

LANDRY
CANCER BIOLOGY
CONSORTIUM



ANNUAL
SPRING SYMPOSIUM
2024

THURSDAY MAY 30
1-6PM

featuring
KARIN GRUNEBAUM
CANCER RESEARCH FOUNDATION
POSTER COMPETITION

TABLE OF CONTENTS

Landry Cancer Biology Consortium – Who We Are	3
Karin Grunebaum Cancer Research Foundation	4
Symposium Schedule	5
Speaker Biographies	6
Poster Competition & Guests	10

LANDRY CANCER BIOLOGY CONSORTIUM – WHO WE ARE

The Landry Cancer Biology Consortium is an educational consortium that aims to bring together the cancer biology community at Harvard and affiliate hospitals. We seek to provide advanced educational training, career development, networking, and collaborative opportunities for students to extend their studies and community beyond the classroom and thesis lab. Our goal is to **provide an educational and programmatic framework that fosters collaboration and multidisciplinary approaches to better understand and combat cancer.**

WE ACHIEVE OUR GOAL BY–

- Building & supporting a HILS-wide cancer community
- Designing & executing cancer-related curriculum
- Supporting professional development

This work is made possible by the generous support to Harvard Faculty of Arts and Sciences of the late C. Kevin Landry and his family, colleagues, and friends. This gift represents a transformative investment in some of the best and brightest young minds in cancer biology. Through the Landry Cancer Biology Consortium, Harvard is leveraging the strength of its scientific community to encourage new breakthroughs in cancer research and treatment.

CONNECT WITH US

If you want to learn more about Landry Cancer Biology Consortium, visit our website <https://landrycancer.hms.harvard.edu>.

If you have any questions don't hesitate to reach out to Jelena Patrnogić, Jelena_Patrnogic@hms.harvard.edu



KARIN GRUNEBAUM CANCER RESEARCH FOUNDATION

Additional support for cancer biology program at Harvard comes from the Karin Grunebaum Cancer Research Foundation (KGCRF), **established in 1958 in loving memory of Karin Grunebaum** by her husband, Fritz Grunebaum, to invest in researchers who have made cancer research their life's work.

KGCRF MISSION

Because Karin Grunebaum died at age 39 from an unknown primary site malignancy, the overriding objective of the Karin Grunebaum Cancer Research Foundation is the eradication of all types of cancer. The Foundation's original Declaration of Trust, written in 1958, mandates that the Foundation's funds be exclusively used for **"...aiding research in and study of the cause, treatment and cure of cancer."**

The Foundation's Trustees firmly believe that the eradication of cancer will only occur through successful research accomplishments which are followed by successful practical/commercial application. Thus, **the Foundation has chosen to invest its funds directly in dedicated cancer researchers in hope of helping them achieve significant accomplishments to eliminate all types of carcinomas and thereby eradicate each and every type of cancer.** If you want to learn more about the Karin Grunebaum Cancer Research Foundation, visit the website <https://www.grunebaumfoundation.org>.

KGCRF SUPPORT FOR PROFESSIONAL DEVELOPMENT AT HARVARD

The Foundation's slogan is *"Over 60 years of developing cancer researchers"* and their generous gift to the graduate training at Harvard directly supports professional development of our students. Since 2017, the funds are used for a graduate student poster competition held annually during the Spring Symposium where cancer biology trainees can compete for **KGCRF Professional Development Awards**. In addition to the KGCRF Professional Development Awards, KGCRF's generous gift provides fund for the **KGCRF Career Catalyst Awards (KGCRF CCA)**. The KGCRF CCA are designed to support student professional development training by providing opportunities to enhance and expand the scope of their research through new collaborations, skills, and knowledge. The KGCRF CCA aim to fund student-conceived proposals that complement, and directly impact their ongoing thesis research, or bring new approaches to the research questions through establishing collaborations.

SYMPOSIUM SCHEDULE

SEMINARS

TMEC 227

- | | |
|-------------|--|
| 1-1:05pm | Introduction & Welcome |
| 1:05-2:0pm | From Punnett Squares to Overcoming Microbiome Mediated Resistance to Cancer Immunotherapy
Francesca Gazzaniga, PhD |
| 2:00-2:10pm | Utilizing tumor mitochondrial defects to drive anti-tumor immunity
Tevis Vitale, Pere Puigserver Lab |
| 2:10-2:20pm | Cytokine dependency screens identify the lipid phosphatase FITM2 as a cancer immunotherapy target
Collins Cheruiyot, Rob Manguso Lab |
| 2:20-2:30pm | Paradigms of therapy resistance encoded in the microenvironment of metastatic urothelial carcinoma
Breanna Titchen, Eli Van Allen Lab |
| 2:30-2:40pm | Short break |
| 2:40-2:50pm | Building a scalable single-cell spatial profiling toolbox for tumor biology
Jackson Weir, Fei Chen Lab |
| 2:50-3:00pm | Helicase-assisted continuous editing for programmable mutagenesis of endogenous genomes
Dawn Chen, Fei Chen Lab |
| 3:00-3:55pm | Posttranslational control of gene expression during cell division
Eugene Oh, PhD |

KGCRF POSTER COMPETITION & RECEPTION

TMEC Atrium

- | | |
|-------------|---|
| 4:00-6:00pm | KGCRF Poster Competition & Reception |
| 6:15pm | KGCRF Poster Competition Winners Announcement |

SPEAKER BIOGRAPHIES *(in alphabetical order)*

DAWN CHEN

Dawn Chen is a fourth-year Ph.D. student in the Systems, Synthetic, and Quantitative Biology program at Harvard University. She builds tools to understand the effects of different genetic mutations and their roles in diseases, where her work has helped to identify clinically relevant mutations that can lead to cancer drug resistance. She has also developed tools that allow researchers to control gene expression in different cell types. Dawn obtained her B.S./M.S. in Biochemistry and Statistics from Yale University. She is a recipient of the Karin Grunebaum Career Catalyst Award and the American Heart Association Predoctoral Fellowship.



COLLINS CHERUIYOT

Collins Cheruiyot grew up in Eldoret, Kenya and graduated in 2016 from Brown University with a Bachelor of Science degree in Applied Mathematics – Biology with honors. He then trained in Nicholas Haining's Lab as a research technician before enrolling in the PhD program in Immunology at Harvard University. As a graduate student in Robert Manguso's Lab, Collins studies mechanisms of enhancing tumor responses to immune checkpoint blockade. He is specifically interested in understanding how lipid metabolism and autophagy drive tumor sensitivity or resistance to cytotoxic lymphocytes.



FRANCESCA GAZZANIGA, PhD

*Assistant Professor of Pathology
Mass General Cancer Center
Harvard Medical School*

Francesca grew up in Vermont and attended Dartmouth College where she received her bachelor's degree with a major in Biology and minor in Anthropology. She received her PhD in Biomedical Sciences in Elizabeth Blackburn's lab at UCSF where she studied the role of telomerase in human CD4+ T cells and breast cancer cell lines. Her postdoctoral work in Dennis Kasper's lab was a collaboration with Joon Seok Park in Arlene Sharpe's lab. Together, they discovered that gut bacteria suppress PD-L2 and RGMB to promote anti-tumor immunity. During her postdoc, she also collaborated with Don Ingber's lab at the Wyss Institute to develop a mouse microfluidic gut on a chip. She loves hiking, camping, paddleboarding, and spending time with her family.



EUGENE OH

*Assistant Professor of Medicine
Mass General Cancer Center
Harvard Medical School*

My lab is currently focused on elucidating how gene expression is regulated during mitosis, a time during the cell cycle when transcription is globally silenced. More specifically, we are interested in characterizing how posttranslational modifying enzymes impact the activity of transcription factors and the epigenetic landscape during mitosis. I was recently awarded a MIRA grant from the National Institute of General Medical Sciences.



As a postdoctoral fellow with Michael Rape at UC Berkeley, I discovered a surprising new function for the anaphase-promoting complex (APC/C), a ubiquitin ligase best known for driving mitotic progression. Given that gene expression is globally silenced during mitosis, the transcriptional programs that define cell identity must be reset following each division. To shed light on this mystery, I found that the APC/C controls not only mitotic progression but also the postmitotic expression of cell-type-specific genes, coupling cell division with cell identity. This work was funded by the Jane Coffin Childs Memorial Fund for Medical Research and the Thomas and Stacey

Siebel Stem Cell Institute. I was also a recipient of the 2019 Next Generation in Biomedicine prize awarded by the Broad Institute.

As a graduate student with Jonathan S. Weissman at UCSF, I developed bacterial ribosome profiling, which enables the genome-wide monitoring of protein translation. This systems-level study provided a rich framework for elucidating basic principles of prokaryotic translation. Additionally, the further retooling of the bacterial ribosome profiling approach enabled the global monitoring of cotranslational folding events. This work provided unique insights into how molecular chaperones function under unperturbed conditions and settled some outstanding controversies surrounding the *in vivo* action of the chaperone Trigger Factor.

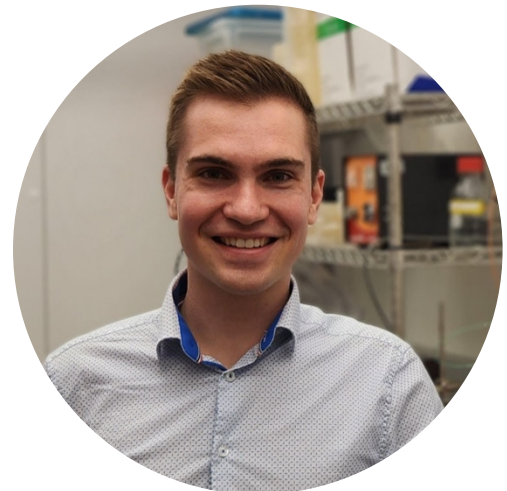
BREANNA TITCHEN

Breanna is a PhD student in the Harvard Division of Medical Sciences Biological and Biomedical Sciences program. Her dissertation in the Van Allen lab is focused on elucidating mechanisms of metastatic disease progression and therapy resistance in patients with urothelial carcinoma.



TEVIS VITALE

Tevis Vitale is a G3 in the lab of Pere Puigserver at DFCI and HMS Cell Bio. Tevis received his B.S. from Yale University where he performed research in the lab of Shirin Bahmanyar studying the role of the nuclear envelope in regulating lipid metabolism. In the Puigserver lab, Tevis has applied his knowledge of cell biology and metabolism to cancer in the hopes of developing new strategies for improved immune targeting of tumors in cancer.



JACKSON WEIR

Jackson Weir is a graduate student in Harvard's Biological and Biomedical Sciences program. He previously graduated from the University of New Brunswick with a B.Sc. in Cellular and Molecular Biology. Jackson is broadly interested in developing spatial omics technology to answer key questions in cancer evolution and tumor microenvironment dynamics.



POSTER COMPETITION & GUESTS

Poster competition abstracts will be available after May 20.

PATHFINDER

PATHFINDER is the Dana-Farber/Harvard Cancer Center (DF/HCC) education and training initiative, which launched in the fall of 2022. Its goal is to meet the needs of DF/HCCs early-stage cancer investigators and support their career development.

Our initial efforts are focused on supporting our postdoctoral community through programming and technology that provide a wider perspective for available career options.

Partnering with DF/HCC postdoc offices and HMS-affiliated associations, PATHFINDER aims to:

1. Improve access to educational resources
2. Support career development and transitions
3. Broaden the diversity of the cancer research workforce
4. Build community among DF/HCC researchers

For more information:

[DF/HCC Pathfinder](#)

[DF/HCC Pathfinder Home Page](#)



DF/HCC
PATHFINDER
SUPPORTING CANCER CAREERS