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# Human and Mammalian Genetics and Genomics: The 67<sup>th</sup> McKusick Short Course

**July 20 – 31, 2026**

*All times listed are EDT (UTC – 4:00)*

*Schedule is subject to change.*

**Day 1: Monday, July 20<sup>th</sup>** 

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*Transportation to The Jackson Laboratory (See shuttle schedule for full details)*

8:00 – 9:30 AM	General Registration & Breakfast
9:30 – 9:45 AM	<b>Course Announcements &amp; General Housekeeping</b>
9:45 – 10:00 AM	<b>Welcome &amp; Opening Remarks</b> <i>Lon Cardon, Ph.D., The Jackson Laboratory</i>
10:00 – 11:00 AM	<b>History of Human Genetics</b> <i>Dave Valle, M.D., Johns Hopkins University School of Medicine</i>
11:00 – 12:00 PM	<b>Mice as Models for Human Diseases</b> <i>Greg Cox, Ph.D., The University of Maine</i>
12:00 – 1:00 PM	Lunch Break
1:00 – 2:00 PM	<b>Chromosome Regulation and Nuclear Genome Organization</b> <i>Jeanne Lawrence, Ph.D., University of Massachusetts Medical School</i>
2:00 – 3:00 PM	<b>Genetic Recombination &amp; Mutation</b> <i>Beth Dumont, Ph.D., The Jackson Laboratory</i>
3:00 – 4:00 PM	<b>Opportunities and Limits in the 21<sup>st</sup> Century Mouse Model System</b> <i>Steven Munger, Ph.D., The Jackson Laboratory</i>
4:00 – 4:45 PM	<b>Thomas H. Roderick Memorial Lecture Reception</b>
4:45 – 5:00 PM	<b>Introduction &amp; Welcome – Thomas H. Roderick Memorial Lecture</b>
5:00 – 6:30 PM	<b>Thomas H. Roderick Memorial Lecture – The Jackson Laboratory Auditorium</b> <b>Title TBD</b> <i>Patricia Wittkopp, Ph.D., University of Michigan</i>

*Transportation to COA/BH Regency*

## Day 2: Tuesday, July 21<sup>st</sup>

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*Transportation to The Jackson Laboratory*

8:30 – 9:00 AM	Breakfast
9:00 – 10:00 AM	<b>Title TBD</b>
10:00 – 11:00 AM	<b>Title TBD</b>
11:00 – 11:30 AM	Coffee Break
11:30 – 12:30 PM	<b>An Introduction to the Human Pangenome Tools</b> Karen Miga, Ph.D., <i>University of California, Santa Cruz</i>
12:30 – 12:45 PM	Group Photo (Rain Date: Thursday, July 23)
12:45 – 1:30 PM	Lunch Break
1:30 – 2:30 PM	<b>WORKSHOP: gnomAD - Human Genome Variation &amp; its Properties</b> Speaker TBD
2:30 – 3:15 PM	<b>WORKSHOP: OMIM and Other Useful Genetic and Genomic Resources</b> Ada Hamosh, M.D., <i>Johns Hopkins University School of Medicine</i>
3:15 – 4:45 PM	<b>WORKSHOP: The UCSC Genome Browser - Gateway to Genomic Data</b> Robert Kuhn, Ph.D., <i>University of California Santa Cruz (Retired)</i>

*Participants responsible for transportation. Island Explorer is available.*

7:00 – 8:30 PM	<b>Human Genomic Variants</b> – The Stone House at the Bar Harbor Regency Stylianos Antonarakis, M.D., DSc, <i>University of Geneva Medical School</i>
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## Day 3: Wednesday, July 22<sup>nd</sup>

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*Transportation to The Jackson Laboratory*

8:30 – 9:00 AM	Breakfast
9:30 – 10:30 AM	<b>Transcriptional Regulation of Gene Expression</b> Andrew McCallion, Ph.D., <i>Johns Hopkins University School of Medicine</i>
10:00 – 11:00 AM	<b>Machine Learning for Regulatory Genomics: Basics and Pitfalls</b> Michael Beer, Ph.D., <i>Johns Hopkins University</i>
11:00 – 11:30 AM	Coffee Break
11:30 – 12:30 PM	<b>TBD</b>

12:30 – 1:30 PM Lunch

1:30-2:30 **Systems Genetics and the Biology of the Cell**  
Aravinda Chakravarti, Ph.D., *NYU Langone Health*

2:30 – 4:30 PM **WORKSHOP: ClinGen, ClinVar, and other Genomic Curation Databases**  
Heidi Rehm, Ph.D., *Massachusetts General Hospital & The Broad Institute*

*Participants responsible for transportation. Island Explorer is available.*

7:00 – 8:30 PM **Senior Lecture: Title TBD** – Stone House at the Bar Harbor Regency  
Anne Bowcock, Ph.D., *Icahn School of Medicine at Mount Sinai*

## Day 4: Thursday, July 23<sup>rd</sup>

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*Transportation to The Jackson Laboratory*

8:30 – 9:00 AM Breakfast

9:30 – 10:30 AM **The Landscape of Structural Variation and Dosage Sensitivity in the Human Genome**  
Michael Talkowski, Ph.D., *Harvard Medical School, Mass General Hospital*

10:00 – 11:00 AM **Mendelian Disorders of the Epigenetic Machinery: Genetic Disorders with Epigenomics Consequences**  
Jill Fahrner, Ph.D., *Johns Hopkins University School of Medicine*

11:00 – 11:30 AM Coffee Break

11:30 – 12:30 PM **Title TBD**  
Leon Mutesa, M.D. Ph.D. *University of Rwanda*

12:30 – 1:30 PM Lunch

1:30-2:30 **The Power of Ancient and Modern Genomics in Reconstructing Human Population Histories**  
Maanasa Raghavan, Ph.D., *The University of Chicago*

2:30 – 4:15 PM **WORKSHOP: The UCSC Genome Browser - Gateway to Genomic Data**  
Robert Kuhn, Ph.D., *University of California Santa Cruz (Retired)*

4:15 – 6:00 PM Poster Session

*Transportation to COA/BH Regency*

7:00 – 8:30 PM **Title TBD**  
Olga Troyanskaya, Ph.D., *Princeton University*

## Day 5: Friday, July 24<sup>th</sup>

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*Transportation to The Jackson Laboratory*

8:30 – 9:00 AM	Breakfast
9:30 – 10:30 AM	<b>TBD</b>
10:00 – 11:00 AM	<b>Cancer Biology Exposed Through Large-Scale Sequencing</b> Victor Velculescu, M.D., Ph.D., <i>Johns Hopkins University School of Medicine</i>
11:00 – 11:30 AM	Coffee Break
11:30 – 12:30 PM	<b>Heterogeneity &amp; Evolutionary Trajectory of Breast Cancer</b> Olufunmilayo Olopade, M.D., FACP, <i>UChicago Medicine</i>
12:30 – 1:30 PM	Lunch
1:30-2:30	<b>TBD</b>
2:30 – 4:30 PM	<b>WORKSHOP: RNA Sequencing</b> Steven Munger, Ph.D., <i>The Jackson Laboratory</i>
4:15 – 4:30 PM	<b>Introduction and Welcome to Chen K. Chai Memorial Lecture</b>
4:30 – 6:00 PM	<b>Chen K. Chai Memorial Lecture – The Jackson Laboratory Auditorium</b> <b>Title TBD</b> John Mattick, Ph.D., <i>University of New South Wales Sydney</i>

## Saturday, July 25<sup>th</sup> & Sunday, July 26<sup>th</sup>

*No Scheduled Course Activities*

## Day 6: Monday, July 27<sup>th</sup>

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*Transportation to The Jackson Laboratory*

8:30 – 9:00 AM	Breakfast
9:30 – 10:30 AM	<b>Human Evolution and Adaptation in Africa</b> Sarah Tishkoff, Ph.D., <i>University of Pennsylvania, Perelman School of Medicine</i>
10:00 – 11:00 AM	<b>Harnessing African Genomes to Enhance Health Globally</b> Ambroise Wonkam, M.D., Ph.D., <i>Johns Hopkins University</i>
11:00 – 11:30 AM	Coffee Break
11:30 – 12:30 PM	<b>Uncovering New Regions of the Human Genome using Long-Read Sequencing</b> Solomon Ofori-acquah, Ph.D., <i>Emory School of Medicine</i>

12:30 – 1:30 PM Lunch

1:30-2:30 TBD

2:30 – 4:30 PM **WORKSHOP: Exome and Genome Analysis Workshop**  
Nara Sobreira, M.D., Ph.D., *Johns Hopkins University*

*Participants responsible for transportation. Island Explorer is available.*

7:00 – 8:30 PM **Genetics and Genomics of Oxygen Homeostasis** – The Stone House at the Bar Harbor Regency  
Gregg Semenza, M.D., Ph.D., *Johns Hopkins University School of Medicine*

## Day 7: Tuesday, July 28<sup>th</sup>

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*Transportation to The Jackson Laboratory*

8:30 – 9:00 AM Breakfast

9:30 – 10:30 AM **Genomics Surveillance and Characterization of Microbial Threats Facilitates Early Detection and Containment of Disease Outbreaks in West Africa**  
Christian Happi, Ph.D., *Redeemer's University*

10:00 – 11:00 AM **Genetics of Infectious Diseases: Where the Rubber Hits the Road of Life**  
Steven Holland, M.D., *National Institute of Allergy & Infectious Diseases, NIH*

11:00 – 11:30 AM Coffee Break

11:30 – 12:30 PM TBD

12:30 – 1:30 PM **Title TBD**  
Cathleen Lutz, Ph.D., M.B.A., *The Jackson Laboratory*

1:30-2:30 Lunch

2:30 – 3:00 PM **What Happens in a Human Genetics Clinic**  
Ada Hamosh, Ph.D., *Johns Hopkins*

3:00 – 4:30 PM **Human Genetics Clinic Presentations**

*Participants responsible for transportation. Island Explorer is available.*

7:00 – 8:30 PM **Victor A. McKusick Memorial Lecture** – Stone House at the Bar Harbor Regency  
**Genomic Newborn Screening**  
Wendy Chung, M.D., Ph.D., *Boston Children's Hospital*

## Day 8: Wednesday, July 29<sup>th</sup>

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### *Transportation to The Jackson Laboratory*

8:30 – 9:00 AM	Breakfast
9:30 – 10:30 AM	<b>Prenatal Screening Diagnosis &amp; Therapy</b> Ignatia Van den Veyver, M.D., <i>Baylor College of Medicine</i>
10:00 – 11:00 AM	<b>Title TBD</b> Rajiv McCoy, Ph.D., <i>Johns Hopkins University</i>
11:00 – 11:30 AM	Coffee Break
11:30 – 12:30 PM	<b>Title TBD</b> Robert Burgess, Ph.D., <i>The Jackson Laboratory</i>
12:30 – 1:30 PM	Lunch
1:30-2:30	<b>Ethics and Policy Issues Raised by Genetics and Genomics</b> Debra Mathews, Ph.D., M.A., <i>Johns Hopkins University</i>
2:30 – 4:30 PM	<b>WORKSHOP: Mouse Genome Informatics</b> Carol Bult, Ph.D., <i>The Jackson Laboratory</i>

*Participants responsible for transportation. Island Explorer is available.*

7:00 – 8:30 PM	<b>ELSI Case Studies</b> – Stone House at the Bar Harbor Regency John A. Phillips, III., M.D., <i>Vanderbilt University School of Medicine</i> Ada Hamosh, M.D., <i>Johns Hopkins University School of Medicine</i> Debra Mathews, Ph.D., M.A., <i>Johns Hopkins University</i> Louise Wilkins-Haug, M.D., Ph.D., <i>Brigham and Women’s Hospital</i>
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## Day 9: Thursday, July 30<sup>th</sup>

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### *Transportation to The Jackson Laboratory*

8:30 – 9:00 AM	Breakfast
9:30 – 10:30 AM	<b>Inborn Errors of Metabolism</b> Hilary Vernon, M.D., Ph.D., <i>Johns Hopkins University School of Medicine</i>
10:00 – 11:00 AM	<b>Metabolomics and Human Disease Phenotypes</b> Ralph DeBerardinis, M.D., Ph.D., <i>University of Texas, Southwestern</i>
11:00 – 11:30 AM	Coffee Break
11:30 – 12:30 PM	<b>Pharmacogenomics to Pharmaco-omics</b> Liewei Wang, M.D., Ph.D., <i>Mayo Clinic</i>
12:30 – 1:30 PM	Lunch

1:30-2:30 TBD

2:30 – 4:30 PM **Skippy Lane Memorial Mouse Clinic – Tentative**

*Participants responsible for transportation. Island Explorer is available.*

7:00 – 8:30 PM **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 31<sup>st</sup>

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*Transportation to The Jackson Laboratory*

7:30 – 8:30 AM Breakfast

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 Coffee 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**

1:15 – 1:45 PM Lunch

*Participants responsible for transportation. Island Explorer is available*