Director’s Message

Dear Friends,

I hope you all had a great summer! Since our last newsletter, there have been some major accomplishments by our Institute’s members and trainees. In this edition, you’ll read about some of these successes, including publications in high impact journals and new funding.

Our trainees have been busy planning our second public lecture, “Cancer in Young People”, which was held on October 4 at Studio Bell. It was another great event and we are looking forward to the next one.

I wish you all an enjoyable fall.

Greg

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Announcements

Late Night Lab at Studio Bell: Cancer in Young People

The Charbonneau Trainee Association hosted another successful public lecture on October 4th, 2019 at Studio Bell, featuring talks by several Institute members, including Drs. Jennifer Chan, Miranda Fidler-Benaoudia, Michael Monument, and Fiona Schulte (pictured below).

The talks began with an introduction by Dr. Jennifer Chan on the differences between cancer in young people and cancer in older people, followed by an overview by Dr. Miranda Fidler-Benaoudia of cancer incidence and trends in young people and some of the survivorship issues facing young survivors. The talk then focused on sarcoma, as a type of malignancy that often impacts young people, and Dr. Michael Monument shared examples of how this tumour is treated and where the future of treatment for sarcoma is headed.

Finally, the lecture wrapped up with an overview by Dr. Fiona Schulte on the psychosocial issues facing young people with cancer and their families.

The next public lecture will be held on June 3rd, 2020 at Calgary Central Library.
Welcome New Members

Dr. Harry Peery  
Cell Biology & Anatomy  
Area of Focus: Imaging tumors with a cell mass of less than a million cells

Dr. Natalie Logie  
Radiation Oncology  
Area of Focus: Outcomes for pediatric patients receiving radiotherapy and correlations with dosimetry

Dr. Doreen Ezeife  
Medical Oncology  
Area of Focus: Health services research, cancer drug access

Congratulations to Strategic Advisory Board Member, Keith MacPhail, on being named to the Order of Canada

Strategic Advisory Board Member, Keith MacPhail was announced as a Member of the Order of Canada in recognition of his “achievements as a business leader and philanthropic contributions to health, education, and sport initiatives”. Mr. MacPhail gave generously to the Forzani-MacPhail Colorectal Cancer Screening Centre.

Congratulations to Dr. Christine Friedenreich on being named a Royal Society of Canada Fellow

Dr. Christine Friedenreich, Adjunct Professor in the Departments of Oncology and Community Health Sciences and Scientific Director of the Department of Cancer Epidemiology and Prevention at CancerControl Alberta, was recently named a Royal Society of Canada Fellow. This prestigious award recognizes individuals who have made remarkable contributions in the arts, humanities, and sciences, as well as in Canadian public life.

Congratulations to Dr. Nicole Culos-Reed on her Research Excellence Award, from CIHR—Institute of Cancer Research

Dr. Nicole Culos-Reed, Professor in the Faculty of Kinesiology, was recognized with a Research Excellence Award through the Canadian Association of Psychosocial Oncology (CAPO) for her significant career contributions in psychosocial oncological research and practice. She co-leads the Alberta Cancer Exercise (ACE) program, a free community-based, 12-week exercise program for survivors of cancer to improve their recovery.

Congratulations to Dr. Kristina Rinker on receiving an Innovation Fellowship from Parex Resources

Dr. Kristina Rinker, Associate Professor in the Schulich School of Engineering, was one of six scientists included in the 2019-2020 cohort of Innovation Fellowship recipients.
Dr. Safiya Karim
Medical Oncology
Area of Focus: Health Services Research and Quality Improvement

Dr. Lorraine Shack
Oncology
Area of Focus: Outcomes, Surveillance, Epidemiology

Dr. Colleen Cuthbert
Faculty of Nursing
Area of Focus: Cancer Survivorship

NEW FACULTY ORIENTATION AND INTRODUCTION TO RESEARCH AT CSM!

Charbonneau participated in the first ever Cumming School of Medicine Open House.

CELEBRATE THE SEASON

Charbonneau families are invited to attend our annual Kids Holiday Party at no cost.

A wrapped and tagged gift ($25) must be dropped off to the Admin Office in HRIC 2AA-07 by Friday December 13th.

RSVP by December 9th.

Charbonneau full members, trainees, lab staff and administrative staff all all invited at no cost.

A spousal ticket can be purchased for $85.00

Tickets will be available for pick up in HRIC 2AA-07 starting November 5th.
Upcoming Event
SAVE THE DATE
5TH Annual Cancer Research Symposium
February 10, 2020
Keynote Speaker:
Dr. Michael Chu, University of Alberta

Faculty Lunch Chalk Talks
11:00-12:00pm (Fridays)
Applying for an upcoming grant? Want to present your idea at a Faculty Lunch Talk?
Secure your date!
Contact Carmen ccoelho@ucalgary.ca

TRAINEE SUCCESS

Postdoctoral Fellowship Awards
Dr. Seungil Paik, Supervised by Dr. Marco Gallo
Dr. Dylan O'Sullivan, Supervised by Dr. Darren Brenner
Dr. Noemi Leblay, Supervised by Dr. Paola Neri
Dr. Sacha Benaoudia, Supervised by Dr. Doug Mahoney

Charbonneau Scholarship Award Opportunities
• Charbonneau Institute Director Graduate Scholarship in Cancer Research
• Daniel Family Foundation Graduate Scholarship in Cancer Research

Howard Research Excellence Awards
• Open to both graduate students and postdoctoral fellows

Full details on how to apply will be communicated soon

Upcoming Distinguished Speaker Series
November 15, 2019
Dr. Daniel Schramek
Lunenfeld-Tanenbaum Research Institute

December 6, 2019
Dr. Guy Poirier
Universite Laval

January 24, 2020
Dr. Julie St. Pierre
University of Ottawa

Charlwood Tumour Centre Graduate Studentships
Aly Abdelkareem, Supervised by Dr. Sorana Morissay
Rujuta Deshpande, Supervised by Dr. Savraj Grewal
Alisha Poole, Supervised by Dr. Steve Robbins

ACF Fred Coles Cancer Research Post-Doctoral Fellowship
Sarah Moradi-Fard, Supervised by Dr. Gareth Williams

Kids Brain Cancer Canada Research Award
Francesca Maule, Supervised by Dr. Marco Gallo

Congratulations to the following Charbonneau trainees who were awarded travel awards to attend the Canadian Cancer Research Conference in Ottawa, November 3-5, 2019.

Kayla Marritt
Daniel Meyers
Hend Zaaluk
Jannat Pervin
Lisa Liang

Liane Babes
Victoria
Armstrong
Dustin Pearson
Jodi Rattner
Mariel Kleer

Yang Yang, Supervised by Drs. Karl Riabowol & Shirin Bonni successfully defended her PhD thesis
Hend Zaluk, Supervised by Dr. Tarek Bismar successfully defended her MSc thesis
Trainee Survey Results
Thank you to all trainees who participated in the Trainee Survey. Survey results indicated that about 75% of our trainees were satisfied with their experience in the Charbonneau and felt that it is a beneficial community. In regards to Work-in-Progress (WIP) and Journal Club, about 50% of trainees were happy with the current format of these requirements. Using the data from this survey, we hope to make changes to improve the engagement of trainees and the overall satisfaction with WIP and Journal Club. The CTA is making a conscious effort to include your opinions and feedback to help inform the changes we make. If you have any suggestions or comments, please do not hesitate to contact the CTA.

Professional Development Workshops
One of the main things trainees wanted more of was the offering of professional development workshops. We have worked closely with campus resources to design and implement a series of workshops for all trainees. The first workshop will take place November 22, 2019. Details to come.

Save the Date:
6th Annual Cancer Research Symposium

Date: February 10th, 2020
Location: Theatre 4
Abstract and Registration Deadline: January 29th, 2020
All Charbonneau graduate students and postdoctoral fellows are encouraged to present a poster. E-mail with details and information to come

Keynote Speaker: Dr. Micheal Chiu, University of Alberta

CTA Highlights
Summer Student Research Day
Summer BBQ at Edworthy Park
New Student Orientation
WIP Workshop
Trainee Townhall

Upcoming Events:
Halloween Party
Oct 31, 2019
HRIC Hallway

PD Workshop
Nov 22, 2019
11:30 – 1:00
Details about all upcoming events will be sent out via the CTA email.

If you have any questions or comments, please email us at:
charbonneau.trainee.association@gmail.com

Follow us on Instagram:
@Charbonneau_Cancer_Institute
Facilities & Infrastructure

Donna Wray recognized with a Shining Star Award for her commitment to safety on campus!

Donna was recognized for her proactive approach to lab safety issues including Fixed Gas Detection, inspections, equipment maintenance, training and development of safety protocols/procedures.

The Precision Oncology Hub is a translational laboratory located in the Tom Baker Cancer Center established to support the translation of research discovery into improved care. By incorporating molecular profiling through biomarker discovery and genomic sequencing studies into cancer management and treatment approaches, we aim to become the Hub for clinical and translational research and provide a better understanding of cancer biology and ultimately deliver personalized therapy to patients.

Several cancers are characterized by a complex molecular pathogenesis and intra- and inter-tumor heterogeneity. Therefore biomarker discovery and genomic studies are extremely important for understanding disease biology in individual patients, the identification of druggable targets, and the delivery of a personalized therapeutics. Furthermore, in the field of immunotherapy, we intend to develop methods to better understand mechanisms deregulating the immune fitness of cancer patients. Those approaches will help to enhance our understanding of the mechanisms mediating the immune tolerance in cancer patients, and identify and validate diagnostic markers (predictive and/or prognostic) of the patient’s immune “health” status with the aim to implement novel ways to reverse immune tolerance.

We are a team of experts in proteomics, genomics, immunology, and computational biology with the goal to identify the molecular changes that drive cancer progression, discover new targets for therapy, and select drugs based on the “multi-omics” profile of the tumor. Those approaches are critical to guide selection of combination therapies for cancer patients, minimize the use of potentially ineffective therapeutics, and hence lessen any potentially harmful side effects of administered therapeutics. The Precision Oncology Hub has ongoing collaborations with different tumor group leaders in the Department of Oncology and with members of the Arnie Charbonneau Cancer Institute. We also foster collaborations with other oncology programs and industry partners to speed the translation of research discovery into improved patient care and lead to personalized medicine for each cancer patient.

Did you know?

Emergency response and business continuity planning is the process to ensure the appropriate process continuation and recovery of business functions in the event that an incident disrupts University of Calgary’s ability to operate. Floods, fires, power outages, blizzards, major computer system outages and water main breaks are examples of unanticipated events that can have a devastating impact on the University unless preparation has taken place. The Charbonneau Lab Manager’s group will be developing a Charbonneau Business Continuity Plan over the next year. Our first order of business will be to develop a plan for an extended power outage.

Safety Reminders

Emergency eyewash stations need to be activated weekly for at least one minute to verify operation and flush any sediment and potential contaminate. There was an incident on main campus where an eye wash station did not work when required. King Hsieh will perform this weekly check to ensure it is being consistently done within the Institute.

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Upcoming Major External Grants:

**NSERC Discovery Grant:**
Application deadline: November 1, 2019

**Movember Translation Acceleration Grant:**
Application deadline: November 12, 2019

**New Frontiers in Research Fund – Exploration 2019:**
Application deadline: December 10, 2019

**Leukemia and Lymphoma Society of Canada Operating:**
LOI deadline: October 25, 2019
Application deadline: February 5, 2020

**CIHR Team Grant: Personalized Health:**
LOI deadline: October 8, 2019
Application deadline: April 7, 2020

**NOTE:** Plan ahead! The RSO deadline is two days earlier!

Reminder: Internal Peer Review

Do you plan to submit a grant to CRS? CIHR? CCSRI?
If yes, have you registered for internal peer review?

To schedule a ‘Chalk Talk” lunch or peer review meeting, or 1:1 feedback, contact:

Savraj Grewal
grewalss@ucalgary.ca

or Melissa Shea-Budgell
melissa.sheabudgell@ucalgary.ca

News to Share?

Have you received a new grant or award? Has your student recently defended?
Please share your story with us! We are looking for content for LinkedIn, the website, and the newsletter!

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**Research News**

**Congratulations to the Following Grant and Award Recipients, Q2 2019-20:**

**Canadian Institutes of Health Research (CIHR)**

Five Charbonneau members receive new Project Grants from CIHR

- Jason Tay, MD
- Jennifer Chan, MD
- Douglas Mahoney, PhD
- Darren Brenner, PhD
- Robert Hilsden, MD

**Innovation Grants – Prevention and Quality of Life**

Lauren Walker, PhD

**TENET i2c competition**

Oliver Bathe, MD

**International Psychosocial Oncology Society Bernard Fox Memorial Award**

Linda Carlson, PhD

**Department of Oncology Research Office Seed Grant**

Safiya Karim, MD
Feature Articles
2019 June 25 – 2019 September 24

Feature Article:
Gene responsible for repressing the immune response, maintains stem-cell-like properties in GBM.

Marco Gallo, PhD
Brain Cancer Epigenomics
Clark Smith Brain Tumor Centre
Physiology & Pharmacology

Trainees: Johnston MJ, Nikolic A

Genome Research 2019

Glioblastoma multiforme (GBM) is the most common type of malignant brain tumour in adults. Relapse is common and current treatment approaches have been largely ineffective at curing the disease. Dr. Gallo’s work showed that CD276, a gene responsible for repressing the immune response, maintains stem-cell-like properties in GBM stem cells. According to Dr. Gallo, targeting CD276 with immunotherapy could be an effective way to kill cancer stem cells and prevent relapse of GBM.

Feature Article:
Cancer cells can adapt to low oxygen conditions by modulating lipid metabolism.

Jennifer Cobb, PhD
Genome Instability
Robson DNA Science Centre
Biochemistry & Molecular Biology

Trainee: Mojumdar A

Cell Reports 2019; 28(6):1564-1573.e3

Repair of DNA damage, due to normal metabolic activities and environmental factors, occurs in the body on a regular basis. However, double strand breaks (damage to both strands of the DNA double helix) can pose problems for transcription and replication, resulting in genome instability. Dr. Cobb and her team provide insight on how double strand breaks may be stabilized, the role of specific repair factors in tethering broken DNA ends, and chromosome deletions associated with defects in tethering broken DNA ends.

Feature Article:
Targeting dipeptidase-1 can reduce neutrophil recruitment to the lungs and liver.

Donna Senger, PhD
Steve Robbins, PhD
Clark Smith Brain Tumor Centre
Oncology

Trainees: Choudhury SR, Babes L

Cell 2019; 178(5):1205-21.e17

Recruitment of neutrophils to the lungs during an infection can lead to death. However, it was unknown what causes these cells to migrate to the lungs and accumulate there. Moreover, an understanding of this mechanism may inform how cancer metastasizes to the lungs. Drs. Senger and Robbins, with other Charbonneau scientists, discovered that dipeptidase 1 is a vascular adhesion molecule in lungs and liver and that targeting dipeptidase 1 reduces death from sepsis in mice.
Feature Article:
Anti-adhesion glycoprotein (rhPRG4) suppresses growth of breast tumour cells.

Shirin Bonni, PhD
Cancer Biology
Homeostasis and cancer
Biochemistry & Molecular Biology

Trainees: Sarkar A, Chanda A, Karve K

*PloS One 2019; 14(7):e0219697*

Metastasis of the primary tumour is a major cause of cancer morbidity and mortality. Once breast cancer has metastasized, it is incurable and treatment focuses on controlling the disease. Dr. Shirin Bonni and her team studied the role of recombinant human PRG4 (rhPRG4) in reducing the invasiveness of breast cancer cells. She found that rhPRG4 opposes HAS2 and CD44 induction by TGFβ, and may have clinical utility as a potential treatment for invasive and metastatic breast cancer.

Feature Article:
Aggressive end-of-life measures in the last 30 days of life less common in Alberta

Winson Cheung, MD, MPH
Real World Evidence | Alberta
Cancer Outcomes Research Network Oncology

Trainee: Cuthbert C

*ASCO Post 2019 September 3*

Aggressive care at end of life can lead to unnecessary invasive interventions for patients, distress for care takers, and strain on an already burdened health system. Aggressive treatment within the last 30 days of life is not recommended. Dr. Winson Cheung and his team, in collaboraiton with researchers in Washington state, found that chemotherapy use in the last 30 days of life and ICU admissions were lower in Alberta than in Washington. An understanding of the drivers of inappropriate care is needed.

Feature Article:
Individuals with inherited defects in natural killer cells have a higher risk of developing cancer.

Edwin Wang, PhD
Bioinformatics | Precision Medicine
Cancer Genomics and Informatics
Biochemistry and Molecular Biology

Trainees: Xu X, Zou J, Feng X

*JAMA Network Open 2019; 2(9):e199292*

Dr. Edwin Wang and his team studied the impact of inherited defects in natural killer cell genes on cancer risk. They found that inherited defects are associated with tumour immune microenvironment subtypes, recruitment of tumour infiltrating lymphocytes, response to immune checkpoint therapy, and clinical outcomes. The findings of this work have implications for both detecting cancers with germline variants of natural killer cells and improving immune checkpoint therapies.
Population Health (Prevention and Early Detection) Research


Population Health (Prevention and Early Detection) Research (continued)


Health Services/Implementation Research


Health Services/Implementation Research (continued)


Basic/Biomedical Research (continued)


Translational and Clinical Research (continued)


Translational and Clinical Research (continued)


