



Human and Mammalian Genetics and Genomics: The 67th McKusick Short Course

July 20 – 31, 2026 | Virtual Schedule

All times listed are EDT (UTC – 4:00)

Schedule is subject to change.

Day 1: Monday, July 20th

9:30 – 9:45 AM	Course Announcements & General Housekeeping
9:45 – 10:00 AM	Welcome & Opening Remarks Lon Cardon, Ph.D., <i>The Jackson Laboratory</i>
10:00 – 11:00 AM	History of Human Genetics Dave Valle, M.D., <i>Johns Hopkins University School of Medicine</i>
11:00 – 12:00 PM	Mice as Models for Human Diseases Greg Cox, Ph.D., <i>The University of Maine</i>
12:00 – 1:00 PM	Break
1:00 – 2:00 PM	Chromosome Regulation and Nuclear Genome Organization Jeanne Lawrence, Ph.D., <i>University of Massachusetts Medical School</i>
2:00 – 3:00 PM	Genetic Recombination & Mutation Beth Dumont, Ph.D., <i>The Jackson Laboratory</i>
3:00 – 4:00 PM	Opportunities and Limits in the 21st Century Mouse Model System Steven Munger, Ph.D., <i>The Jackson Laboratory</i>
4:00 – 4:45 PM	Break
4:45 – 5:00 PM	Introduction & Welcome – Thomas H. Roderick Memorial Lecture
5:00 – 6:30 PM	Thomas H. Roderick Memorial Lecture – The Jackson Laboratory Auditorium Title TBD Patricia Wittkopp, Ph.D., <i>University of Michigan</i>

Day 2: Tuesday, July 21st

9:00 – 10:00 AM	Title TBD Winston Timp, Ph.D., <i>Johns Hopkins University</i>
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10:00 – 11:00 AM	Title TBD Adam Phillippy, Ph.D., <i>National Genome Research Institute</i>
11:00 – 11:30 AM	Coffee Break
11:30 – 12:30 PM	An Introduction to the Human Pangenome Tools Karen Miga, Ph.D., <i>University of California, Santa Cruz</i>
12:30 – 1:30 PM	Break
1:30 – 2:30 PM	WORKSHOP: OMIM and Other Useful Genetic and Genomic Resources Ada Hamosh, M.D., <i>Johns Hopkins University School of Medicine</i>
2:30 – 4:00 PM	WORKSHOP: gnomAD - Human Genome Variation & its Properties Katherine Chao, M.A., <i>Broad Institute of Harvard and MIT</i>
Audio Recording	Human Genomic Variants – The Stone House at the Bar Harbor Regency Stylianios Antonarakis, M.D., DSc, <i>University of Geneva Medical School</i>

Day 3: Wednesday, July 22nd

9:00 – 10:00 AM	Transcriptional Regulation of Gene Expression Andrew McCallion, Ph.D., <i>Johns Hopkins University School of Medicine</i>
10:00 – 11:00 AM	Machine Learning for Regulatory Genomics: Basics and Pitfalls Michael Beer, Ph.D., <i>Johns Hopkins University</i>
11:00 – 11:30 AM	Break
11:30 – 12:30 PM	TBD
12:30 – 1:30 PM	Break
1:30 – 2:30 PM	Systems Genetics and the Biology of the Cell Aravinda Chakravarti, Ph.D., <i>NYU Langone Health</i>
Audio Recording	Senior Lecture: Title TBD – Stone House at the Bar Harbor Regency Anne Bowcock, Ph.D., <i>Icahn School of Medicine at Mount Sinai</i>

Day 4: Thursday, July 23rd

9:00 – 10:00 AM	The Landscape of Structural Variation and Dosage Sensitivity in the Human Genome Michael Talkowski, Ph.D., <i>Harvard Medical School, Mass General Hospital</i>
10:00 – 11:00 AM	Mendelian Disorders of the Epigenetic Machinery: Genetic Disorders with Epigenomics Consequences Jill Fahrner, Ph.D., <i>Johns Hopkins University School of Medicine</i>

11:00 – 11:30 AM	Break
11:30 – 12:30 PM	Evidence of Intergenerational Transmission of Epigenetic Inheritance in PTSD Leon Mutesa, M.D. Ph.D. <i>University of Rwanda</i>
12:30 – 1:30 PM	Break
1:30 – 2:30 PM	The Power of Ancient and Modern Genomics in Reconstructing Human Population Histories Maanasa Raghavan, Ph.D., <i>The University of Chicago</i>
Audio Recording	Title TBD Olga Troyanskaya, Ph.D., <i>Princeton University</i>

Day 5: Friday, July 24th

9:00 – 10:00 AM	Title TBD Fei Chen, Ph.D., Broad Institute of MIT and Harvard
10:00 – 11:00 AM	Cancer Biology Exposed Through Large-Scale Sequencing Victor Velculescu, M.D., Ph.D., <i>Johns Hopkins University School of Medicine</i>
11:00 – 11:30 AM	Break
11:30 – 12:30 PM	Heterogeneity & Evolutionary Trajectory of Breast Cancer Olufunmilayo Olopade, M.D., FACP, <i>UChicago Medicine</i>
12:30 – 1:30 PM	Break
1:30 – 2:30 PM	Title TBD Jennifer Trowbridge, Ph.D., <i>The Jackson Laboratory</i>
4:15 – 4:30 PM	Introduction and Welcome to Chen K. Chai Memorial Lecture
4:30 – 6:00 PM	Chen K. Chai Memorial Lecture – The Jackson Laboratory Auditorium Out of the Mist: The Role of Long Noncoding RNA in Human Development and Disorders John Mattick, Ph.D., <i>University of New South Wales Sydney</i>

Saturday, July 25th & Sunday, July 26th

No Scheduled Course Activities

Day 6: Monday, July 27th

9:00 – 10:00 AM	Human Evolution and Adaptation in Africa Sarah Tishkoff, Ph.D., <i>University of Pennsylvania, Perelman School of Medicine</i>
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10:00 – 11:00 AM	Harnessing African Genomes to Enhance Health Globally Ambroise Wonkam, M.D., Ph.D., <i>Johns Hopkins University</i>
11:00 – 11:30 AM	Break
11:30 – 12:30 PM	Uncovering New Regions of the Human Genome using Long-Read Sequencing Solomon Ofori-acquah, Ph.D., <i>Emory School of Medicine</i>
12:30 – 1:30 PM	Break
1:30 – 2:30 PM	Consanguineous Populations as Engines of Discovery in Genomic Medicine Fowzan Alkuraya, Ph.D., <i>Alfaisal University</i>
Audio Recording	Genetics and Genomics of Oxygen Homeostasis – The Stone House at the Bar Harbor Regency Gregg Semenza, M.D., Ph.D., <i>Johns Hopkins University School of Medicine</i>

Day 7: Tuesday, July 28th

9:00 – 10:00 AM	Genomics Surveillance and Characterization of Microbial Threats Facilitates Early Detection and Containment of Disease Outbreaks in West Africa Christian Happi, Ph.D., <i>Redeemer's University</i>
10:00 – 11:00 AM	Genetics of Infectious Diseases: Where the Rubber Hits the Road of Life Steven Holland, M.D., <i>National Institute of Allergy & Infectious Diseases, NIH</i>
11:00 – 11:30 AM	Break
11:30 – 12:30 PM	Title TBD Troy Torgerson, M.D., Ph.D., <i>Allen Institute</i>
12:30 – 1:30 PM	Title TBD Cathleen Lutz, Ph.D., M.B.A., <i>The Jackson Laboratory</i>
Audio Recording	Victor A. McKusick Memorial Lecture – Stone House at the Bar Harbor Regency Genomic Newborn Screening Wendy Chung, M.D., Ph.D., <i>Boston Children's Hospital</i>

Day 8: Wednesday, July 29th

9:00 – 10:00 AM	Prenatal Screening Diagnosis & Therapy Ignatia Van den Veyver, M.D., <i>Baylor College of Medicine</i>
10:00 – 11:00 AM	Aneuploidy in Human Embryos Rajiv McCoy, Ph.D., <i>Johns Hopkins University</i>
11:00 – 11:30 AM	Break

11:30 – 12:30 PM **Title TBD**
Robert Burgess, Ph.D., *The Jackson Laboratory*

12:30 – 1:30 PM Break

1:30-2:30 **Ethics and Policy Issues Raised by Genetics and Genomics**
Debra Mathews, Ph.D., M.A., *Johns Hopkins University*

Day 9: Thursday, July 30th

9:00 – 10:00 AM **Inborn Errors of Metabolism**
Hilary Vernon, M.D., Ph.D., *Johns Hopkins University School of Medicine*

10:00 – 11:00 AM **Metabolomics and Human Disease Phenotypes**
Ralph DeBerardinis, M.D., Ph.D., *University of Texas, Southwestern*

11:00 – 11:30 AM Break

11:30 – 12:30 PM **Pharmacogenomics to Pharmaco-omics**
Liewei Wang, M.D., Ph.D., *Mayo Clinic*

12:30 – 1:30 PM Break

1:30-2:30 **TBD**

Audio Recording **Insights into the Pathogenesis and Treatment of Vascular Connective Tissue Disorders** – Stone House at the Bar Harbor Regency
Harry ‘Hal’ Dietz, M.D., *Johns Hopkins University School of Medicine*

Day 10: Friday, July 31st

8:30 – 9:30 AM **Precision Genome Editing Tools**
Greg Newby, Ph.D., *Johns Hopkins University School of Medicine*

9:30 – 10:30 AM **Genetic Medicine for Sickle Cell Disease**
Daniel Bauer, M.D., Ph.D., *Harvard Stem Cell Institute*

10:30 – 10:45 AM Break

10:45 – 11:45 AM **The First Successful Personalized Gene Editing Therapy – Follow-up from 2025**
Kiran Musunuru, M.D., Ph.D., M.P.H., M.L, M.R.A., *University of Pennsylvania, Perelman School of Medicine*
Rebecca Ahrens-Nicklas, M.D., Ph.D., *Children’s Hospital of Philadelphia*
*presenting remotely

11:45 – 12:45 PM **Genetic & Pharmacologic Modifiers of Cystic Fibrosis**
Garry Cutting, M.D., *Johns Hopkins University School of Medicine*

12:45 – 1:15 PM **Course Summary and Wrap-Up**