Landry Cancer Biology Consortium

Fall Symposium 2019

Understanding How Cancer Hijacks Developmental Processes

October 29, 2019

12:30-6:00pm

NRB 350

About the Landry Cancer Biology Consortium

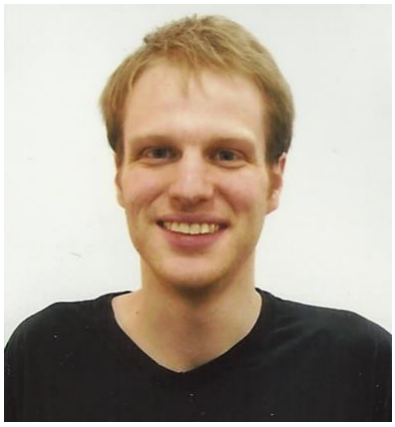
The Landry Cancer Biology Consortium provides a unique and essential service to the cancer biology community at Harvard: it brings this community together to realize its full potential.

Harvard University is home to 14 life sciences PhD programs—but no one gets a PhD in cancer. To drive new advances in multidisciplinary cancer research, and to introduce students at all levels to research and training opportunities across Harvard, the Landry Cancer Biology Consortium creates new courses, scientific events, and co-curricular activities, all designed to bring students and faculty together to share recent developments, address current challenges, and promote synergy in cancer research and treatment. In addition, through the Landry Cancer Biology Research Fellowship—a premier fellowship awarded to five exceptional PhD students each year—this program supports emerging leaders within the growing network of cancer biology researchers across Harvard.

This program is made possible by the generous support of the late C. Kevin Landry ’66 and his family, colleagues, and friends. This gift represents a transformative investment in some of the best and brightest young minds in cancer biology.

Student Speakers

Evan O'Loughlin



Evan O'Loughlin earned his B.A. in Biology at Wesleyan University in Middletown, CT. He then worked as a research assistant in the lab of Dr. Rui Yi at the University of Colorado-Boulder, studying microRNA-mediated regulation of skin development and cancer. He is currently a PhD candidate in the Biological and Biomedical Sciences program at Harvard Medical School, in the lab of Dr. Andrea McClatchey at MGH. His research focuses on studying the morphogenesis and tumorigenesis of the bile ducts of the liver using both mouse and 3D culture models.

Antonella Dost

Antonella Dost earned her B.Sc. and her M.Sc. in Medical Biology at the University of Duisburg-Essen in Germany. For her Master Thesis she studied signaling pathways in skin cancer in Dr. Fernando Camargo's lab at Boston Children's Hospital (BCH). She is currently a PhD student in Dr. Carla Kim's lab at BCH. Her research focuses on developing a tumor organoid system to model lung cancer in vitro. She uses this system to study changes that occur in epithelial cells upon oncogene activation, and to elucidate the role of the tumor stroma in tumor progression.

David E. Fisher, MD, PhD

David E. Fisher, MD, PhD, is chief of the Massachusetts General Hospital Department of Dermatology. He also serves as director of Mass General's Cutaneous Biology Research Center, director of the Melanoma Center and as Chair of the MGH Executive Committee on Research. A professor of dermatology and of pediatrics at Harvard Medical School, Dr. Fisher came to Mass General from the Dana-Farber Cancer Institute, where he previously directed the melanoma program. Dr. Fisher's research has focused on understanding the molecular and genetic events which underlie formation of melanoma as well as skin pigmentation. As a clinician, he has worked to translate these understandings into advances in diagnosis, treatment and prevention of human diseases related to the skin and associated disorders.

A graduate of Swarthmore College with a degree in biology and chemistry, Dr. Fisher is also an accomplished concert cellist and graduated from the Curtis Institute of Music in Philadelphia. He received his doctorate under Nobel Laureate Gunter Blobel and Henry Kunkel at Rockefeller University and his medical degree at Cornell University Medical College. Dr. Fisher's specialty training in Medicine, Pediatrics and Oncology were carried out at Dana-Farber Cancer Institute, Boston Children's Hospital, and Brigham and Women's Hospital, Harvard Medical School. His research contributions include elucidation of the pathway through which UV radiation induces pigmentation, identification of MITF as master transcriptional regulator in melanocytes and melanoma oncogene, novel approaches to melanoma treatment and prevention, and discovery of the link between ultraviolet radiation and addictive behaviors.

Wolfram Goessling, MD, PhD

Dr. Wolfram Goessling is Chief of the Division of Gastroenterology at Massachusetts General Hospital and the Robert H. Ebert Associate Professor of Medicine at Harvard Medical School. He also serves as Director of the Harvard-Massachusetts Institute of Technology Division of Health Sciences and Technology. After earning his MD and PhD from the University of Witten/Herdecke Medical School in Germany, Dr. Goessling to the United States where he completed his residency in Medicine at Brigham and Women's Hospital. Dr. Goessling completed fellowship training in Hematology/Oncology at Brigham and Women's Hospital and Dana-Farber/Partners Cancer Care, and in Gastroenterology at Massachusetts General Hospital. Dr. Goessling is a physician-scientist with an active laboratory within the Division of Genetics at Brigham and Women's Hospital. He is board certified in both oncology and gastroenterology, and maintains a clinical practice focused on the treatment of patients with liver disease and gastrointestinal cancers, particularly hepatobiliary and pancreatic cancers.

The Goessling laboratory investigates signals that indicate organ injury and regulate regenerative and malignant growth. Utilizing zebrafish as a primary model to investigate organ formation, repair and carcinogenesis, the laboratory's ultimate goal is the development of novel therapies for patients with organ failure and cancer. Milestones in the work have included the discovery of prostaglandin E2 as a positive regulator of hematopoietic stem cell formation, leading to a successful phase I clinical trial and ongoing phase II multicenter trial involving patients receiving cord blood transplants for leukemia and lymphoma. Dr. Goessling's work has been recognized through awards including the George Brecher Prize from the International Society of Experimental Hematology, the Brigham and Women's Hospital William Randolph Hearst Young Investigator in Medicine Award, and a Pew Scholarship in the Biomedical Sciences from the Pew Charitable Trusts, as well as the MGH 100 and Tiedemann Courage in Cancer Awards.

Rosalind A. Segal, MD, PhD

Rosalind Anne Segal is a Professor of Neurobiology at Harvard Medical School and the Co-Chair of the Cancer Biology Department at the Dana Farber Cancer Institute. Segal's work employs modern methods of cell and molecular biology to study the development of the mammalian brain with the goal of understanding how disruption of this normal process leads to the formation of brain malignancies.

Segal graduated with a A.B. degree from Harvard-Radcliffe College and received an MD and a PhD from Weill Cornell Medicine and Rockefeller University respectively. She trained as a neurologist and neuro-oncologist in the Harvard Medical School affiliated hospitals. She started her own laboratory at Harvard Medical School and the affiliated Beth Israel Deaconess Medical Center in 1994 and moved the laboratory to its current site at the Dana Farber Cancer Institute in 1998.

Segal's research has focused on the role of environmental cues- neurotrophic factors, morphogens and proteoglycans, in regulating critical development processes such as proliferation, migration, survival and synaptic plasticity. She uses sophisticated compartmented culture systems to analyze local protein synthesis critical for axonal survival, and has built on these studies to develop novel therapies for Chemotherapy induced peripheral neuropathy and other neurodegenerative disorders. She pioneered new approaches for propagating pediatric brain tumors in order to evaluate targeted therapies, and she enabled these therapies to advance to clinical trials.

In addition to her research, a major emphasis of Segal's professional life has been devoted toward the education of the next generation of neuroscientists and cancer biologists. She has served as a faculty advisor in science at Radcliffe Institute of Advanced studies. She is the co-chair of the Department of Cancer Biology at Dana Farber Cancer Institute, as well as the Director of Harvard's PhD Program in Neuroscience. She has mentored numerous graduate students and post-doctoral fellows, and serves as a faculty advisor for the Harvard Women in Neuroscience program. She has received The Casty Family Award for Mentoring, The Harold Amos Award for Diversity, and the Benz Award for advancing the careers of female faculty members.

Ramesh A. Shivdasani

Ramesh Shivdasani, M.D., Ph.D. is a laboratory scientist in the Division of Molecular and Cellular Oncology at Dana-Farber Cancer Institute, a Professor of Medicine at Harvard Medical School, and Deputy Director of the Dana-Farber/Harvard Cancer Center. Educated at Cornell University and the University of Michigan Medical School, he received postdoctoral training at the Dana-Farber Cancer Institute and Boston Children's Hospital. His laboratory studies mechanisms of cell differentiation in the gastrointestinal tract, aiming to elucidate pathways that first control development of the fetal endoderm into adult digestive organs and later promote continuous self-renewal of digestive epithelia. The laboratory uses a suite of methods to investigate the molecular basis of these processes *in vivo*, centered on how transcription factors generate and maintain chromatin states that control tissue-specific genes and stem cell renewal. Dr. Shivdasani has published more than 100 peer-reviewed articles in prestigious national and international journals and was previously a Physician Scholar of the Damon Runyon Cancer Research Foundation and of the Leukemia and Lymphoma Society. Until recently, he practiced in medical oncology, and he is an elected member of the American Society for Clinical Investigation and the Association of American Physicians.

Schedule

12:30 – 1:00pm	**Registration**
1:00pm – 1:05pm	**Introduction**
1:05 – 1:35pm	**Wolfram Goessling, MD, PhD** Premalignant Reprogramming in Cirrhosis and Prevention of Hepatocellular Carcinoma
1:35 – 1:50pm	**Evan O'Loughlin, McClatchey Lab** Morphogenesis and Tumorigenesis of the Biliary System
1:50 – 2:20pm	**Ramesh Shivdasani, MD, PhD** Developmental Epigenetic Memory: Freud, Proust, and Methylated DNA
2:20 – 2:45pm	**Coffee Break**
2:45 – 3:15pm	**Roz Segal, MD, PhD** New Approaches to Chemotherapy-Induced Neuropathy: Improving Quality of Life for Cancer Survivors
3:15 – 3:30pm	**Antonella Dost, Kim Lab** Modeling Lung Tumor Progression with Organoids
3:30 – 4:00pm	**David Fisher, MD, PhD** The Melanoma Revolution: From Disease Formation to Therapeutic Opportunities
4:00 – 6:00pm	**Reception** NRB 8th Floor Sky Lounge

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