30th Annual Short Course on Experimental Models of Human Cancer

Virtual Event
August 16 - 27, 2021

Registered Attendees will receive access to our virtual event portal (Canvas LMS) approximately two weeks in advance of the course. All on-demand content will be available in Canvas on Monday, August 9. The course is divided into 10 modules and consists of pre-recorded lectures (approximately 60 minutes in length) and live panel discussions, workshops, faculty Q&A, short talks, and poster presentations. Live sessions are presented via Zoom Webinar and will be recorded and posted to the Canvas portal for on-demand access within 48 hours. Course content will remain accessible to attendees until October 31, 2021. All times are shown in U.S. Eastern Daylight Time.

Schedule of Activities

Monday, August 16

Live Sessions

11:00 am – 1:00 pm  Centers of The Cancer Universe: A Half Century of Progress in Cancer Research
Eric T. Rosenthal, EvocaTalk Research & Reports
Donald “Skip” Trump, M.D., Inova Schar Cancer Institute

2:00 pm – 3:00 pm  Lecture Title TBA
David Lyden, M.D., Ph.D., Cornell University

Recommended On-Demand Content
Speakers are featured in the following live session

Keynote Lecture: Dynamic Interactions of Cells in Tumor Microenvironments Regulate Cancer Progression and Response to Therapy | Lisa Coussens, Ph.D., Oregon Health & Science University

Exploiting Metabolic Stress in Cancer Treatments
Tak Mak, Ph.D., Princess Margaret Cancer Centre at University Health Network

The Mechanistic Basis of Cancer Immunotherapy
Ira Mellman, Ph.D., Genentech

Resident Macrophages in Models of Peritoneal Metastatic Disease
Gwendalyn Randolph, Ph.D., Washington University School of Medicine in St. Louis

Schedule is subject to change
Tuesday, August 17

**Live Sessions**

11:00 am – 12:00 pm  **Panel Discussion: Current Key Questions in Cancer Biology and Therapy**  
Presented By: Lisa Coussens, Tak Mak, Ira Mellman, Gwendalyn Randolph  
Moderated By: Francesca Menghi, Ph.D., The Jackson Laboratory

12:00 pm – 1:00 pm  **Faculty Q&A**

2:00 pm – 3:00 pm  **Advanced Dynamic and Static Optical Imaging Methods for Exploration of Tumor-Immune System Interactions**  
Ronald Germain, M.D., Ph.D., National Institutes of Health

**Recommended On-Demand Content**  
Speakers are featured in the following live session

**Keynote Lecture: Unexpected Functions of BRCA1**  
David Livingston, M.D., Harvard Medical School

**APOBEC Mutagenesis in Tumor Progression**  
James Alvarez, Ph.D., Duke Cancer Institute

**Lecture Title TBA**  
Cyrus Ghajari, Ph.D., Fred Hutchinson Cancer Research Center

**Mechanisms of Brain Metastasis**  
Eva Hernando-Monge, Ph.D., NYU Langone Health

**Introduction to Cancer**  
Edison T. Liu, M.D., The Jackson Laboratory

**Stem Cell Signals in the Origin, Progression and Therapy Resistance of Cancers**  
Tannishtha Reya, Ph.D., University of California San Diego

**Biology of Minimal Residual Disease**  
M. Soledad Sosa, Ph.D., Icahn School of Medicine at Mount Sinai

Schedule is subject to change
Wednesday, August 18

Live Sessions

11:00 am – 12:00 pm  Panel Discussion: Mechanisms of Metastatic Disease  
Presented by: David Livingston, James Alvarez, Cyrus Ghajar, Eva Hernando-Monge, Tannishtha Reya, Soledad Sosa  
Moderated By: Francesca Menghi and Soledad Sosa

12:00 pm – 1:00 pm  Faculty Q&A

2:00 pm – 4:00 pm  Single Cell RNA Seq  
Paul Robson, Ph.D., The Jackson Laboratory

Recommended On-Demand Content  
Speakers are featured in the following live session

Innate Lymphoid Cells in Biology  
Marco Colonna, Ph.D., Washington University in St. Louis

Tools for T Cells: Infection and Cancer  
Mark Davis, Ph.D., Stanford Medicine

Dendritic Cells, Related Cells and Initiation of Adaptive Immunity  
Stephanie Eisenbarth, M.D., Ph.D., Yale School of Medicine

Lecture Title TBA  
Dmitry Gabrilovich, M.D., Ph.D., The Wistar Institute

How Vaccine Regimens, Adjuvants, and Immunogen Design Impact Antigen Fate in Lymph Nodes  
Darrell Irvine, Ph.D., Massachusetts Institute of Technology

Innate Immunity, Inflammation and Cancer: Double Edged Swords  
Alberto Mantovani, M.D., Humantias

Autoimmunity and Cancer Immunology: Informing Each Other Through Patient-Oriented Studies  
Virginia Pascual, M.D., Weill Cornell Medicine

Schedule is subject to change
Thursday, August 19

**Live Sessions**

11:00 am – 12:00 pm  **Panel Discussion: Inflammation**  
Presented By: Marco Colonna, Mark Davis, Stephanie Eisenbarth, Dmitry Gabrilovich, Darrell Irvine, Alberto Mantovani, Virginia Pascual

Moderated By: Djamel Nehar-Belaid, Ph.D., The Jackson Laboratory

12:00 pm – 1:00 pm  **Faculty Q&A**

2:00 pm – 4:00 pm  **Short Talks**  
Presented By: JAX Pre- and Post-doctoral Fellows

**Recommended On-Demand Content**  
Speakers are featured in the following live session

- **Molecular Biomarkers of Response and Resistance to Checkpoint Blockade in Clinical Settings**  
  Romain Banchereau, Ph.D., Genentech

- **Normalizing the Tumor Microenvironment to Improve Cancer Immunotherapy: Bench to Bedside**  
  Rakesh Jain, Ph.D., Harvard Medical School and Massachusetts General Hospital

- **How Does the Gut Microbiota Influence Host Immune Functions?**  
  Dan R. Littman, M.D., Ph.D., NYU Langone Health

- **The Immunobiology of the Ovarian Tumor Microenvironment**  
  Pamela Ohashi, Ph.D., F.R.S.C., Princess Margaret Cancer Centre

- **Case Studies in Oncology Translational Drug Development**  
  Elaine Pinheiro, Ph.D., Merck

- **Role of Cancer Neoantigens in Naturally-Occurring and Therapeutically-Induced Immune Responses to Cancer**  
  Robert Schreiber, Ph.D., Washington University in St. Louis

- **Clinical Cancer Immunotherapy: An Introduction**  
  Mario Sznol, M.D., Yale School of Medicine

Schedule is subject to change
Friday, August 20

**Live Sessions**

11:00 am – 12:00 pm  **Panel Discussion: Next Generation Immunotherapies**
Presented By: Romain Banchereau, Rakesh Jain, Dan Littman, Pamela Ohashi, Elaine Pinheiro, Robert Schreiber, Mario Sznol

Moderated By: Anczków Lab

12:00 pm – 1:00 pm  **Faculty Q&A**

2:00 pm – 4:00 pm  **JAX Associates Short Talks**
Francesca Menghi, Ph.D., Djamel Nehar-Belaid, Ph.D., Santhosh Sivajothi, Ph.D., Jan Martinek, Ph.D., Julie Wells, Ph.D., and Chun Yu, Ph.D.

**Recommended On-Demand Content**
Speakers are featured in the following live session

**Alternative RNA Splicing Defects in Cancer: Molecular and Therapeutic Insights From Model Systems**
Olga Anczków, Ph.D., The Jackson Laboratory

**RNA Isoforms in Cancer Diagnosis and Therapy**
Jacques Banchereau, Ph.D., The Jackson Laboratory

**RNA Splicing in Tumorigenesis**
Robert Bradley, Ph.D., Fred Hutchinson Cancer Research Center

**Biogenesis and Function of Circular RNA in Development and Disease**
Jørgen Kjems, Ph.D., Aarhus University

**Fundamentals of Genomics and Immunogenomics**
Elaine Mardis, Ph.D., The Rasmussen Institute for Genomic Medicine, Nationwide Children’s Hospital

**mRNA - Beyond the Genetic Code**
Christine Mayr, Ph.D., Memorial Sloan Kettering Cancer Center

**Opposing Roles of Interferon and Pattern Recognition Receptor Signaling in Cancer and Cancer Immunology**
Andy Minn, M.D., Ph.D., UPenn Perelman School of Medicine

**Long Non-Coding RNA in the Immune System**
Adam Williams, Ph.D., The Jackson Laboratory

Schedule is subject to change
### Monday, August 23

#### Live Sessions

<table>
<thead>
<tr>
<th>Time</th>
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| 11:00 am – 12:00 pm | Panel Discussion: Harnessing Transcriptome for Therapy  
Presented By: Olga Anczuków, Jacques Banchereau, Robert Bradley, Jørgen Kjems, Elaine Mardis, Christine Mayr, Andy Minn, Adam Williams  
Moderated By: Sheng Li, Ph.D., & Christine Beck, Ph.D., The Jackson Laboratory |
| 12:00 pm – 1:00 pm  | Faculty Q&A                                                                                     |
| 2:00 pm – 3:00 pm  | Ethics in Cancer Research  
Jens Rueter, M.D., Maine Cancer Genomics Initiative, The Jackson Laboratory |
| 3:00 pm – 3:30 pm  | Grantwriting for Impact  
Anna Lisa Lucido, Ph.D., P.M.P., The Jackson Laboratory |
| 3:30 pm – 4:00 pm  | Writing, Improving and Publishing Your Manuscript: Tips for Early Career Scientists  
Ilrio Taneli Helenius, M.S., Ph.D., The Jackson Laboratory |

#### Recommended On-Demand Content
Speakers are featured in the following live session

- **Repeats and Genomic Instability: From Retrotransposition to Recombination**  
  Christine Beck, Ph.D., The Jackson Laboratory
- **Chromosome Instability and Cancer**  
  Lilian Kabeche, Ph.D., Yale School of Medicine
- **Lecture Title TBA**  
  Cigall Kadoch, Ph.D., Broad Institute of MIT and Harvard
- **Epigenetic Evolution and Heterogeneity in Acute Myeloid Leukemia**  
  Sheng Li, Ph.D., The Jackson Laboratory
- **Lecture Title TBA**  
  Ralph Scully, M.B.B.S., Ph.D., Harvard Medical School
- **The Role of Extrachromosomal DNA in Cancer**  
  Roel Verhaak, Ph.D., The Jackson Laboratory
- **Relating Patterns of Chromosomal Aberrations in Cancers to Mechanisms of Genome Instability from In Vitro Experiments**  
  Cheng-Zhong Zhang, Ph.D., Dana-Farber Cancer Institute

Schedule is subject to change
Tuesday, August 24

**Live Sessions**

11:00 am – 12:00 pm  **Panel Discussion: Genomics of Cancer**  
Presented By: Christine Beck, Lilian Kabache, Cigall Kadoch, Sheng Li, Ralph Scully, Roel Verhaak, Cheng-Zhong Zang  
Moderated By: Ucar Lab

12:00 pm – 1:00 pm  **Faculty Q&A**

2:00 pm – 4:00 pm  **Workshop: cBio Portal for Cancer Genomics**  
Carol Bult, Ph.D., The Jackson Laboratory

**Recommended On-Demand Content**  
Speakers are featured in the following live session

**Keynote Lecture: Normal and Neoplastic Stem Cells**  
Irving Weissman, PhD., Stanford University

**Somatic Mutations in Normal Epithelia**  
Phil Jones, Ph.D., Wellcome Sanger Institute

**Age-Related Changes in the Tumor Microenvironment Drive Tumorigenesis**  
Sheila Stewart, Ph.D., Washington University in St. Louis

**Microenvironmental Regulation of Myeloid Malignancies**  
Jennifer Trowbridge, Ph.D., The Jackson Laboratory

**Sexual Dimorphism in Immune System Aging**  
Duygu Ucar, Ph.D., The Jackson Laboratory

Schedule is subject to change
Wednesday, August 25

Live Sessions

11:00 am – 12:00 pm  Panel Discussion: Aging and Cancer  
Presented By: Phil Jones, Sheila Stewart, Jennifer Trowbridge, Duygu Ucar, and Irving Weissman

Moderated By: Duygu Ucar and Jennifer Trowbridge

12:00 pm – 1:00 pm  Faculty Q&A

2:00 pm – 3:00 pm  Data Analysis & Resources for Patient-Derived Cancer Models
Jeff Chuang, Ph.D., The Jackson Laboratory

Recommended On-Demand Content
Speakers are featured in the following live session

Keynote Lecture: Immunity and Metabolism in Control of Liver and Pancreatic Cancer Growth
Michael Karin, Ph.D., University of California, San Diego

Modeling Anti-Cancer Immune Responses in Mice
Marcus Bosenberg, M.D. Ph.D., Yale School of Medicine

Modeling the Impact of the TME on Tumor Immunity and Response to Immunotherapy
David DeNardo, Ph.D., Washington University in St. Louis

Imaging and World Beyond Checkpoint: Archetypes of Immunity Across Cancer
Matthew Krummel, Ph.D., University of California, San Francisco

Lymphatic Transport, Metastasis, and Anti-Tumor Immunity
Amanda Lund, Ph.D., NYU Langone Health

Unraveling the Complexity of Drug Resistance in Lung Cancer
Katerina Politi, Ph.D., Yale School of Medicine

Schedule is subject to change
Thursday, August 26

**Live Sessions**

11:00 am – 12:00 pm  **Panel Discussion: In Vivo Cancer Models**
   Presented By: Michael Karin, Marcus Bosenberg, David DeNardo, Matthew Krummel, Amanda Lund, Katerina Politi
   Moderated By: Gary Ren and David DeNardo

12:00 pm – 1:00 pm  **Faculty Q&A**

2:00 pm – 4:00 pm  **Poster Session**
   Presented By: Course Attendees (by submission)

**Recommended On-Demand Content**
Speakers are featured in the following live session

- **Zebrafish Models of Human Cancer: Dissection of Cancer Cell Dependencies Using Genetic and Chemical Approaches**
  A. Thomas Look, M.D., Harvard Medical School, Dana-Farber Cancer Institute

- **Stromal Cell-Immune Cell Interactions in Mouse Models of Cancer**
  Gary Ren, Ph.D., The Jackson Laboratory

- **Human Pancreatic Cancer Insights from Model Systems**
  David Tuveson, M.D., Ph.D., Cold Spring Harbor Laboratory

- **Modeling Oral Cancer: Genomic Landscape and Tumor Ecosystem**
  Fiona Watt, Ph.D., King’s College London

- **Patient-Derived Models for Functional Precision Oncology in Advanced Breast Cancer**
  Alana Welm, Ph.D., University of Utah, Huntsman Cancer Institute

Schedule is subject to change
**Friday, August 27**

**Live Sessions**

11:00 am – 12:00 pm  **Panel Discussion: Cancer Models**
Presented By: A. Thomas Look, Gary Ren, David Tuveson, Fiona Watt, Alana Welm

Moderated By: Alana Welm and Lucas Chang

12:00 pm – 1:00 pm  **Faculty Q&A**

2:00 pm – 3:00 pm  **Panel Discussion: Computational Science**
Presented By: Andrea Califano, Joe Gray, Casey Greene, Guo-Cheng Yuan, David Van Valen, Yinyin Yuan, Jeffrey Chuang

3:00 pm – 4:00 pm  **Closing Discussion**
Presented By: Karolina Palucka, Jacques Banchereau, Marco Colonna, Darrell Irvine, Alberto Mantovani, Mario Sznol, Arne Akbar, Elaine Mardis, Pam Ohashi, Dmitry Gabrilovich, Joe Gray, Marcus Bosenberg, Ira Mellman, Soledad Sosa, Michael Karin, Dan Littman, Robert Schreiber, Elaine Pinheiro, Mark Davis, Lisa Coussens, Tak Mak

**Recommended On-Demand Content**

**Lecture Title TBA**
Andrea Califano, Ph.D., Columbia University

**Classifying Cancers from Images and Sequence Data**
Jeff Chuang, Ph.D., The Jackson Laboratory

**Lecture Title TBA**
Joe Gray, Ph.D., Oregon Health and Science University

**Untangling the -omic Consequences of Somatic Variants with Machine Learning**
Casey Greene, Ph.D., University of Colorado School of Medicine

**Single-Cell Biology in a Software 2.0 World**
David Van Valen, Ph.D., California Institute of Technology

**Spatial Transcriptomic Analysis**
Guo-Cheng Yuan, Ph.D., Icahn School of Medicine at Mount Sinai

**Lecture Title TBA**
Yinyin Yuan, Ph.D., The Institute of Cancer Research

Schedule is subject to change
## Faculty Office Hours

Course faculty are available during select blocks for one-on-one interaction with participants. These meetings offer informal and open-ended. Participants may bring questions related to speakers’ lectures, cancer genomics in general, networking or career development. Participants are required to sign up in advance for office hours. More information will be made available in the event portal.

### Week 1

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<thead>
<tr>
<th>Date</th>
<th>10:00 am - 11:00 am</th>
<th>11:00 am - 12:00 pm</th>
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<tr>
<td>August 16</td>
<td></td>
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<td>Matthew Krummel</td>
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<td>August 17</td>
<td>Tak Mak</td>
<td>Eric Rosenthal</td>
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<td>Soledad Sosa</td>
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<td>Mario Sznol</td>
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### Week 2

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<tr>
<td>August 23</td>
<td></td>
<td>Robert Bradley</td>
<td>Christine Mayr</td>
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<td>August 24</td>
<td>Jennifer Trowbridge</td>
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<td>August 25</td>
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<td>Edison Liu</td>
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<td>Irving Weissman</td>
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<td>Alana Welm</td>
<td>Lilian Kabeche</td>
<td>David DeNardo</td>
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<td>Katerina Politi</td>
<td>Amanda Lund</td>
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<td>August 27</td>
<td>Pamela Ohashi</td>
<td>Tom Look</td>
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Schedule is subject to change.
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