

# SETHI LAB NEWSLETTER

JULY 1<sup>ST</sup>, 2022

The [overall goal](#) of the lab is to combine clinical observations and patient-derived data with rigorous basic science investigation to yield opportunities for impactful translational advances. Our passion for investigative research is fundamentally dependent upon its power to generate a deeper understanding of human disease and ultimately improve patient care. We are particularly committed to defining the fundamental mechanisms underlying gastrointestinal cancers with the hope that such insight will translate into new prevention and treatment methods



## RESEARCH UPDATES

- **January 2022** – Our group identified SOX9 as a key mediator of impaired differentiation in colorectal cancer (published in *Gastroenterology*)
- **January 2022** – Our lab contributed to a study that showed how YAP signaling improves colorectal cancer survival (published in *Developmental Cell*)
- **March 2022** – Our lab provided a genomic and functional characterization of heterozygous mutations in SOX9 in colorectal cancer (published in *Gastro Hep Advances*)
- **April 2022** – Our group contributed to a study that identified a novel WNT pathway inhibitor in colorectal cancer (published in *Science Advances*)
- **May 2022** – Our group has made significant progress on the preclinical evaluation of a drug that promotes differentiation in colorectal cancer (unpublished)
- **June 2022** – Using single cell profiling of human and mouse adenomas, we have found important regulators of cell state plasticity that allow colorectal cancer to begin (under review)
- **July 2022** – We have found a subset of gastrointestinal cancers to harbor DNA repair deficiency, which we can exploit therapeutically (under review)
- **July 2022** – We developed a new drug discovery platform using genome editing of human colon cancer cell lines (US patent)

## LAB MEMBERS AND MENTORSHIP

### Updates:

[Paul Doan](#): a Harvard undergraduate from Vietnam and California will transition to a research technician

[David Chen](#): a Western Ontario undergraduate from Canada was accepted to medical school at the University of Toronto! He will spend August in the lab and then continue his projects part-time remotely

[Sandor Spisak](#): an instructor who will be starting his own lab in Hungary; he will continue working with the lab to complete his exciting projects

[Brandon Huffman](#): a DFCI oncology fellow from Missouri was nominated chief oncology fellow and will begin a new position as a clinical investigator within our gastrointestinal cancer center

[Daulet Aitymbayev](#): a research technician in the lab from Nazarbayev University in Kazakhstan will complete his master's thesis in our lab this year

[Pratyusha Bala](#): a postdoctoral fellow in the lab from South India will hopefully present our findings on colorectal cancer in Portland, Oregon this year.

[Pornlada Likasitwatanakul](#): a physician scientist from Sirirag Hospital in Thailand made tremendous progress on the new pro-differentiation therapeutic

### Departing Members:

[Massimo Saputo](#): a research technician who transitioned to industry

[Clare Morris](#): a Harvard undergraduate from Seattle who will pursue new research opportunities in neuroscience

[Prajna Hebbar](#): a NIT Karnataka undergraduate from India will start graduate school at University of California, Santa Cruz, pursuing genomic research!



## FUNDING & PHILANTHROPY

- We continue to rely on a four-year award from the **Department of Defensive** (2021-2025) to study the function of hyperactive stem cell programs in colorectal cancer
- We continue to benefit from a five-year award from the **NIH** (2019-2024) to study the connection between inflammation and GI cancer initiation using an integrative mouse model
- We are in the second year of a two-year grant by the **Degregorio Foundation** (2021-2023) to determine the therapeutic value of DNA-damage response inhibitors in GI cancers.
- Please consider joining our [Jimmy Fund Team](#) and walking with us on **Oct 2<sup>nd</sup>** in Boston, MA. In 2021, we raised almost 22,000 dollars for colorectal cancer research. We hope to surpass this number this year!



## DEDICATION

We dedicate our efforts in memory of [Adam Opiela](#), a 30-year-old young man who passed away on July 25<sup>th</sup>, 2021 from metastatic colorectal cancer. He was a kind and compassionate person who will be missed dearly by everyone he touched.

