. in biochemistry from the University of North Carolina and post-doctoral fellowships at Princeton University and the Imperial Cancer Research Fund, London (now part of Cancer Research, UK). For seven years, she led a cancer research laboratory at the University of Wisconsin-Madison, where she succeeded in winning two NIH grants, publishing several papers, and training five Ph.D. students, two of whom are now professors.

Samantha Maragh, Ph.D.

Genome Editing Program Leader, NIST

Dr. Samantha Maragh Leads the Genome Editing Program at the National Institute of Standards and Technology (NIST). This program has a primary focus on measurements and assay qualification to support genome editing applications with emphasis on gene therapy applications. Included in this program is the newly launched NIST Genome Editing Consortium, which is a public-private partnership to bring together government, industry and academia to address shared pre-competitive technical measurement and standards challenges within the genome editing community. Samantha also participates on representing the U.S. as a technical expert to the International Standards Organizations Technical Committee on Biotechnology (ISO TC 276). She is currently a U.S. liaison representing the interests and expertise of the U.S. on standards relating to nucleic acids measurements. Samantha received her M.S. in Biotechnology from Johns Hopkins University, and her Ph.D. in Human Genetics & Molecular Biology from the Johns Hopkins School of Medicine.

Antonio Regalado

Senior Editor, MIT Technology Review

Antonio is the senior editor for biomedicine for MIT Technology Review. He looks for stories about how technology is changing medicine and biomedical research. Before joining MIT Technology Review in July 2011, he lived in São Paulo, Brazil, where he wrote about science, technology, and politics in Latin America for Science and other publications. From 2000 to 2007, he was the science reporter at the Wall Street Journal. Antonio has an undergraduate degree in physics from Yale and a masters in science journalism from New York University.

Emily Hatas

Senior Director, Pacific Biosciences

Emily Hatas has been with PacBio for more than four years, most recently as the Senior Director of Business Development, leading several commercial initiatives in agricultural and human-biomedical research. Prior to this, she served as business development manager for KeyGene, a Dutch agricultural biotech company. She studied plant biology at the University of Wisconsin-Madison before continuing on to business school.

Debra JH Mathews

Assistant Director for Science Programs, Johns Hopkins School of Medicine

Debra JH Mathews, PhD, MA, is the Assistant Director for Science Programs for the Johns Hopkins Berman Institute of Bioethics, an Associate Professor in the Department of Pediatrics, Johns Hopkins School of Medicine, and affiliate faculty in the Institute of Genetic Medicine. Dr. Mathews earned her PhD in genetics from Case Western Reserve University. Concurrent with her PhD, she earned a Master's degree in bioethics, also from Case. She completed a Post-Doctoral Fellowship in genetics at Johns Hopkins, and the Greenwall Fellowship in Bioethics and Health Policy at Johns Hopkins and Georgetown Universities. Dr. Mathews has also spent time at the Genetics and Public Policy Center, the US Department of Health and Human Services, and the Presidential Commission for the Study of Bioethical Issues, working in various capacities on science policy. Dr. Matthews's academic work focuses on ethics and policy issues raised by emerging biotechnologies, with particular focus on genetics, stem cell science, neuroscience and synthetic biology.