



25th ANNUAL SHORT COURSE ON EXPERIMENTAL MODELS OF HUMAN CANCER
August 20-28, 2016

Course Organizers:

Neal Copeland, Ph.D., The Houston Methodist Research Institute
Nancy Jenkins, Ph.D., The Houston Methodist Research Institute
Barbara Knowles, Ph.D., The Jackson Laboratory *Emeritus*
Raju Kucherlapati, Ph.D., Harvard Medical School
Karolina Palucka, M.D., Ph.D., The Jackson Laboratory

For more information please contact Laura Ingerson, laura.ingerson@jax.org

Draft Schedule - subject to change

Saturday, August 20

2:00pm Arrival at Highseas anytime after 2:00 PM

Location – Highseas

4:30 **Welcome and Student Introductions**
Barbara Knowles, Ph.D., The Jackson Laboratory - *Emeritus*

5:30 **Reception - Highseas Lobby**

6:00 **Dinner – Highseas Dining Room**

Location: Highseas 3rd floor conference room

7:00 **Stem Cells and Cancer**
Irving L. Weissman, M.D., Stanford University School of Medicine

Sunday, August 21

7:00am Breakfast - Highseas

Location: Highseas 3rd floor conference room

Fundamentals

8:20am **Review Course Evaluation Instructions**

8:30 **Mouse Genetics**
Nancy Jenkins, Ph.D., The Methodist Hospital Research Institute

- 9:30 Humanized Mouse Models for Cancer Research**
Leonard D. Shultz, Ph.D., The Jackson Laboratory
- 10:30 Break**
- 11:00 Harnessing transposons for cancer gene discovery**
Neal G. Copeland, Ph.D., The Houston Methodist Research Institute
- 12:00pm Lunch**
Discussion with day's Faculty

Stem Cells and Epigenetics / Genetics

- 1:30 Cloning, imprinting and genomic reprogramming: the path to stem cells**
Davor Solter, M.D., Ph.D., Max Planck Institute for Immunology and Epigenetics (*Emeritus Director*)
- 2:30 Pluripotency, stem cells and epigenetic reprogramming**
Rudolf Jaenisch, M.D., Whitehead Institute
- 3:30 Tumor Cell-of-Origin in Development of Acute Myeloid Leukemia**
Jennifer Trowbridge, Ph.D., The Jackson Laboratory
- 4:30 Free Time**
- 6:00 Dinner – Highseas Dining Room**

Location: Highseas 3rd floor conference room

- 7:00pm Bioethics**
Davor Solter, M.D., Ph.D., Max Planck Institute for Immunology and Epigenetics (*Emeritus Director*)

Monday, August 22

- 6:30 Breakfast – Highseas**

7:30 – 7:45am Van Transportation to GRB Training Lab & the LCC Auditorium

Location: The Jackson Laboratory LCC Auditorium

Background Sessions

- 8:00 – 9:00 Pathology and Histopathology of Normal and Neoplastic Tissue: An Overview**
Rosalinda Doty, DVM, DACVP, PhD, The Jackson Laboratory

<u>Group A</u>	<u>Group B</u>
<u>Location: Main Lab - GRB Training Lab</u> 9 – 12:00 Workshop: Pathology, Tissue Trimming, and Necropsy The Jackson Laboratory	<u>Location – Main Lab Auditorium</u> 9 –11 Bioinformatics and Data Bases <u>Guru Ananda, Ph.D.</u> , The Jackson Laboratory 11:15 -12:00 The Jackson Laboratory facts and tour

12:00 - 1

Lunch- Roscoes

<u>Group A</u>	<u>Group B</u>
<u>Location – Main Laboratory Auditorium</u>	<u>Location: Main Lab - GRB Training Lab</u>
1:00-3:00 Bioinformatics and Data Bases <u>Guru Ananda, Ph.D., The Jackson Laboratory</u>	1:00 – 4:00 Workshop: Pathology, Tissue Trimming, and Necropsy The Jackson Laboratory
3:15 – 4:00 Jackson Laboratory facts and tour <u>Barbara Knowles, Ph.D., The Jackson Laboratory</u>	

4:00 **KOMP**
Steve Murray, Ph.D., The Jackson Laboratory

5:15 *Van Transportation to Highseas*

6:00 **Dinner - Highseas Dining Room**

Tuesday, August 23

6:30 – 7:30am Breakfast - Highseas

7:30 - 8:15am *Van Transportation to the LCC Auditorium*

Location: The Jackson Laboratory LCC Auditorium

Hereditary Acquired Cancer

8:30 AM **Micro RNAs and Cancer**
Carlo M. Croce, M.D., Ohio State University

9:30 **The evolution of inherited p53 tumors in humans and mice**
Arnold Levine, Ph.D., Rutgers Cancer Institute of New Jersey

10:30 **Break**

11:00 **Viruses and Cancer**
Peter Howley, M.D., Harvard Medical School

12:00 PM **Lunch - Served in Roscoe's**
Discussion with day's Faculty – Staff Conference

1:00 **PDX & Bioinformatics**
Carol Bult, Ph.D., The Jackson Laboratory

2:00 **Break**

Group A	Group B
2:30 – Cancer Genomic Data analysis <u>Joel Graber, Ph.D.</u> , The Jackson Laboratory	2:30 – Xenografting <u>Bonnie Lyons, DVM.</u> , The Jackson Laboratory Location: GRB training Lab
4:30 – Xenografting <u>Bonnie Lyons, DVM.</u> , The Jackson Laboratory Location: GRB training Lab	4:30 – Cancer Genomic Data analysis <u>Joel Graber, Ph.D.</u> , The Jackson Laboratory

6:30 *Van Transportation to Highseas*

7:00 **Dinner – Highseas Dining Room**

Wednesday, August 24

6:30 – 7:30am Breakfast - Highseas

7:30 - 8:15am *Van Transportation to the LCC Auditorium*

Location: The Jackson Laboratory LCC Auditorium

Modeling Cancer and Therapies

8:30 **Modeling Human Cancers in the Mouse**
Mario R. Capecchi, Ph.D., University of Utah School of Medicine

9:30 **Break**

10:00 **Zebrafish Models to Dissect Human Cancer Pathways**
A. Thomas Look, M.D., Dana Farber Cancer Institute

11:00 **Cancer Immunotherapies**
Karolina Palucka, M.D., Ph.D., The Jackson Laboratory

12:00 PM **Lunch - Served in Roscoe's**
Discussion with day's Faculty – Staff Conference Room

1:00 **Biomedical Careers Discussion Panel with Faculty**
Moderator: Raju Kucherlapati, Ph.D., Harvard Medical School

Poster Session Reception and refreshments - LCC Lobby

3:15 Poster Session

3:30 Timed presentations (each students give a 2 minute speed presentation about their poster)

4:00 Reception

5:30 *Van Transportation to Highseas*

6:00 **Lobster Dinner – Highseas Dining Room**

Thursday, August 25

6:30 – 7:30am Breakfast Highseas

7:30 - 8:15am Van Transportation to the LCC Auditorium

Location: The Jackson Laboratory LCC Auditorium

Discovery Approaches

- 8:30 Sequencing the cancer genome**
Elaine R. Mardis, Ph.D., The Genome Institute Washington University St. Louis
- 9:30 Single Cell Sequencing in Breast Cancer**
Nick Navin, Ph.D., MD Anderson Cancer Center
- 10:30 Break**
- 11:00 Proteomic approaches to identifying new cancer markers**
Sam Hanash, M.D., Ph.D., MD Anderson Cancer Center
- 12:00 PM Lunch - Served in Roscoe's**
Discussion with day's Faculty – Roscoe's Private dining room
- 1:00 CRISPR/Cas9**
Michael Wiles, Ph.D. The Jackson Laboratory

Group A	Group B
2:00 – CRISPR / Cas Discussion <u>Michael Wiles, Ph.D., Peter Kutny, B.S., and Ben Low, B.S.,</u> The Jackson Laboratory Location: GRB 3225	2:00 – Single Cell Sequencing <u>Paul Robson, Ph.D.,</u> The Jackson Laboratory <u>Nick Navin, Ph.D.,</u> MD Anderson Cancer Center Location: GRB training Lab
4:00 – Single Cell Sequencing <u>Paul Robson, Ph.D.,</u> The Jackson Laboratory <u>Nick Navin, Ph.D.,</u> MD Anderson Cancer Center Location: GRB Training Lab	4:00 – CRISPR / Cas Discussion <u>Michael Wiles, Ph.D., Peter Kutny, B.S., and Ben Low, B.S.,</u> The Jackson Laboratory Location: GRB 3225

6:00 Van Transportation to Highseas

6:30 Dinner – Highseas Dining Room

Friday, August 26

6:30 – 7:30am Breakfast - Highseas

7:30 - 8:15am Van Transportation to the LCC Auditorium

Location: The Jackson Laboratory LCC Auditorium

Cancer Pathway Therapeutics

- 8:30** **Targeting the Hedgehog pathway in cancer: From Bench to Clinic**
Frederic de Sauvage, Ph.D., Genentech
- 9:30** **Targeted therapies in Lung Cancer**
Bruce Evans Johnson, M.D., Dana-Farber / Harvard Cancer Center
- 10:30** **Break**
- 11:00** **Pancreatic cancer treatment strategies**
David Tuveson, M.D. Ph.D., Cold Spring Harbor Laboratory
- 12:00 PM** **Lunch** - Served in Roscoe's
Discussion with day's Faculty – Staff Conference Room
- 1:30** **Mouse Models of Colon Cancer**
Raju Kucherlapati, Ph.D., Harvard Medical School
- 2:30** **Epigenetic modulators modifiers and mediators in cancer aetiology and progression**
Andy Feinberg, M.D., MPH, Johns Hopkins
- 3:30** **Break**
- 4:00** **The p53 Tumor Suppressor Pathway**
Gigi Lozano, PhD., MD Anderson Cancer Center
- 5:00pm** *Van Transportation to Highseas*

Dinner – on your own

Saturday, August 27

7:00 – 8:00am Breakfast – Highseas

Location: Highseas 3rd floor conference room

Cancer Cells and Environments

- 9:00** **Tumor Angiogenesis and Microenvironment**
Rakesh Jain, Ph.D., Massachusetts General Hospital
- 10:00** **Break**
- 10:30** **Synthetic Lethal Therapy**
Kevin Mills, Ph.D., The Jackson Laboratory
- 11:30PM** **Lunch with faculty at HighSeas**

Location: Highseas 3rd floor conference room

Course Wrap up

- 12:30** **Cancer Metabolism – Methods and Applications**
Tak Mak, Ph.D., The Campbell Family Institute for Breast Cancer Research
Senior Scientist, Princess Margaret Cancer Centre
- 2:30** *End of the course*