SUNDAY, MARCH 7
Arrival and Registration

MONDAY, MARCH 8

Welcome and Keynote Address (X1)
Tim W. Yu, Boston Children's Hospital, USA
Developing Custom Genetic Therapies

Welcome and Keynote Address (X2)
Austin Burt, Imperial College London, UK
Genes in Conflict: From Nature to Lab and Back

Mechanisms of Editing and Epi-Editing (X1)
Jacob E. Corn, ETH in Zurich, Switzerland
How Cells Deal with Cas-Based Tools
Bas van Steensel, Netherlands Cancer Institute, Netherlands
Probing Genome Regulation
Speaker to be Announced
Short Talks Chosen from Abstracts

Selfish Strategies (X2)
Cedric Feschotte, Cornell University, USA
Selfish Strategies of TEs
Daven Presgraves, University of Rochester, USA
Meiotic Drive: Drive by Interference
Lila Fishman, University of Montana, USA
A Selfish Centromere in the Wild
Short Talks Chosen from Abstracts

Workshop 1: Speed Networking (X2)

Molecular Engineering of Editors and Epi-Editors (X1)
Nicole Gaudelli, Beam Therapeutics, USA
Therapeutic Application of Cytosine and Adenine Base Editors
Samuel H. Sternberg, Columbia University, USA
Targeted DNA Integration using CRISPR RNA-Guided Transposases
Cecilia Cotta-Ramusino, Tessera Therapeutic, USA
New Editing Technologies
Jennifer E. Phillips-Cremins, University of Pennsylvania, USA
Tools to Manipulate Chromatin Structure
Short Talks Chosen from Abstracts

Theory and Experience with No-Threshold Engineered Gene Drives (X2)
Omar S. Akbari, University of California, San Diego, USA
Homing-Based Drive Systems
Maciej Maselko, Macquarie University, Australia
Underdominance via Engineered Genetic Incompatibility

TUESDAY, MARCH 9

Therapeutics I: Ex Vivo Editing (X1)
Rachel E. Haurwitz, Caribou Biosciences, Inc., USA
The Future is Allogeneic - Translating a CRISPR Platform into Gene-Edited Cell Therapies
Speaker to be Announced
Gene Editing for Blood Disorders
Matthew Porteus, Stanford University School of Medicine, USA
Gene Editing for Hemoglobinopathies and Immunodeficiencies
Chiara Bonini, Ospedale San Raffaele, Italy
Stem Cell Transplantation
Short Talks Chosen from Abstracts

Dynamics of Natural Drive (X2)
Anna K. Lindholm, University of Zurich, Switzerland
Population Biology of t-Haplotype
Hanna Johannesson, Uppsala University, Sweden
Spore Killers
Kelly Dyer, University of Georgia, USA
Drive Dynamics in Drosophila
Andreas Houben, Leibniz Institute of Plant Genetics and Crop Plant Research, Germany
B Chromosome Drive
Short Talks Chosen from Abstracts

Workshop/Panel Discussion 2: Ethical, Social and Community Considerations in Using Gene Drive Technologies (X2)

Therapeutics II: In Vivo Editing (X1)
Speaker to be Announced
Leonela Amoasii, Exonics Therapeutics, USA
Gene Editing for Muscular Dystrophy
Fyodor D. Urnov, University of California, Berkeley, USA
Towards a CRISPRi/a Therapeutic for Radiation Injury
Charles Gersbach, Duke University, USA
In Vivo Therapeutic CRISPRi/a Approaches
Short Talks Chosen from Abstracts

Spatially and Temporally Restricted Gene Drives (X2)
Luke S. Alphey, Pirbright Institute, UK
Underdominance-Like Systems
Bruce A. Hay, California Institute of Technology, USA
Cleave and Rescue and other Drive Architectures

Ethan Bier, University of California, San Diego, USA
Gene-Drives and Other Active Genetic Systems
Short Talks Chosen from Abstracts

Poster Session 1
George K. Christophides, Imperial College London, UK
Split-Drive Systems for Mosquitoes
Short Talks Chosen from Abstracts

Poster Session 2

WEDNESDAY, MARCH 10

Delivery (X1)
Kathryn Whitehead, Carnegie Mellon University, USA
Non-Viral Lipid Nanoparticles for RNA Delivery and Gene Editing
Aravind Asokan, Duke University, USA
Engineering AAV for Targeted In Vivo Editing
James Dahlman, Georgia Tech / Emory Medical School, USA
Delivering Gene Editing Components by Testing Thousands of Nanoparticles in vivo
Speaker to be Announced
Short Talks Chosen from Abstracts

Natural Drive Mechanisms (X2)
Amanda Larracuente, University of Rochester, USA
Molecular Mechanisms of Meiotic Drive in Drosophila
Sarah Zanders, Stowers Institute for Medical Research, USA
wtf Genes and Meiotic Drive Mechanisms in Yeasts
Seth Bordenstein, Vanderbilt University, USA
Wolbachia-Mediated Cytoplasmic Incompatibility
Marce Lorenzen, North Carolina State University, USA
Medea Systems in Insects
Short Talks Chosen from Abstracts

Workshop 3: Early Career Professional Short-Talks (X2)
Short Talks Chosen from Abstracts

Controlling CRISPR (X1)
Ahmad S. Khalili, Boston University, USA
TBD
Hyongbum Henry Kim, Yonsei University College of Medicine, South Korea
High-Throughput Analysis and Prediction of Genome Editing Outcomes
Speaker to be Announced
Short Talks Chosen from Abstracts

Drive Suppressors and Resistance (X2)
Catherine Montchamp-Moreau, Paris-Saclay University, France
Suppressors of Sex Chromosome Drive in D. Simulans
Séverine Chambeyrion, Institute of Human Genetics, France
Impact of Endogenous Retrovirus Movement on Drosophila Melanogaster Genome

Philipp W. Messer, Cornell University, USA
Drive Suppression/Resistance
Short Talks Chosen from Abstracts

Poster Session 3

THURSDAY, MARCH 11

RNA Editing (X1)
Patrick D. Hsu, University of California, Berkeley, USA
Novel RNA Editing Systems
Kathie Bishop†, Locana, USA
RNA Targeting Technologies and Therapeutic Applications
Prashant Mali, University of California, San Diego, USA
University of California San Diego, USA - Endogenous RNA Editing Systems
Speaker to be Announced
Short Talks Chosen from Abstracts

Modelling Selfish Genetic Elements - Natural and Synthetic (X2)
Fred Gould, North Carolina State University, USA
How Population Structure could Impact Gene Drives
Penny Hancock, University of Oxford, UK
Demographic Models of the Spread of Selfish Genetic Elements in Aedes Aegypti Arbovirus Vector Populations
Robert Unckless, University of Kansas, USA
Meiotic Drive Population Extinction, Speciation and Sex-Chromosome Evolution
Manus M. Patten, Georgetown University, USA
Multi-locus Models of Drive
Short Talks Chosen from Abstracts

Single Cell Technologies (X1)
John G. Doench, Broad Institute of MIT and Harvard University, USA
Latest Improvements to Screening Tools
Britt S. Adamson, Princeton University, USA
Single Cell Sequencing Technologies
Speaker to be Announced
Jonathan S. Weissman, University of California, San Francisco, USA
Genome-Wide Screening Technologies
Short Talks Chosen from Abstracts

Technology Applications in the Field (X2)
Anthony A. James, University of California, Irvine, USA
UC-Malaria Initiative: Mosquito Population Modification to Control Malaria Transmission
Aboulaye Diabaté†, Institut de Recherche en Sciences de la Santé/Centre Muraz, Bobo-Dioulasso, Burkina Faso
Target Malaria

* Session Chair † Invited but not yet accepted  Program current as of June 20, 2020. Program subject to change. Meal formats are based on meeting venue. For the most up-to-date details, visit https://www.keystonesymposia.org.
Owain Edwards, Commonwealth Scientific and Industrial Research Organisation, Australia

* In silico Assessments of Feasibility and Risk for Gene Drives against Feral Cats in Australia

**Short Talks Chosen from Abstracts**

- Meeting Wrap-Up: Outcomes and Future Directions (Organizers) (X1)
- Meeting Wrap-Up: Outcomes and Future Directions (Organizers) (X2)

**FRIDAY, MARCH 12**

Departure