



**UNIVERSITY OF ALBERTA**  
**FACULTY OF MEDICINE & DENTISTRY**  
Department of Medicine

ANNUAL REPORT 2017

# We are the Department of Medicine.



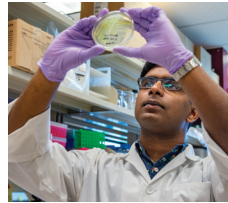
**UNIVERSITY OF ALBERTA**  
**FACULTY OF MEDICINE & DENTISTRY**  
Department of Medicine

13-103 Clinical Sciences Building  
11350 – 83 Avenue  
Edmonton, Alberta  
Canada T6G 2G3

T 780.248.1610 F 780.248.1611

[domrecp@ualberta.ca](mailto:domrecp@ualberta.ca)  
[ualberta.ca/department-of-medicine](http://ualberta.ca/department-of-medicine)

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# In Memoriam

## Sumit (Me2) Majumdar

**Dr. Sumit (Me2) Majumdar obtained his MD with Distinction from the University of Alberta in 1992. He did his clinical training in internal medicine at the Royal Alexandra and University hospitals, here in Edmonton. From 1996–1997 he was chief resident in internal medicine at the University of Alberta Hospital where his morning report, presentations and organizational skills were considered “legendary.”**

He extended his training as a research fellow in health outcomes and pharmaco-epidemiology at Harvard Medical School, which earned him a master's degree in public health from Harvard University in 1999.

In the fall of 1999, Dr. Majumdar returned to his alma mater, the University of Alberta, as Assistant Professor of medicine in the Division of General Internal Medicine. He quickly gained national and international recognition for his work on both knowledge translation theory and controlled intervention and outcomes studies in the areas of osteoporosis and Type 2 diabetes mellitus. The diabetes quality improvement program he initiated and tested was cited by the then provincial minister of health, the lay press and in legislative record, as a “paradigm for improving diabetes care in Alberta and elsewhere,” and his work on osteoporosis formed the foundation for treatment guidelines. Based largely on his prodigious and influential research output, Dr. Majumdar was granted tenure with promotion to Associate Professor in 2005, which was followed by promotion to Professor just five years later.

During his academic career, Dr. Majumdar brought more than \$30 million in peer-reviewed funding to the University of Alberta. He helped train more than 40 graduate students and fellows and published over 300 peer-reviewed articles, many in top-ranked medical journals. His research was recognized by many awards, including the Young Investigator of the Year Award from the Canadian Society of Internal Medicine and the Mack Lipkin Award from the Society of General Internal Medicine (USA). In 2017, he was elected Fellow of the Canadian Academy of Health Sciences, one of the highest honours for health research scholars in Canada.

Dr. Majumdar also was Adjunct Professor in the School of Public Health and a Visiting Professor at Harvard Medical School. He held the Merck Frosst Chair in Patient Health Management (Faculty of Pharmacy & Pharmaceutical Sciences/Faculty of Medicine & Dentistry). He co-founded Knowledge Translation Canada, a network of Canadian experts in knowledge translation who work together to address the “care gap,” ensuring the results of health research can benefit patients at the bedside and are incorporated into health decision-making.

In addition to his contributions to research and translation of research knowledge into practice, Dr. Majumdar was an exceptional and caring clinician and an outstanding educator who received numerous postgraduate and undergraduate teaching awards, including awards from other departments. For example, in 2006, he was awarded the Off-Service Teacher of the Year Award by FRCP Emergency Medicine residents at the University of Alberta. He also supported the work of the Department of Medicine and the university by serving in numerous administrative capacities over the years, including the role of Associate Chair, epidemiology and outcomes research, and membership on the Academic Evaluation and Research Executive committees.

Me2 was a humble but brilliant colleague who was often sought out by colleagues and trainees for help thinking through problems. He was incredibly hard working and an exceptional role model.

Dr. Majumdar passed away on January 19, 2018 surrounded by his wife, two children and close friends. He will be deeply missed and remembered.

# Chair's Message



**A few years ago, we in the Faculty of Medicine & Dentistry, began to substitute the word “scholarship” for “research”— why?? After all, curiosity-driven research fuelled by ideas generated the body of knowledge upon which modern medicine is built. Without research we would still sit at our patient’s bedside in despair, with little to offer except for comforting words.**

In the years since I was a medical resident, the fluid movement of new knowledge to the bedside and back has been dizzyingly rapid, and the medical and diagnostic repertoire is almost unrecognizable from where it was only 40 years ago. How long would we have had the privilege of having Stephen Hawking with us, if not for advances in medicine, and how many more Humboldt Broncos would have died but for modern medicine? The revolution in genetic and computer technology, new advances in epidemiological and outcomes research and results from many clinical trials all have had remarkable impact.

But there are many steps from discovery to implementation, and then again from implementation to re-assessment of efficacy, safety and cost. What does it take to build a new program for the rapid deployment of thrombolytics in acute coronary syndrome or stroke for a city like Edmonton? Or to provide co-ordinated care for patients with myasthenia gravis or movement disorders? What does it take to deliver modern medical care to remote-dwelling Albertans, to newcomers, to the homeless, to prisons, and to the growing population of seniors? How does one change the approach to patients with metastatic melanoma when immune checkpoint inhibitors come on the scene, and how do we deploy the exciting technology of directly visualizing the bile duct? How do we implement safe new patient practice when such advances occur, and how do we accommodate them when costs have to be contained? In medical education how do you develop and implement new curricula, apps for assessment, simulation tools, eTextbooks, reverse classrooms, brand new courses and competency by design? All of these are examples of advances that require rigorous scholarship, driven by members of this Department.

The idea to make things better drives us to advance our various fields. The hard work of taking the idea to reality becomes scholarly when the work takes on certain characteristics, as outlined in the essay by Dr. Bruce Fisher in this Annual Report. Without simultaneous scholarship in research, clinical innovation and medical education, progress in medicine would quickly stall out. For this reason, we recognize scholarship in all areas of medicine as valuable and necessary, and we are grateful that funding for academic medicine is acknowledged as important and necessary by the government and citizens of Alberta. Scholarship in medicine will always be needed if the people we serve are to benefit from what we discover, and it does not stop at the doors of the University Hospital. So, please have a look inside these pages and see medical scholarship at work in this Department.

**Barbara J. Ballermann, MD**

*Professor and Chair, Department of Medicine, University of Alberta  
Head, Clinical Department of Medicine, AHS Edmonton Zone*

“

The idea is like grass.

It craves light, likes crowds,  
thrives on crossbreeding,  
grows better for being  
stepped on.

*Ursula Le Guin, The Dispossessed*

# SPOT LIGHT

There were many notable achievements by department members in 2017. Among the most significant are the following:

## Kevin Bainey

*Cardiology*

*Heart and Stroke Leadership Fund*

## Dean Befus

*Pulmonary Medicine*

*Fellow, Canadian Academy of Health Sciences*

## Lana Bistriz

*Gastroenterology*

*Block of the Year Award*

## Mark James Courtney

*Nephrology*

*Canadian Society of Nephrology Distinguished Service Award*

## Vijay Daniels

*General Internal Medicine*

*University of Alberta Rutherford Award for Excellence in Undergraduate Education*

## Peter Hwang

*General Internal Medicine*

*CIHR Salary Award*

*Heart and Stroke Leadership Fund*

## Dina Hui-Jen Kao

*Gastroenterology*

*AHS President's Excellence Award for Innovation and Research Excellence Awarded for Fecal Microbiota Transplantation Program*

## Karen Madsen

*Gastroenterology*

*AHS President's Excellence Award for Innovation and Research Excellence Awarded for Fecal Microbiota Transplantation Program*

*Canadian Association of Gastroenterology – Visiting Research Professorship*

## Sumit Majumdar

*General Internal Medicine*

*Fellow, Canadian Academy of Health Sciences*

## Jennifer Ringrose

*General Internal Medicine*

*Heart and Stroke Leadership Fund*

## Lynora Saxinger

*Infectious Diseases*

*AHS President's Excellence Award for Innovation and Research Excellence*

## Sangita Sharma

*Endocrinology & Metabolism*

*Alberta Medical Association Medal of Honor*

*Global Edmonton Woman of Vision 2016–2017*

## Ross Tsuyuki

*Cardiology*

*Fellow, Canadian Academy of Health Sciences*

## Dilini Vethanayagam

*Pulmonary Medicine*

*AWA Woman of the Year Award*

## Karen Wong

*Gastroenterology*

*AHS President's Excellence Award Outstanding Achievement in Innovation and Research Excellence*

## Elaine Yacyshyn

*Rheumatology*

*Faculty of Medicine & Dentistry's Tier II Clinical Award for Excellence in Mentoring*

## Roseanne Yeung

*Endocrinology*

*Diabetes Junior Investigator Award*



DEPARTMENT OF MEDICINE

# 2017 LEADERSHIP TEAM



**Barbara Ballermann**  
Chair, Department of Medicine  
Clinical Department Head



**Adrian Wagg**  
Deputy Department Chair,  
Academic



**Narmin Kassam**  
Associate Chair, Clinical Affairs  
Deputy Clinical Department Head



**Evangelos Michelakis**  
Associate Chair, Research



**Bruce Fisher**  
Associate Chair, Medical Education



**William Dafoe**  
Associate Chair, Faculty Development



**Barb Hiscock**  
Assistant Chair, Administration



**Sean McMurtry**  
Assistant Chair,  
Graduate & Postgraduate Studies



**John Bradley**  
Assistant Chair, Clinical Faculty



**Darryl Rolfson**  
Assistant Chair,  
Postgraduate Medical Education;  
Program Director,  
Core Internal Medicine



**Steven Caldwell**  
Assistant Chair,  
Undergraduate Medical Education

# The ABCs of Medical Scholarship

Dr. Bruce Fisher

A scholar is a (learned) person who has done advanced study in a special field. Scholarship in turn may be defined as the scholar's methods, discipline and attainments. In general, and particularly in medicine following the spectacular successes of scientific research in the last half-century, the meaning of scholarship had become implicitly linked with a narrower range of exemplars, usually from the fields of research. In 1990, Ernest Boyer published *Scholarship Reconsidered: Priorities of the Professoriate*.<sup>1</sup> He challenged prevailing notions such as "scholarship is a synonym for research" or "education is a synonym for teaching" by providing an explicit description of the various domains of scholarship. These four include:

- Scholarship of Teaching
- Scholarship of Integration
- Scholarship of Application
- Scholarship of Discovery (research)

Glassick *et al*<sup>2</sup> subsequently developed a set of criteria for the definition, recognition and assessment of the necessary elements and quality for any scholarly activity or product. This set includes:

- Clear goals
- Adequate preparation
- Methodology appropriate to goals
- Significant results or outcomes
- Effective presentation or platform (scope of) dissemination
- Reflective critique or peer review

Although these criteria seem familiar to anyone assessing a discovery research activity or product, how they map on to other forms of scholarship is less clear and is the subject of ongoing work. For example, the Association of American Medical Colleges' Group on Educational Affairs [GEA]<sup>3</sup> has defined common formats, frameworks and examples to guide the planning, support and assessment of scholarly activity in health professions education.



These frameworks can be extrapolated to other domains of scholarship, such as the innovative integration and application of existing knowledge, skills and processes into novel clinical settings.

It has become apparent that what constitutes the "most effective and appropriate" scholarly fulfilment of Glassick's criteria will vary depending on the purpose of the contribution and the domain of scholarship involved. For example, scholars often employ the widest scope for publications and dissemination of generally relevant knowledge, a narrower scope if directed at specialty interests, local scope of interaction with a clinical group for a scholarly pilot innovation, and interactions with small groups of learners for clinical teaching scholarship. Of course, successful processes and useful products that arise from such activities can thereafter be disseminated at a different level. For example, the clinical preceptor may publish helpful teaching scripts to be used widely by others, which in turn can be assessed using the criteria most appropriate for that purpose and scholarly domain. The table on the next page illustrates how using the Glassick criteria-based framework for various domains of scholarship allows for a clearer comparison between otherwise seemingly "non-scholarly" activities.

## GLASSICK CRITERIA-BASED SCHOLARSHIP FRAMEWORK

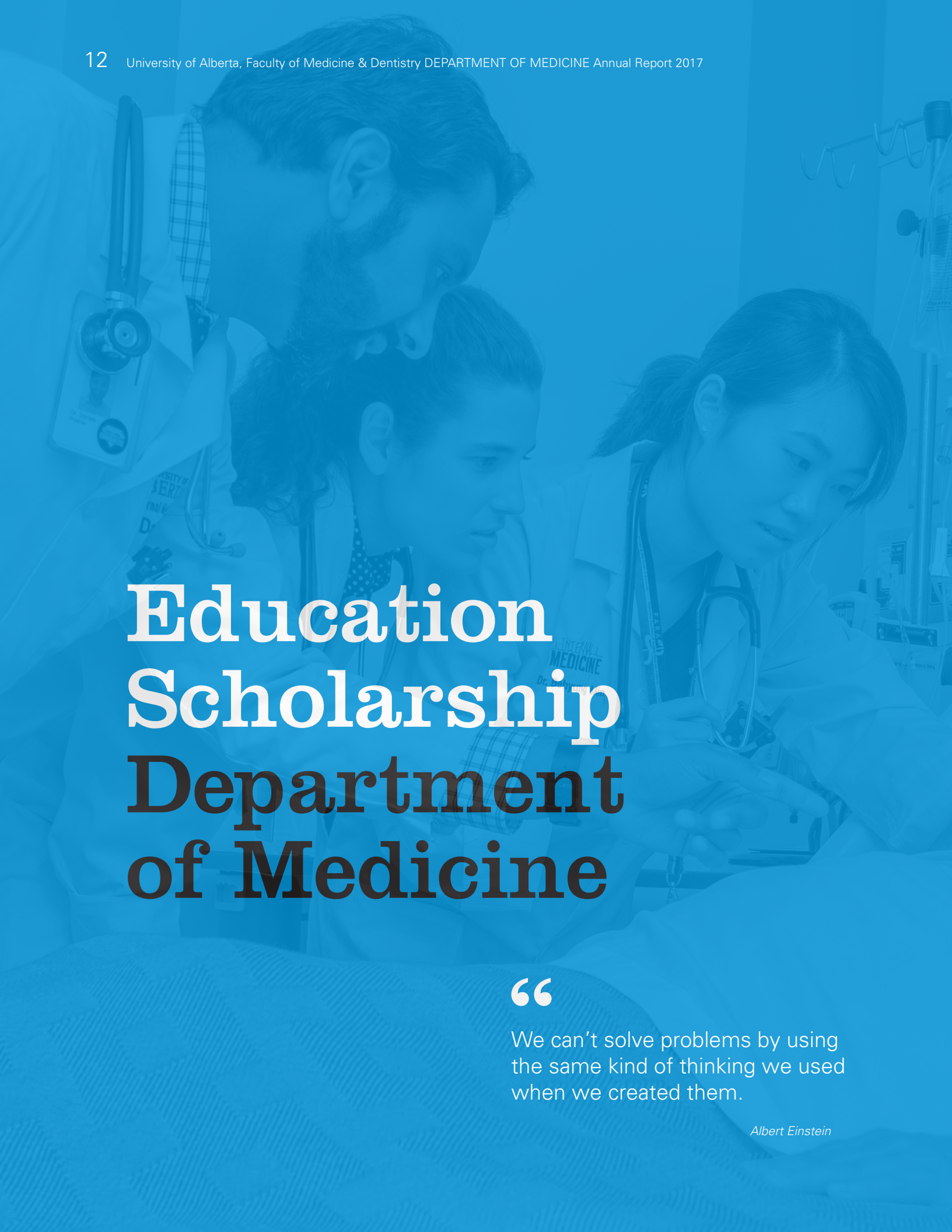
Scholarship Category	Scholarship of Discovery	Scholarship of Discovery	Integration and Application	Integration and Application	Teaching
Domain of Activity/Product	Basic Medical Research	Translational Medical Research	Clinical Practice Innovation	Education Curriculum Development	Clinical Teaching
Type of Product or activity with clear goals	Publication of research adherent to accepted quality standards for reporting basic research (e.g. ARRIVE guidelines) Secure patent	Publication of research adherent to "Good Clinical Practice Guidelines"/standard "Protocols & Templates for clinical research" (e.g. FDA/NIH guidelines) Ministry policy paper	Improvement of patient access to clinics by "X" per cent	Learner Competencies and methods of assessment, defined, deployed implemented by due date	Clinical based teaching Clear objectives and assessment methods
Role	Principal investigator	Principal investigator	Clinician leader	Developer	Teacher
Adequate preparation Appropriate methodology	Compliant with existing scientific methodologies (e.g. WHO "Quality practices in basic biomedical research")	Compliant with existing relevant scientific methods (e.g. Spirit 2013, PRISMA-P, Squire 2 quality guidelines)	Quality Improvement	Compliance with RCPSC guidelines Use of existing methods in other programs	Use of Best Practice Medical education tools
Scope of dissemination	Wide/International meetings Open access journals	Wide/international meetings Open access journals	Local/regional to other analogous clinical activity sites	Local and potentially regional/national resources	Local Learners
Impact or outcome	Citations Resultant clinical translation Potential commercialization	Citations Resultant FDA/Health Canada Approval Policy/Practice change	Targeted Improvements of access and efficiencies are achieved	Successful achievement of competencies by learners, RCPSC training accreditation Uptake by other national programs	Learner satisfaction Learners successful in achieving competencies
Peer review	Tri-council funding Journal peer reviewers	Tri-council funding/ co-sponsorship by industry Journal peer reviewers	Health service External review User feedback	Competence committee review RCPSC accreditation	Peer observation of peer teaching

Assessment for excellence in scholarly performance should also include the quantity of activities and contributions

The faculties of medicine and dentistry at both the universities of Alberta and Calgary have incorporated such frameworks into their online faculty annual reporting systems. The reporting format promotes (Glassick) criteria-based scholarly descriptions and categorizations of all major contributions, to more clearly demonstrate how well criteria for quality scholarship have been fulfilled. This in turn promotes better planning; more objective, comprehensive and equitable assessment; better support and mentorship by our departmental academic evaluation committee; and more objective and effective advocacy for merit awards and promotion by the departmental chair at annual faculty evaluation committee meetings.

## REFERENCES

1. Boyer EL. Scholarship Reconsidered: Priorities of the Professoriate. San Francisco: Jossey-Bass, 1990.
2. Glassick CE. Boyer's expanded definitions of scholarship, the standards for assessing scholarship, and the elusiveness of the scholarship of teaching. Acad Med. 2000;75: 877-880
3. Simpson D, Fincher RM, Hafler JP, Irby DM, Richards BF, Rosenfeld GC, Viggiano TR. Advancing educators and Education: Defining the components and evidence of Educational Scholarship. Proceedings from the Association of American Medical Colleges Group on Educational Affairs Consensus Conference on Educational Scholarship, 9-10 February 2006, Charlotte, NC. Washington DC: AAMC 2007.



# Education Scholarship Department of Medicine

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We can't solve problems by using the same kind of thinking we used when we created them.

*Albert Einstein*

# Education Scholarship

## Translational Medicine Program

EDUCATIONAL SCHOLARSHIP INNOVATION:

Department of Medicine's Novel Training Program in Translational Medicine

**The Department of Medicine has made Translational Medicine (TM) a top priority. TM facilitates the “translation” of molecular discoveries to actual patients and populations. It requires a different way of thinking at all stages of the journey from a discovery in an animal lab to the point that, following successful clinical trials, the government approves the discovered therapy for humans.**

TM is a critical component of Precision Medicine, a new discipline that aims for custom-made therapies for patients, as opposed to the traditional “one treatment fits all model”. This is because in order to apply an optimal therapy to a patient, one needs to understand the molecular and genetic differences that distinguish all patients from one another. Precision Medicine is now a top priority for the Faculty of Medicine & Dentistry.

**THE NEED** To optimize the development of new precision therapies and diagnostic tests, a researcher studying molecules and animals needs to learn how to think as a clinician, and a clinical researcher needs to understand the principles of molecular research. This is challenging because traditional teaching models focus on one or the other, with the learners following either an exclusive molecular or clinical research career track. Although all recognize the importance of TM, there are surprisingly few examples of training programs worldwide aiming to teach this new discipline to future medical researchers and leaders.

**THE ACTION** Four years ago, the Department of Medicine launched and since then supports a novel training program, teaching the attitudes and skills required to excel in TM. This is the first training program of its kind in Canada and one of few in the world.



*(left and middle) Drs. Glen Jickling and Gopinath Sutendra, TM co-directors; (right) Tayne Hewer, 2018 TM graduate*

**THE INNOVATIONS** The TM program attracts trainees from very diverse backgrounds and levels of training. Rather than teaching principles of basic or clinical research of specific diseases, the program teaches integrative and overarching concepts and skills to address the many challenges of bringing a molecular discovery to patients with diverse diseases. Since nothing needs to be memorized; the final exams are “open book.” Teaching objectives include new ways to design animal experiments or clinical trials compatible with precision medicine; strategies to attract funding, including grant writing skills; effective ways to communicate cross-disciplinary research findings; understanding of regulatory rules and quality control principles in preclinical and clinical research. Most of these principles are not taught in traditionally structured training programs. The trainees can either get credits towards their PhD or towards a novel master’s program with specialization in TM, the first of its kind in Canada.

The program uses eClass, the University of Alberta’s central learning management system, which provides a digital platform in which the reading materials are archived as well as an out-of-class forum for ongoing discussions among trainees. All sessions are recorded through the eClass multimedia environment with Adobe Connect. This allows live streaming of sessions from other locations: lectures can be attended interactively online by residents in a remote elective rotation or by trainees from other universities. For example, in the last year two residents from UBC (University of British Columbia) completed the program. The ability of residents to obtain a master’s degree during busy core Internal medicine or specialty residency is a significant advantage to clinical training programs.

**THE PROGRESS** A total of 72 learners have registered to the program so far. Of these, some took credits for their PhD and some participated as open access students. Of the 42 trainees that participated in the master’s track, there were two junior faculty members, 14 graduate students and 26 residents from core and 10 specialty residency programs. To complete the master’s requirements a submission of a thesis is required. So far 12 trainees have obtained their master’s degree with specialization in TM.

*The TM program is a major investment of the Department of Medicine, with many of its faculty contributing over the years. Currently, the program is directed by Evangelos Michelakis, MD; Gopinath Sutendra, PhD; Glen Jickling, MD, PhD; and Eleni Karageorgos.*

**Adam Kinnaird, MD, PhD**

Vanier Scholar; Urology Resident (2015)

*“I would recommend this program to any graduate student or clinician who is interested in a career in translational research. The concepts that we discussed are not found in traditional basic science undergraduate, medical or post-graduate medical programs in our country. Our institution is truly on the leading edge offering this program and as such, knowledge obtained in this master’s program will give all who attend an advantage in the field of translational medicine.”*

**Abhinav Sharma, MD**

Cardiology Resident (2016)

*“The master’s program in translational science gave me the tools and skills necessary to bridge the gap between basic science and clinical research. I feel more confident in examining clinical questions through a basic science lens while examining bench and laboratory work from a clinical perspective. If you are looking for a program that will allow you to interface between the bench and bedside, then this program is for you.”*

**Tayne Hewer;** Graduate Student (2018)

*“...When I attended the first class I was incredibly nervous, felt overwhelmed and out of place. As the program progressed I became more confident and truly engaged in the messages brought forward with each session. In the past I took education for granted but the TM program changed this for me. While I am not sure where my career in clinical research will take me, I can honestly say that this program has changed the way I approach learning and my job...”*

## TM PROGRAM GRADUATES

STUDENT	SUPERVISOR(S)
Suresh Bairwa	Jason Dyck, Pediatrics
Walid Barake	Finlay McAlister and Roopinder Sandhu, Cardiology
Rochelle Bernier	Roopinder Sandhu, Cardiology
Laura Gioia	Kenneth Butcher, Neurology
Mahesh Kate	Kenneth Butcher, Neurology
Tyler Lamb	Harald Becher, Cardiology
Maria Areli Lorenzana-Carrillo	Nadia Jahroudi, Nephrology
Deirdre O’Neill	Michelle Graham, Cardiology
Kenneth Quadros	Roopinder Sandhu, Cardiology
Ismail Raslan	Justin Ezekowitz and Sean Van Diepen, Cardiology
Janek Senaratne	Sean Van Diepen, Cardiology
Ryan Stubbins	Joseph Brandwein and Luc Berthiaume, Hematology



## Vijay Daniels

### Assessment in Medical Education

**General internist Vijay Daniels' love of teaching led him to look at how to make medical education better. "We've always done assessments of learning but the real shift in medical education has been assessment for learning, to help learners improve their knowledge and skills," he says.**

The intense pace of medical education means it is critical that learners get timely feedback that helps them correct their misunderstandings. One of Dr. Daniels' projects reduced the feedback time of the resident objective structured clinical examination from two weeks to same-day, making it a resonant learning experience for residents. Dr. Daniels' significant contribution to the residency assessment processes led to the two-years-ahead-of-schedule launch of the competency-based medical education curriculum in the Core Internal Medicine residency program.

*(left to right) Dr. Vijay Daniels, Dr. Antonia Barnes (R3), Dr. Bohyung Min (R1) and patient*

In the MD program, Dr. Daniels revamped the clerkship assessment processes, resulting in better quantity and quality of feedback to medical students. Finally, one of his largest contributions was a new standardized curriculum for the undergraduate physical examination course, launched in 2013 with the first class graduating in 2017. The class's higher final exam marks reflected the more homogenous experience students were getting.

In 2017, Dr. Daniels was awarded the Rutherford Award for Excellence in Undergraduate Education, the University of Alberta's premier teaching award. "We have a supportive Department of Medicine that encourages us in the educational realm to be innovative and scholarly in our work. That supportive environment helps me do what I really want to do."

*Dr. Vijay Daniels is Associate Professor in the Division of General Internal Medicine in the Faculty of Medicine & Dentistry's Department of Medicine.*

# Research Scholarship Department of Medicine

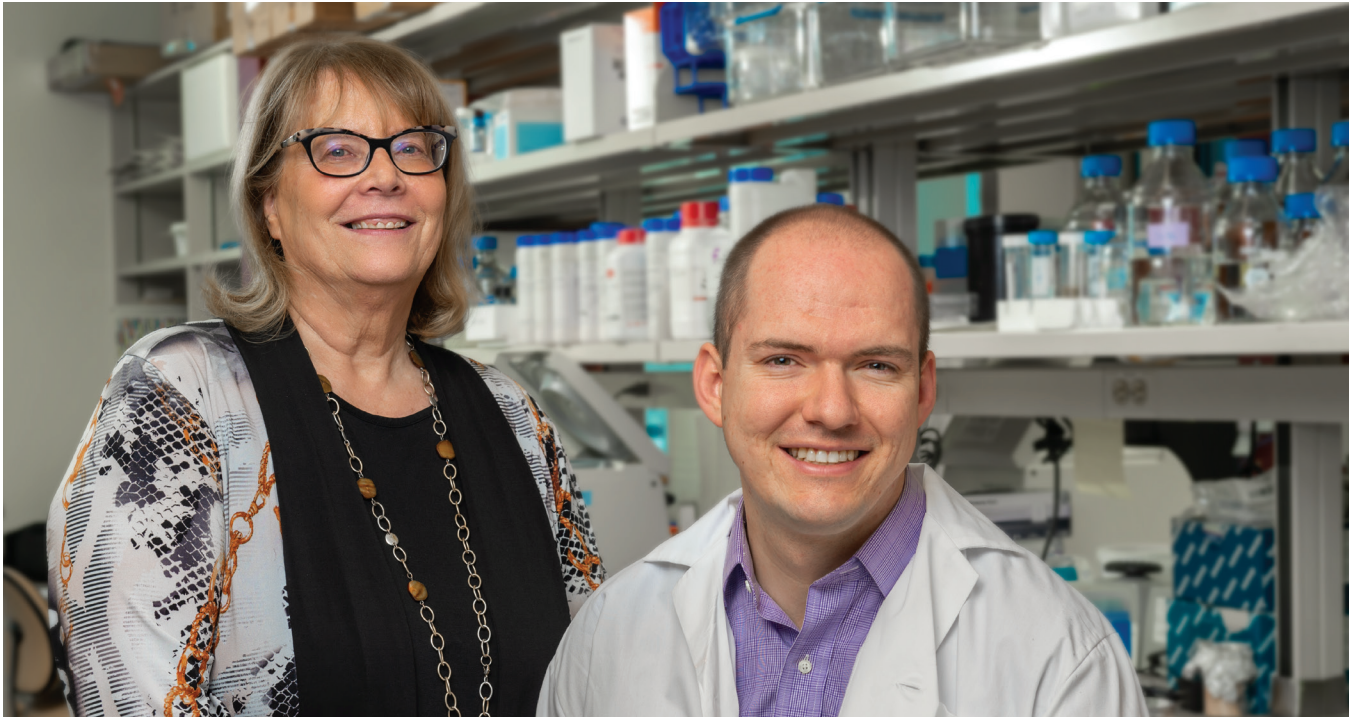
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Research is formalized curiosity.  
It is poking and prying with a purpose.

*Zora Neale Hurston*



## Research Scholarship



### Karen Madsen

#### The Gut Microbiome

**Several years ago, gastrointestinal researcher Dr. Karen Madsen was trying to identify a gut pathogen in mice that made them develop colitis. She couldn't find the pathogen, but realized the mice were missing bacteria called lactobacillus. When the mice were fed lactobacillus, they got better.**

"Changing the gut microbiota really changed disease dramatically," Dr. Madsen says. "This totally changed our way of thinking about bacteria in our gut. We started looking at probiotics and showing they do have a benefit in maintaining remission or prevention of inflammatory bowel disease."

Sequencing the whole microbiome led to understanding what bacteria were in the gut and how they are associated with both disease and health. "Having microbes that keep you healthy is dependent on diet," she says. "Diet changes our gut microbes and our immune system profoundly."

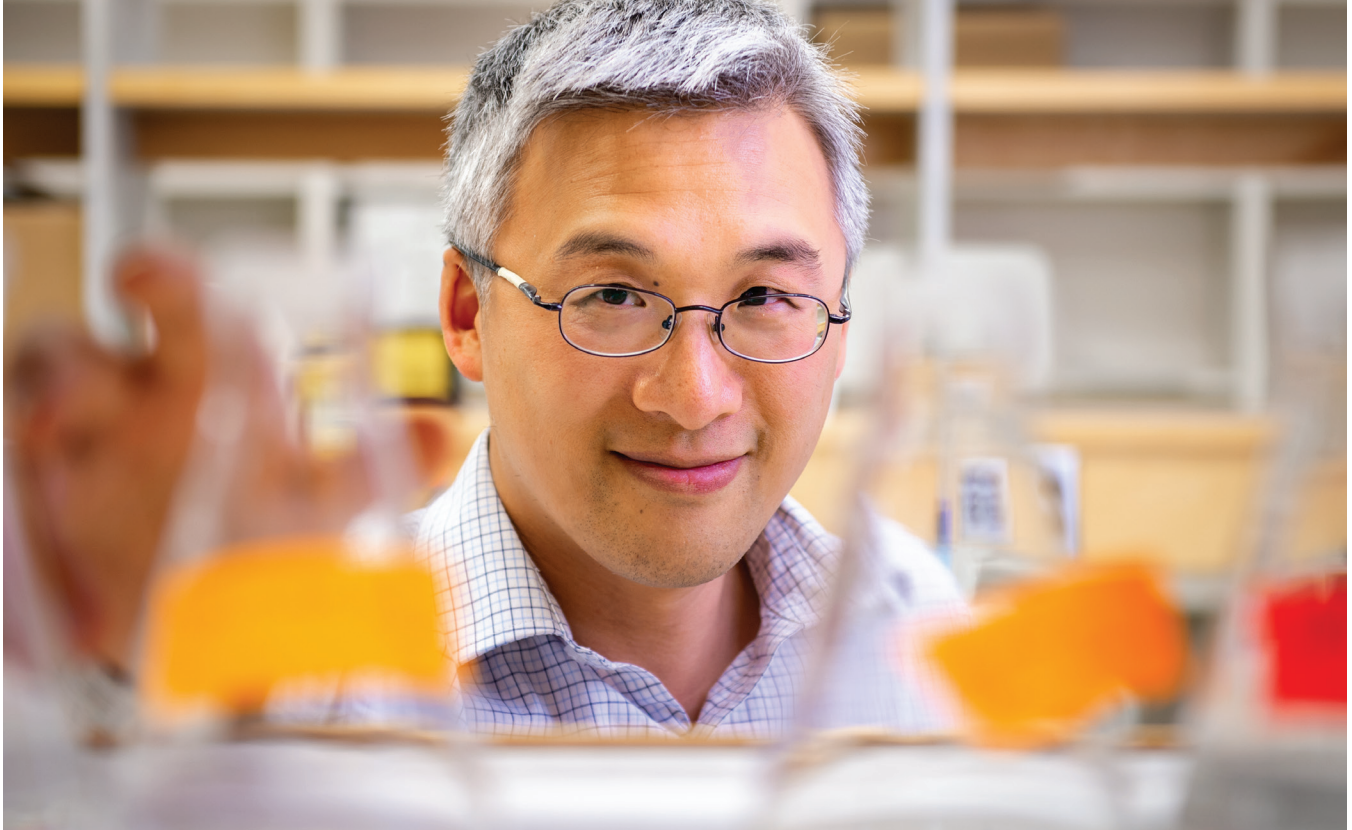
*Dr. Karen Madsen and Dr. Michael Laffin*

Dr. Madsen is collaborating on a clinical trial to test if the pill form of fecal transplantation along with a high fibre diet can change the microbiomes in people with obesity to those of leaner people, in order to help improve metabolic syndrome.

Another study found a particular type of gut bacteria helps prevent recurrence of disease in Crohn's patients who have had damaged parts of their intestines surgically removed. Dr. Madsen is working with Dr. Michael Laffin, a surgical resident who completed his PhD in her lab, to develop a formulation based on these bacteria to improve gut health and help patients with inflammatory bowel disease.

Dr. Madsen considers herself fortunate to have been in excellent training environments when she was starting out in research. "Mentoring was so important in my career that I've tried to do the same thing for others," she says.

*Dr. Karen Madsen is Professor in the Division of Gastroenterology in the Faculty of Medicine & Dentistry's Department of Medicine and director of the Center of Excellence for Gastrointestinal Inflammation and Immunity Research (CEGIIR). She is a lead investigator in the GEM project (<http://www.gemproject.ca>) and the national IMAGINE Chronic Disease Network. <http://imaginespor.com/> IMAGINE will be developing innovative therapies and novel probiotics for irritable bowel syndrome (IBS) and inflammatory bowel disease (IBD).*



## Peter Hwang

### The Structure of Troponin

**Dr. Peter Hwang's passion is understanding life processes at the molecular level, and for the past seven years he has focused on cardiac troponin, the protein complex that turns muscle contraction on and off with every heartbeat.**

Troponin is already the gold standard biomarker for diagnosing myocardial infarction (the death of heart muscle due to lack of oxygen and blood supply), but Dr. Hwang thinks that it has potential for even greater use. "Elevated levels of troponin tell doctors that heart muscle is leaking protein, but they don't tell you why—it can happen when someone is having a heart attack or if they are just running a marathon," he says. "Clinically, it's important to know why the levels are elevated."

Dr. Hwang hypothesized that the type of troponin released from dead heart muscle will also be highly proteolyzed (cut into smaller fragments by enzymes activated in dying cells). A pilot study looking at patients with troponin elevations at the University of Alberta Hospital confirmed that the level of troponin proteolytic digestion depends on the type of injury sustained.

"One challenge is convincing companies of the importance of accounting for troponin digestion. Companies are pushing newer high-sensitivity assays, but I'm trying to tell them that my test is what clinicians actually need," says Dr. Hwang. He is now developing a larger study to confirm the results of the pilot study.

*Dr. Peter Hwang is Assistant Professor in the Division of General Internal Medicine in the Faculty of Medicine & Dentistry's Department of Medicine. He is supported by a CIHR clinician-scientist award, and his pilot study was funded by the University Hospital Foundation.*



## Neesh Pannu

Acute Kidney Injury

**Nephrologist, acute kidney injury (AKI) specialist and research scholar Dr. Neesh Pannu says the encouragement she received as a junior faculty member, particularly from colleagues Dr. Marcello Tonelli and Dr. Scott Klarenbach, was instrumental when she started her research career. Another plus was access to the Alberta Kidney Disease Network, a database of all Albertans who have had kidney function testing done. “Having that kind of support and access to data, analysts and methodology experts is really important,” she says.**

Her current research on AKI prevention and followup care is internationally recognized. A novel tool she developed with her University of Calgary colleague Dr. Matthew James, to identify patients at the highest risk for AKI before hospital discharge, resulted in publication in the *Journal of the American Medical Association* in 2017. “Embedding risk prediction into our new electronic medical records is an excellent opportunity to translate research findings into clinical practice,” Dr. Pannu says. She is conducting a randomized trial of risk-based, post-discharge care in patients with AKI to see what the most appropriate care should be.

Dr. Pannu is the Co-Scientific Director of the Kidney Strategic Clinical Network and Assistant Dean for Clinical Research Platforms. One of the reasons she took on these responsibilities was to help junior trainees with their career trajectories. “I want every junior faculty member who is interested in clinical research to have access to the same services and expertise that I had when I started. Not worrying about how to get research done gave me the freedom to focus on the questions. Everyone should have that freedom.”

*Dr. Neesh Pannu is Professor in the Division of Nephrology in the Faculty of Medicine & Dentistry’s Department of Medicine and Assistant Dean of Clinical Research Platforms at the University of Alberta.*

“

What we hope to do with ease,  
we must first do with diligence.

*Samuel Johnson*

# Clinical Scholarship Department of Medicine

## Clinical Scholarship

**Dr. Gurpal Sandha joined the Department of Medicine in 2002 after he completed fellowship training in advanced therapeutic endoscopy. He helped set up and establish endoscopic ultrasound as the standard of care for a variety of gastrointestinal disorders, enabling enhanced diagnostic capability and new treatment for patients.**



### **Gurpal Sandha**

#### **Endoscopic Ultrasound and Cholangioscopy**

In 2011, Dr. Sandha was introduced to the new technology of cholangioscopy. This allowed, for the first time, direct visualization of common bile duct abnormalities and treatment for difficult bile duct stones that could not be managed by conventional methods.

Endoscopic ultrasound and cholangioscopy are now standards of care at the University of Alberta Hospital.

"We can remove large bile duct stones using cholangioscopy, avoid surgery and reduce health-care costs," Dr. Sandha says. "We have also developed a novel classification system for primary sclerosing cholangitis (PSC), an inflammatory condition that affects the bile duct." Before cholangioscopy, everyone who had the condition received the same treatment. With direct visualization and the ability to take biopsy samples, cholangioscopy allowed differentiation of PSC into three suggested subtypes, with the potential for specific treatments for each.

"The supportive environment in the Department of Medicine allowed me, as a clinician, to bring scholarship to two new clinical programs at the University Hospital and to Edmonton" says Dr. Sandha. "Our success has made us a leader in Canada in these advanced endoscopic procedures."

*Dr. Gurpal Sandha is Professor in the Division of Gastroenterology in the Faculty of Medicine & Dentistry's Department of Medicine. He is also the Director of the Allan Owen Endoscopy Suite at the University of Alberta Hospital.*



Patient and Dr. Narmin Kassam

## Narmin Kassam

Strategic Clinical Improvement Committee (SCIC)

### Quality improvement (QI) in medical practice and processes results in better outcomes and experiences for patients and reductions in health costs.

QI work is most often done at the health-system level by allied health professionals and nurses. “Physicians are not regularly an integral part of QI at the hospital level,” says Dr. Narmin Kassam, co-chair of the Department of Medicine’s Strategic Clinical Improvement Committee, formed in fall of 2016.

That’s changing. “Our committee has representatives from every division in the Department and from the Royal Alexandra Hospital, the Glenrose Rehabilitation Hospital, the Grey Nuns Community Hospital, the Misericordia Community Hospital and the Kaye Edmonton Clinic supported by consultant Pam Mathura,” says Dr. Kassam. “Our aim is to help more physicians understand and undertake quality-improvement work.”

To do this, the committee offers training and education and supports hands-on projects in QI and dissemination of project results.

More than 150 internal medicine physicians have attended Evidence-based Practice for Improving Quality (EPIQ) workshops led by Dr. Khalid Aziz, a neonatologist and quality-improvement leader. Fifteen physician-led projects were completed, including one that resulted in a \$100,000 savings in laboratory blood tests in one year in one hospital unit alone. The committee disseminates project results through special QI-focused events and

presentations at such gatherings as the Choosing Wisely conference and the Alberta Health Services Quality Improvement Summit.

“Sharing project results among committee members makes people start talking about how they can apply this in their context and realize the same benefits,” says Dr. Kassam. “Our plan is to spread our learnings to other inpatient and ambulatory units across the hospitals and then eventually across the Edmonton zone.”

*Dr. Narmin Kassam is Professor and Associate Chair, Clinical Affairs for the Department of Medicine. Her Strategic Clinical Improvement Committee Co-Chair is Natalie McMurtry, Executive Director for Medicine for Alberta Health Services.*



The SCIC is truly a team endeavour. Over the past year, there has been a 50 per cent increase in membership to a current total of 43 members. Nine meetings were held over the year with a 70 per cent attendance rate. The committee spans the hospitals mentioned along with the University of Alberta Hospital. The most recent addition to the team is a patient adviser.

#### SCIC PRIORITIES IN 2018

1. Offer EPIQ training for physicians at each hospital site and develop a QI residency training curriculum.
2. Continue to support physician-led projects with both residents and medical students involved.
3. Link to AHS QI staff resources to further support physicians in QI projects.
4. Continue to progress the Access Partnership project with direct linkage to ConnectCare.
5. Have patient adviser directly assist all new and completed QI projects.
6. Directly align SCIC members with AHS quality councils to be active members.
7. Submit nine Chief Medical Officer grants.
8. Scale and spread the appropriateness-of-care project to increase Edmonton Zone impact.



(front row): Dr. Jennifer Ringrose, Dr. Raj Padwal; (middle row l-r) Mira Wirzba, research assistant; Sharon Canones, research nurse; Donna McLean, research nurse and co-investigator; Jenna Melnychuk, research nurse; (back) Raj Bapuji, research assistant.

## Jennifer Ringrose and Raj Padwal

### Blood pressure

**Precise blood pressure measurement is essential to detecting and managing hypertension, the leading cause of death and disability in the world. But the standard blood pressure check isn't very accurate, due to many factors, including patient nervousness and blood vessel differences.**

*Dr. Raj Padwal is Professor and Dr. Jennifer Ringrose Associate Professor in the General Internal Medicine Division in the Department of Medicine. mmHg is supported by funding from the National Research Council of Canada and Alberta Innovates.*

Dr. Raj Padwal and Dr. Jennifer Ringrose are aiming to give us a true reading of blood pressure.

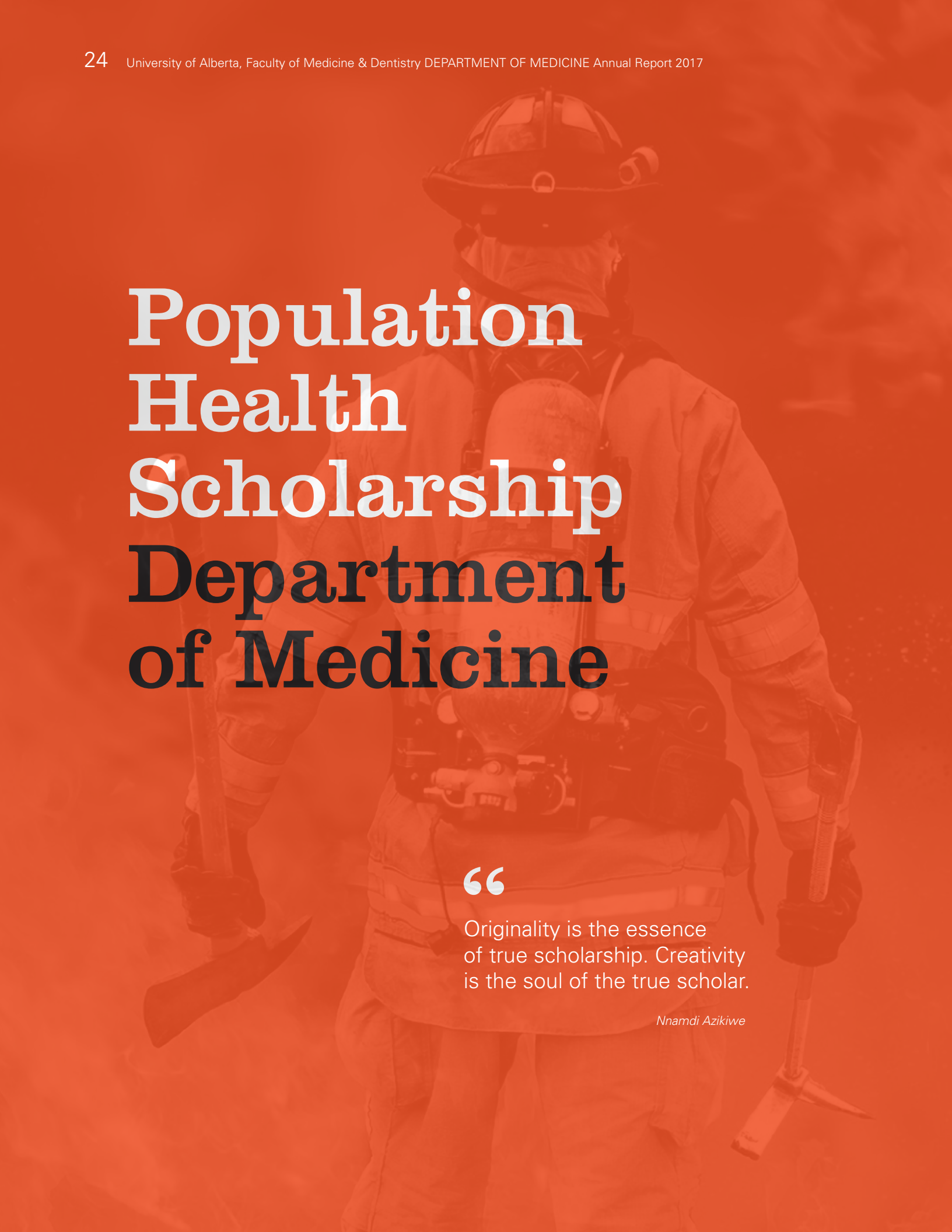
Dr. Padwal founded a company, mmHg, staffed with a multidisciplinary team of technical experts, to disrupt the field of blood pressure measurement. "We're creating an affordable, easy-to-use device that can provide gold-standard measurements," Dr. Padwal says. He estimates the new device will be market ready by the end of 2018.

Dr. Ringrose, whose scholarship focuses on hypertension, manages an ongoing study of volunteers from different population groups, including seniors and women, to find the most accurate blood pressure readings for each group. The data is used by the mmHg team to develop the most precise algorithms possible for the new device. "The Department of Medicine has been very supportive of that development and of the academic work that's come out of it," she says.

Another parallel study looks at telemonitoring the blood pressure readings from older patients in assisted living to case managers, who then can manage the patients' blood pressure appropriately. "The remote monitoring of patients will allow a paradigm shift in terms of how to deliver care," Dr. Padwal says.

"One of the most rewarding features of our group is the collaborations we've established with all sorts of health professionals and with trainees," says Dr. Ringrose.

The blood pressure study is seeking more volunteers. If you are interested in participating, please call 780.492.7459.



# Population Health Scholarship Department of Medicine

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Originality is the essence  
of true scholarship. Creativity  
is the soul of the true scholar.

*Nnamdi Azikiwe*



# Population Health Scholarship



## Nicola Cherry

### Wild fires

After the Fort McMurray fires of 2016, occupational epidemiologist Dr. Nicola Cherry recruited hundreds of firefighters who battled the blaze, to study the long-term clinical effects of the fire. "In the months after the fire about 15 per cent had respiratory problems and one in five had mental health problems," she says.

Dr. Cherry has found that the firefighters from the Fort McMurray region not only have greater mental health problems, their respiratory problems are greater due to prolonged exposure to the small particles in smoke that get deep into the lungs. Those who couldn't shower or change their clothes while battling the blaze absorbed through their skin chemicals that have been linked to cancer.

The final followup in the study in 2018-19 will screen for those who will have long-term clinical problems. Dr. Cherry is using the Alberta administrative health database as a comparison to her study participants.

In other research, Dr. Cherry is looking at pregnancy outcomes for women in the welding field who are exposed to welding fumes. In another study, she is focusing on people going into professional baking, where the exposure to flour can lead to baker's asthma.

To train more occupational physicians in Canada, Dr. Cherry spearheaded a two-part Foundation Course in Occupational Medicine for community-based physicians, initially funded by the Imperial Oil Foundation. The course is accredited by the College of Family Physicians of Canada and is a route to associateship in the Canadian Board of Occupational Medicine (CBOM).

*Dr. Nicola Cherry is Professor in the Division of Preventive Medicine in the Faculty of Medicine & Dentistry's Department of Medicine. Her research is funded by the Canadian Institutes of Health Research and Alberta's OHS Futures.*



## Stephen Shafran

### Hepatitis C

Dr. Stephen Shafran is an internationally recognized infectious disease expert who has conducted dozens of clinical trials of anti-infective drugs or vaccines. In the past decade his focus has been on hepatitis C, with such stunning results that there are no more drug trials to run. "That's because the current drugs are almost perfect," he says.

It wasn't always so. Twenty years ago, many people couldn't complete the lengthy treatment for hepatitis C because of the side-effects. Of those who could, the cure rate was at best 50 per cent. Dr. Shafran's scholarship contributed to improving the treatment and outcomes so that by 2015, the treatment was one pill a day for 12 weeks, with negligible side-effects and a cure rate of around 98 per cent.

Dr. Shafran and his team treat about 600 patients annually through the Hepatitis Support Program, created by the Division of Infectious Diseases to care for people with hepatitis C and B. The Hepatitis Support Program has grown to also support the Division of Gastroenterology. Most provincial health systems now cover the costs of hepatitis C treatment because of the far greater costs incurred if the disease progresses and results in cirrhosis of the liver, liver cancer or the need for liver transplantation.

Still, too many Albertans with hepatitis C are undiagnosed. "With population health, we have the potential to set up systems or use existing health databases to flag the many people who have been diagnosed with hepatitis C but have yet to be treated so that they can get into treatment very quickly," says Dr. Shafran.

*Dr. Stephen Shafran is Professor in the Division of Infectious Diseases in the Faculty of Medicine & Dentistry's Department of Medicine.*



## Padma Kaul

### Birth cohort

**“Pregnancy is a high-stress event that leads to complications in about 15 per cent of pregnant women,” says epidemiologist Dr. Padma Kaul. Those complications are associated with chronic disease development, not only in mothers but in their children. Dr. Kaul has developed a pregnancy birth registry using de-identified provincial administrative health data to track all women who have given birth since 1999.**

The data of hundreds of thousands of women and children are linked in the registry to health services use—from physician visits to lab tests. Developing the registry took several years and funding from provincial and national sources to become what is now, as Dr. Kaul calls it, a “goldmine” for perinatal and maternal-child health researchers.

She’s used that wealth of data for numerous research questions—from screening rates for gestational diabetes to the effects of inflammatory arthritis drugs on mother and child health to the downstream impacts of low birth rates—that have fostered publications, research training and mentorship, and interdisciplinary collaborations.

Dr. Kaul is working with researchers in five other provinces to align their pregnancy-birth cohorts and link them to pharmaceutical data and outcomes. As women delay pregnancy, the chances of them having pre-existing conditions that require medications increases. “Having this national data would be fantastic to provide information on possible associations between prescription drugs and maternal and child health,” she says.

*Dr. Padma Kaul is Professor in the Division of Cardiology in the Faculty of Medicine & Dentistry’s Department of Medicine, Adjunct Professor in the School of Public Health, Director of outcomes research for the Canadian VIGOUR Centre, and Adjunct Assistant Research Professor, Duke University Medical Center. Her research is funded by the Heart and Stroke Foundation of Canada, Alberta Innovates and the Canadian Institutes of Health Research.*

# Faculty Development

Dr. William Dafoe



**Dr. William Dafoe**

*Associate Chair, Faculty Development  
Department of Medicine*

**“What you leave behind is not what is engraved in stone monuments, but what is woven into the lives of others.”** *Pericles*

Under the leadership of Dr. William Dafoe, Professor and Associate Chair, Faculty Development, and the support of Gloria Jichita, Academic Development Officer, the Department runs a comprehensive Faculty and Career Development Program, mandatory for new faculty members. The program provides new members of our community with many of the tools they need to succeed. It is designed to clarify how we understand the various facets of scholarship and how to put them into practice in this academic medical environment.

## ENHANCING ORIENTATION

Initial orientation for new faculty members included meetings with senior administrative personnel to provide information on performance expectations, reporting and administrative support services.

## ACADEMIC LEARNING SERIES

In 2016-2017, nine workshops were given to our pre-tenure faculty. Topics included: Promotion and Tenure, Medical Legal Pitfalls, Supervising Trainees and Staff, Getting Started in Research, Research: Writing and Publishing, Quality Improvement, Evidence-based Mentorship, Teaching Effectiveness and Getting Promoted as a Teacher. Some senior faculty members and trainees also benefited from these workshops.

A summary assessment was obtained based on a survey of the first group of individuals to complete the series. The majority of respondents indicated the series was a

valuable use of their time and that the presentation topics were most relevant to their development and success as pre-tenure faculty members. Over half of the respondents indicated the series enabled them to connect with other pre-tenure faculty members.

Sessions on Time Management and Mentorship were added to the Academic Learning Series website. A total of 10 presentations are now available to our faculty and staff.

## FOCUS ON GENDER EQUITY

The Academic Careers of Women Subcommittee was formed in late 2017 to advise the chair regarding appropriate policies to prevent and rectify systemic gender bias and to oversee the work undertaken in the Department of Medicine with respect to the academic careers of female faculty.

## RECOGNIZING CLINICAL FACULTY

Clinical faculty are largely volunteer teachers who provide a clinical component to the education our learners receive and they are vital to the education mission of the Department. Dr. John Bradley, Assistant Chair, Clinical Faculty, has provided leadership and encouragement for clinical faculty members to come forward for promotion. In 2017, we celebrated 27 clinical faculty promotions (equivalent to 14.7 per cent of those who were eligible to apply for promotion), representing a significant increase over time. By comparison, in 2013, six clinical faculty were promoted (equivalent to 4.4 per cent of those who were eligible to apply for promotion). The Department of Medicine is grateful for the valuable contributions and increasing engagement of our clinical faculty.

## Statistics

**Faculty: 42 faculty members were promoted (15 on the academic track, 27 on the clinical track).**

**Honours and awards: In the 2016–17 academic year, 18 faculty members received Department of Medicine awards; 19 members received Faculty of Medicine & Dentistry awards; 10 received University of Alberta awards; 64 received provincial, regional, national or international awards.**

DEPARTMENT OF MEDICINE

# 2017 DIVISIONAL LEADERSHIP



**Wayne Tymchak**  
Cardiology



**Robert Gniadecki**  
Dermatology



**Peter Senior**  
Endocrinology & Metabolism



**Daniel Sadowski** (*Interim*)

Gastroenterology



**Daniel Baumgart**



**Narmin Kassam**  
General Internal Medicine



**Adrian Wagg**  
Geriatric Medicine



**Joseph Brandwein**  
Hematology



**Karen Doucette**  
Infectious Diseases



**Branko Braam** (*Interim*)  
Nephrology



**Douglas Zochodne**  
Neurology



**Shaun Gray**  
Physical Medicine & Rehabilitation



**Chester Ho**



**Sebastian Straube**  
Preventive Medicine



**Harissios Vliagoftis**  
Pulmonary Medicine



**Ron Damant** (*Interim*)



**Steven Katz** (*Interim*)



**Jan Willem Cohen Tervaert**

Rheumatology



# Division Profiles

## Department of Medicine

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Innovation distinguishes between  
a leader and a follower.

*Steve Jobs*



# Cardiology

Dr. Wayne Tymchak

**“Success for the Division of Cardiology means creating a fertile environment where all types of scholarship can flourish,” says Division Director Dr. Wayne Tymchak. “Two factors are key,” he says: “training and leadership.”**



“We have one of the strongest cardiology training programs in Canada,” Dr. Tymchak says. “For example, we host an annual Western Canada retreat where cardiology trainees from several programs are immersed in the steps for training success, including doing practice oral exams in addition to addressing core competencies.”

The division also encourages research scholarship in trainees through several competitive awards, the most recent of which was established in 2017 for best

research proposal and honours the late Dr. Richard Rossall, a pioneer in medical education scholarship.

Dr. Paul Armstrong, a 2017 recipient of the Order of Canada, exemplifies the long tradition of clinical research leadership in the division. Dr. Armstrong’s development of a myocardial infarction care pathway has contributed to Alberta having one of the lowest mortality rates in Canada for the disease.

Another division member, Dr. Michelle Graham, conducted research that shed new light on the findings of the POISE-2 trials, originally published in the *New England Journal of Medicine* in 2014. Her research was presented at the American Heart Association (AHA) 2017 Scientific Sessions and published in the *Annals of Internal Medicine*.

Dr. Tymchak has identified four areas for research leadership in the future—heart failure, clinical epidemiology, clinical trials design and interventional cardiology—where basic and clinical scholarship can overlap and lead to innovation. “We’re recruiting two individuals who trained at the University of Alberta and went abroad for specialized training to lead our efforts in these four areas, with the goal of translating research successes into new knowledge and care.”

## Lindsey Carter



After her fellowship, Dr. Lindsey Carter decided to stay in Edmonton to join one of the largest cardiac transplant and mechanical circulatory support programs in the country. Her goal is to provide the full spectrum of heart-failure care, from diagnosis to end-stage management. She provides care at the clinics for outpatient heart function, cardiac transplantation and mechanical circulatory support and provides inpatient services for the mechanical circulatory support and transplant services. Her research interests are to better understand the determinants of post-transplant and post-VAD (ventricular assist device) outcomes to improve the delivery of clinical care.

## Michelle Graham



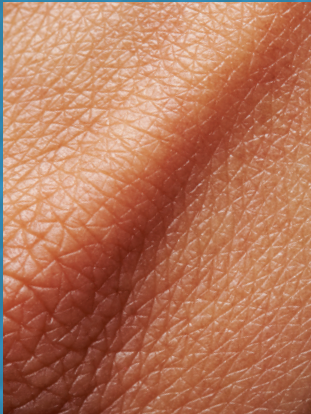
Dr. Michelle Graham’s scholarship has led to more than 100 peer-reviewed papers, including a 2017 publication in *Annals of Internal Medicine*. The study reviewed the POISE-2 clinical trial data to show a reduced risk of heart attack when patients with previous percutaneous coronary intervention took low-dose aspirin around the time of noncardiac surgery. She is chair of the Canadian Cardiovascular Society Scientific Program Committee and associate editor of the *Canadian Journal of Cardiology*.



# Dermatology

*Dr. Robert Gniadecki*

**“People with complex skin needs are underserved in the community. They require a lot of time from dermatologists often working with other specialists. Our division provides services they cannot find anywhere else, thanks to the Academic Medicine and Health Services Program,” says Dr. Robert Gniadecki, Division of Dermatology director.**



“Our academic goals are driven by patient needs,” he says. “We have specialized, multidisciplinary outpatient clinics that we want to spread so we can serve patients throughout the province.” In 2017, led by Dr. Thomas Salopek, the division set up a skin lymphoma clinic, headed by Dr. Marlene Dytoc, that complements existing clinics for melanoma and for genital skin and eczema disorders. Multidisciplinary teams for cutaneous lymphoma meet biweekly through telehealth to discuss diagnoses and treatments of patients from around the province.

Serving patients better was also addressed with the development of a referral guide to improve triaging and reduce wait times for dermatology care.

In an effort to diagnose melanoma earlier, division members plan to launch a mole-screening clinic in 2018 that will use whole-body photography. A hair-diseases clinic will also open in 2018.

The division is strengthening its research scholarship with the establishment of a genomic dermatology laboratory. “Genomics has the potential to decipher an individual’s response to disease, which is the first step in creating a personalized treatment. We want to focus on genomics of cutaneous lymphoma,” says Dr. Gniadecki.

“The Royal College of Physicians and Surgeons of Canada accreditation process gave us the opportunity to improve our teaching program,” he says. The division was successfully accredited in 2017. “We’re a small division but we excel in clinical scholarship. For example, we had 25 publications in 2017, which is outstanding.”

## *Aishwarya Iyer*



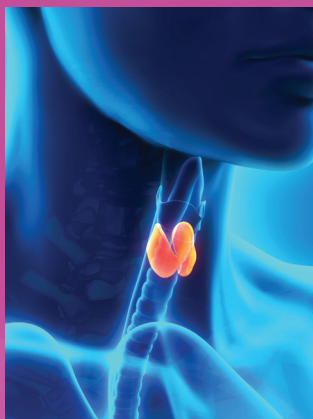
When Aishwarya Iyer transferred her doctoral studies in cell biology to lymphoma genomics research in Dr. Robert Gniadecki’s lab, she found a perfect match. She finds the scholarship environment second to none, including training she received in genomics and bioinformatics from Dr. Gniadecki’s collaborator, Dr. Gane Ka-Shu Wong. Her research focuses on using high throughput sequencing technology to identify diagnostic and prognostic biomarkers for cutaneous T-cell lymphoma. The study will also contribute to identifying better treatment targets.



# Endocrinology & Metabolism

*Dr. Peter Senior*

**“One of our goals in 2017 was to develop a structured, multidisciplinary clinic to serve people who have pituitary tumours or hormone problems and may need neurosurgery,” says Endocrinology & Metabolism Division Director Dr. Peter Senior. “We had an opportunity to take the existing services offered by our division and by neurosurgery, build a broader approach that included learning and scholarship, and improve patient care and followup.”**



While the clinic is still being developed, a monthly combined case conference means specialists meet and co-ordinate care even before patients walk in the door. “It’s a tangible first step to better serve the needs of patients,” says Dr. Senior.

The division is implementing a similar approach in 2018 for transgender patients. Currently, people needing gender reassignment surgery wait two to three years for psychiatric diagnosis. Hormone treatment cannot begin without the diagnosis. “Alberta Health

Services has appointed a full-time psychiatrist, Dr. Michael Marshall, to address the wait list,” says Dr. Senior. “We’re working closely with him to come up with a plan where the patient can see the psychiatrist and endocrinologist in the same location. Ultimately the plan would be to have the surgery available in Alberta (it’s currently offered only in Quebec), but we have to do a lot of building first.”

Another area of clinical scholarship is improving diabetes care. “There’s been a provincial initiative to improve prescribing of insulin in hospitals and one of our division members, Dr. Tammy McNab, implemented this at the University of Alberta Hospital. She did a lot of teaching and training of residents, staff and nurses,” Dr. Senior says.

The division won a clinical innovation award from the Department of Medicine for the development of a patient-teaching tool kit for people who required pancreas removal surgery. “These patients develop a severe form of diabetes when the pancreas is removed and teaching them about the special care they need before the surgery improves their outcomes,” says Dr. Senior.

## *Jamie Boisvenue*



School of Public Health epidemiology master’s student Jamie Boisvenue joined Dr. Rose Yeung’s lab as a research assistant in the Division of Endocrinology & Metabolism in 2017. Dr. Yeung’s diabetes research earned her the Outstanding Healthcare Professional Award from Diabetes Canada in 2017 and the Junior Diabetes Investigator Award from Endocrine Society. Jamie’s thesis research focuses on early-onset prediabetes and gestational diabetes.

## *Anna Lam*



New Assistant Professor Dr. Anna Lam’s clinical scholarship focus is on the assessment of beta cell function in patients with Type 1 diabetes and islet transplant recipients. She is working with international collaborators to validate the BETA-2 score, a new tool that allows for frequent and routine monitoring of beta cell function, as a novel surrogate endpoint in Type 1 diabetes intervention trials.





# Gastroenterology

*Dr. Daniel C. Baumgart*

**The Division of Gastroenterology welcomed a new division director in December 2017 with the arrival of Dr. Daniel C. Baumgart from Germany. “Although we were in leadership transition,” says former Interim Division Director Dr. Daniel Sadowski, “we were able to continue recruitment with Dr. Ali Kohansal, an endoscopy specialist and Dr. Rahima Bhanji, a liver transplant specialist coming on board to bolster our clinical service delivery and scholarship.”**



Endoscopy and liver make up two of three distinct groups in the division, the third being inflammatory bowel disease. “Each area had its defined goals and successes in 2017,” says Dr. Sadowski. In the endoscopy arena, Dr. Dina Kao was instrumental in establishing the fecal transplant program. In 2017, she was able to publish her work comparing oral capsules versus colonoscopy for fecal microbiota transplant in the *Journal of the American Medical Association*.

In the liver group, Dr. Andy Mason received the primary biliary cirrhosis (PBC) Researcher of the Year Award from the Canadian Association for the Study of the Liver and the Outstanding PBC Research Award from the Canadian PBC Society.

In the inflammatory bowel disease group, Dr. Karen Madsen is part of a national collaboration awarded \$19 million by the Canadian Institutes of Health Research for a multicentre national longitudinal study of bowel health.

Other successes included a Stop Colorectal Cancer Through Prevention and Education (SCOPE) project led by Dr. Richard Sultanian that reduced the wait time for colonoscopy for colorectal cancer screening from an average of 10 months to less than one month. Dr. Leah Gramlich has been part of a Canadian Institutes of Health Research-funded project, Enhancing Recovery After Surgery, looking at improving outcomes in surgery patients.

The division’s strengths in education scholarship were highlighted with the undergraduate GI block, led by Dr. Lana Bistriz, voted Block of the Year by medical students. “Dr. Bistriz delivers education outreach to family physicians and has developed teaching resources for dietitians for the management of malnutrition,” Dr. Sadowski says. “The GI program for subspecialty fellows, headed by Dr. Karen Kroeker, was awarded accreditation by the Royal College of Physicians and Surgeons of Canada.”

## *Rahima Bhanji*



Liver transplant specialist Dr. Rahima Bhanji was recruited in 2017 as Assistant Professor in the Division of Gastroenterology. Dr. Bhanji’s clinical scholarship is in long-term outcomes in patients following liver transplant. Her focus will be on immunosuppression use and complications such as renal dysfunction, metabolic syndrome and sarcopenia. One of her recent papers on sarcopenia was published in the October 2017 issue of *Clinical Gastroenterology and Hepatology*.



# General Internal Medicine

*Dr. Narmin Kassam*

**Dr. Narmin Kassam, division director for General Internal Medicine (GIM), says the scholarly work of division members in key areas of health services research, clinical care and education innovation led to major accomplishments in 2017. “But the loss of a dear colleague and one of our most distinguished and prolific researchers, Dr. Sumit Majumdar, was in tragic contrast to our successes.”**



Although Dr. Majumdar’s absence is keenly felt, the research scholarship in the division remains strong. Dr. Finlay McAlister is the research chair in Cardiovascular Health Outcomes and the data platform lead for the provincial Strategy for Patient-Oriented Research Support Unit. He also chairs the University Hospital Foundation Medical Research Competition alongside Dr. Raj Padwal, who is the competition’s scientific officer. “We had 11 graduate students or fellows and 51 papers

published or in press,” says Dr. Kassam. “Divisional members received nearly \$2 million in peer-reviewed funding as primary investigators.”

“In undergraduate education, we’ve changed the way we’re doing student evaluations, so that they are at the point of care. Our new internal medicine club offers shadowing opportunities for students interested in internal medicine and we’ve had the highest ever participation in that,” says Dr. Kassam.

In postgraduate education, the division’s Core Internal Medicine program and its subspecialty GIM residency program were accredited in late 2017. The dedication of division staff to resident education was highlighted in the feedback. “Three of the core associate program directors are from the division: Dr. Cheryl Goldstein, Dr. Vijay Daniels and Dr. Anca Tapardel,” says Dr. Kassam. “And the subspecialty program was under the leadership of Dr. Jennifer Ringrose. We were also able to implement competency-based education a year ahead of schedule thanks to the leadership of Dr. Daniels.”

## *Lindsay Bridgland*



General internist Dr. Lindsay Bridgland’s love of her field is matched by her passion for international health and medicine. Both led her to Tanzania three times, sponsored by Academics Without Borders, to contribute to a new general internal medicine program through teaching and clinical work. Dr. Bridgland in turn saw the educational value for other physicians. In 2017 she arranged for Dr. Selina Dobing, a fifth-year general internal medicine resident, to accompany her to Tanzania.

## *Shannon Ip*



General internist Dr. Shannon Ip became Clinical Director of the Hypertension Dyslipidemia Clinic in 2017. She is Clinical Co-ordinator of the Venous Thromboembolism (VTE) Clinic, run in partnership with the Division of Hematology. She is also part of the hypertension and VTE research group. Dr. Ip is the Resident Principal Teaching Physician at the University of Alberta Hospital for the Core Internal Medicine program and is involved with the education administration for the General Internal Medicine rotation at the hospital.



# Geriatric Medicine

*Dr. Adrian Wagg*

**“For the past five years, our division has been following a strategic direction to provide services local to patients rather than in central hospitals,” says Dr. Adrian Wagg, Geriatric Medicine Division Director. “The older population we serve often have mobility, transportation and other difficulties, so it is critical that we expand our outreach programs to towns surrounding Edmonton.”**



To achieve this, the division needs more clinicians and is working with the provincial Ministry of Health on a clinical alternative relationship plan to be approved in 2018. In collaboration with the relevant provincial primary care networks, division members began providing a clinic in Vegreville in 2017, to add to those offered in Mayerthorpe, Sherwood Park, St. Albert and Spruce Grove. In 2018, a clinic will open in Westlock.

The division provides a specialist continence clinic at the Glenrose Rehabilitation Hospital that now sees more than 700 new patient referrals of all ages annually and is the basis of the division’s continence research program. In 2017, the division hired Dr. Naheed Rajabali, a geriatrician with an interest in movement disorders; Dr. Bill Gibson, a geriatrician who works in the continence clinic; and Dr. Aatif Hussain, a geriatrician with a specialist interest in dementia who sees general geriatric outpatients. A further expansion of the continence clinic and geriatric services will occur with the arrival of a new physician in 2018.

## *William Gibson*



Newly appointed Assistant Professor Dr. William Gibson is completing a PhD in geriatric incontinence with Dr. Adrian Wagg. His research interests include understanding how symptoms of urinary urgency and urinary incontinence affect and are affected by cognitive function, and why older adults with urinary incontinence are more likely to fall than those without the condition.

## *Naheed Rajabali*



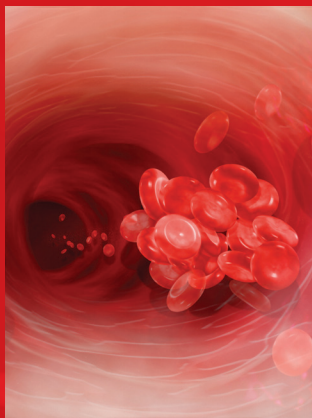
Dr. Naheed Rajabali was appointed a Clinical Lecturer in 2017. He works at the Royal Alexandra Hospital’s acute inpatient ward and consult service and leads a new geriatric emergency department service at the site. He also delivers care at a movement disorder clinic at the Kaye Edmonton Clinic in collaboration with the Division of Neurology. He researches fitness and frailty in the context of critical care medicine and surgery.



# Hematology

*Dr. Joseph Brandwein*

**“The Division of Hematology had two priorities in 2017,” says Division Director Dr. Joseph Brandwein. “The first was to encourage research scholarship in our hematology trainees,” he says. “We did this by establishing an award for the outstanding trainee research paper of the year, funded by and named after one of our recently retired colleagues, Dr. Michael Mant.”**



Dr. Arabesque Parker, a previous hematology resident and now a critical care resident, won the 2017 award for her paper on risk categorization for blood clots in hospitalized patients with cancer.

The division received a large donation from a former patient, Marshall Eliuk, to help promote hematology innovation both at the faculty and trainee levels and for patients. The division’s second priority was to reflect the donor’s intent through the creation of long-lasting initiatives. A new Award for Clinical Innovation in Hematology was launched, encompassing

new pilot projects, quality improvement or translational research.

Dr. Linda Sun, one of the division’s newest staff recruits, won one of the three awards to set up a provincewide registry for bleeding disorders, allowing division members to do scholarship and quality improvement in the area. A Fellowship Award in Hematology was also set up to promote additional fellowship training in Edmonton or elsewhere.

The third initiative launched by the Marshall Eliuk Fund was the creation of a patient-and-family room in the division’s in-patient hematology unit. “Some of our patients are in the hospital for a very long time and this new suite allows them to have a quiet place to stay with their families,” says Dr. Brandwein.

“Thanks to generous donors, we have the mechanisms in place to promote scholarship at all levels,” says Dr. Brandwein. “Our focus in 2018 is to build on these and expand our capacity for research, quality improvement and clinical innovation.”

## *Mohammad Refaei*



Dr. Mohammad Refaei, a hematology fellow, led quality-improvement projects that resulted in educational and clinical changes at the University of Alberta Hospital (for example, reducing the inappropriate use of frozen plasma). He was awarded the Abstract Achievement Award at the American Society of Hematology meeting in 2017, for his current research project that focuses on the role of leukemic stem cells in predicting relapse in patients with acute myeloid leukemia.

## *Linda Sun*



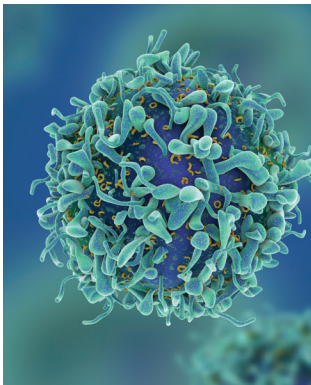
New Assistant Professor Dr. Linda Sun was awarded the inaugural Marshall Eliuk Fund for Clinical Innovation in Hematology prize to support the development of a provincial administrative database in bleeding disorders. In collaboration with Dr. Cynthia Wu, she aspires to strengthen the thrombosis and hemostasis research program. Dr. Sun co-directs the Dr. John Akabutu Comprehensive Centre for Bleeding Disorders and is a steering committee member and co-principal investigator in national studies in congenital and acquired hemophilia.



# Infectious Diseases

*Dr. Karen Doucette*

**The launch of an Antimicrobial Stewardship Program at the University of Alberta Hospital was a major accomplishment for the Division of Infectious Diseases in 2017. Setting up the program required time, infrastructure and resources, says Division Director Dr. Karen Doucette. “We recruited Dr. Justin Chen, who is leading antimicrobial stewardship groundwork at the University of Alberta Hospital with the aim of spreading the program across the Edmonton zone.”**



Building scholarship in the division is a major focus for Dr. Doucette. “We have great opportunity for growth in academic scholarship,” she says. “We are developing an academic track to support infectious diseases subspecialty residents to do additional research training within and following their core clinical training. Recruitment is also key to achieving this. In addition to Dr. Chen, we recruited Dr. Nelson Lee, an internationally recognized researcher in respiratory viral infections.”

Through growing provincial, national and international collaborations, Dr. Doucette would like to see the growth in leadership and participation in investigator-initiated clinical trials. “Duration of antimicrobial therapy and/or choice of antimicrobial agent for common infections—these are decisions that continue to be based on expert opinion in up to 50 per cent of cases but that need to be answered with evidence to support what we do.”

The division’s clinical training program is recognized as one of the best in the country and in 2017 was recommended for full accreditation. “While we are aiming to strengthen the academic training of our residents, the division boasts a breadth of clinical expertise,” says Dr. Doucette. “We have people practising in all areas of infectious diseases, including HIV, viral hepatitis, outpatient antimicrobial therapy, infections in corrections, sexually transmitted infections, tuberculosis, transplant infectious disease, infection control and antimicrobial stewardship, which is unique in Canada.”

## *Nelson Lee*



Internationally recognized expert Dr. Nelson Lee was recruited to the Division of Infectious Diseases in 2017 as Professor. His research has advanced clinical management and control of respiratory viral infections in hospitalized adults. He is a highly cited author who has published over 200 research articles in leading international journals. Many of his works are referenced in health authority guidelines globally. He was the recipient in 2017 of the Infectious Diseases Society of America’s Fellowship Award for his professional and academic excellence.

## *Justin Chen*



Dr. Justin Chen was recruited in 2017 to establish the Antimicrobial Stewardship Program at the University of Alberta Hospital. As the Site Medical Director, Dr. Chen has launched the prospective audit and feedback intervention at the hospital. The goal is to grow to a comprehensive, multidisciplinary program to stabilize antimicrobial resistance, ensure optimal use of antimicrobials, and improve patient outcomes at the University of Alberta Hospital site.



# Nephrology

Dr. Branko Braam

**A mid-2017 retreat of the Division of Nephrology gave members a renewed sense of teamwork. At the retreat they mapped out 12-month goals for clinical innovation projects, along with a commitment to find common ground between basic and clinical scholarship to accelerate clinical advances.**



“Post-retreat, a dynamic atmosphere has grown, conducive to change and improvement,” says Nephrology Division Interim Director Dr. Branko Braam. “For example, we implemented a quality-improvement program for the process of preparing patients to receive a kidney transplantation, which is critical given the involved process leading up to transplantation.”

“We have started a biannual research nephrology grand rounds that will bring clinical, basic and translational

researchers together to present their achievements and plans,” says Dr. Braam. “This is the foundation for translating advances into care.”

Other highlights in 2017 include important contributions to clinical scholarship made by several individuals. Dr. Aminu Bello’s work in global renal care delivery was published in the *Journal of the American Medical Association*. He was subsequently named co-chair of a World Health Organization working group for implementing renal care improvement programs around the world.

Three division members received CIHR grants. Dr. Sara Davison’s development grant will help expand the successful conservative kidney care management strategy she created into use for other chronic diseases such as heart failure. The second CIHR grant was awarded to Dr. Stephanie Thompson for her work in exercise for people with chronic kidney disease. Transplant nephrologist Dr. Ngan Lam’s focus on living kidney donors, published in highly ranked journals, led to the third CIHR grant.

## Xiaohua Huang



Critical care physician Xiaohua Huang came to Canada as a Li Ka Shing Sino-Canadian Exchange Program Scholar to pursue a PhD in Dr. Branko Braam’s laboratory. Her research looks at the mechanisms by which renal venous congestion impairs kidney function in heart failure. She is a guest lecturer on the areas of circulatory shock and cardio-renal interactions.

## Nikhil Shah



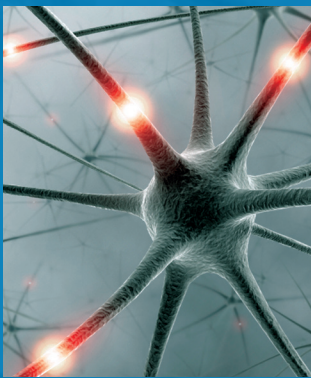
Clinical nephrologist Nikhil Shah focuses on innovation and quality improvement in home dialysis, especially in peritoneal dialysis. He is also a leader in using social media for nephrology education. He belongs to a global group of nephrologists who run a biweekly Twitter journal club at Nephjc.com. Shah mentors fellows and residents involved with the Nephrology Social Media Collective (NSMC) in a program that applies social media in nephrology. His current research includes peritoneal dialysis catheter outcomes and nephrology hashtag ontology (key hashtags used on social media related to nephrology).



# Neurology

Dr. Douglas Zochodne

**The expertise of Division of Neurology members spans conditions and diseases from stroke to epilepsy and neuromuscular to cognitive disorders, earning the division recognition as one of the leading neurology programs in Canada.**



“Long term, we’re aiming for seamless interaction between patient care, education and scholarship,” says Division Director Dr. Douglas Zochodne. “Through a combination of successful recruitment, research funding and new program launches, we made important progress in 2017.”

He highlights that along with recruitment of outstanding individuals to the neurology

residency training program, the division welcomed three new faculty: Dr. Wasif Hussain, a concussion specialist; Dr. Peter Dobrowolski, a neuromuscular expert; and Dr. Trevor Steve, an epilepsy authority.

In 2017, the division received successful stroke accreditation and launched the Stroke Ambulance Program to reduce treatment time and long-term damage from stroke. “One of our goals for 2018 is to continue our strengths in stroke expertise through new recruitment,” says Dr. Zochodne.

Expanding access to care led to the launch of a neurology clinic at the Royal Alexandra Hospital along with the recruitment of four new neurologist participants in the site’s consultation call service. In 2018, the division will explore the development of dedicated headache and concussion outpatient programs at the Kaye Edmonton Clinic.

The best care is rooted in a supportive and supported scholarship environment. Dr. Zochodne describes the division’s success in obtaining 2017 research funding from the CIHR as one of its top accomplishments. “We want trainees and fellows to see the opportunities in this field for the successful interplay between clinical and basic scholarship. That’s why we’re initiating a Neurology/ Neuroscience and Mental Health Institute Fellowship Program in 2018 for physician and scientist post-doctoral fellows,” he says.

## Jesi Bautista



Dr. Jesi Bautista is a research fellow from the Philippines working with Dr. Douglas Zochodne. She studies a peripheral nerve disorder called chronic inflammatory demyelinating polyneuropathy (CIDP) that causes nerve damage requiring treatment with immunoglobulin. Dr. Bautista is examining the effects of treatment on peripheral nerve axon regeneration. The Division of Neurology’s research scholarship strength was why Dr. Bautista chose to train in Edmonton.

## Trevor Steve



Dr. Trevor Steve joined the Division of Neurology in 2017 as Assistant Professor. His research focuses on temporal lobe epilepsy (TLE), which is the most common form of drug-resistant epilepsy. He uses a combination of high-resolution *ex vivo* MRI and histological techniques to develop microscopically accurate maps of the human brain. These maps are then translated to *in vivo* MR Images to study tissue microstructure in patients with TLE, with the goal of improving the ability to diagnose and potentially cure this disabling condition.



# Physical Medicine & Rehabilitation

*Dr. Chester Ho*

**Dr. Chester Ho took up two positions when he came to the Department of Medicine in December 2017. He became the Division of Physical Medicine & Rehabilitation's Director and the first Spinal Cord Injury Research Chair at the University of Alberta, thanks to the following donor organizations: Craig Simpson and Friends, Alberta Paraplegic Foundation and the Spinal Cord Injury Treatment Centre Society.**



The reputation of the division was a huge factor in Dr. Ho's recruitment. "In addition to our strength in rehabilitation research, education scholarship in the division is exemplary. Dr. Lalith Satkunam added one more award to his impressive list with the Lecturer Excellence Award from the second-year undergraduate class," he says. "Another highlight was Dr. Jaime Yu's leadership in taking over the undergraduate musculoskeletal course for the faculty."

The clinical scholarship strengths of the division are also noteworthy, Dr. Ho says. "Dr. Carmen Tuchak is the program lead for stroke rehabilitation at the Glenrose Hospital. In 2017, the program team received Stroke Distinction status from Accreditation Canada under her leadership."

The division will launch a year-long strategic planning exercise in 2018 to focus on building strengths internally and improving services provincially, such as standardizing rehabilitation care. The exercise will kick off with a division-wide survey to see what people think should be the priorities for the future.

"One of our strengths is that a lot of our scholarship is patient-oriented and we have a pipeline that moves lab-based research to clinical work to knowledge translation. Looking ahead, I want to see us recruit even more trainees with an academic focus so that we keep knowledge and innovation flowing into patient care," says Dr. Ho.

*Kahir Rahemtulla*



Kahir Rahemtulla is doing his master's studies in the lab of Dr. Vivian Mushahwar, a biomedical engineer and developer of intelligent micro-implants for restoring standing and walking after paralysis and wearable technology that prevents pressure ulcers in paralyzed muscles. Kahir is leading a project focused on developing "TheSock," a prototype of a sock-like technology to prevent deep vein thrombosis, which will be tested on patients who have conditions that put them at risk for the condition.





# Preventive Medicine

*Dr. Sebastian Straube*

**“The successful recruitment of Dr. Karen Lee, a public health and preventive medicine physician, to the Division of Preventive Medicine was a significant event for us,” says Dr. Sebastian Straube, division director. “We are a small division in an area of medicine that is rather unique,” he says. “We are creating greater capacity in this area through recruitment, education and training at multiple levels, and by furthering research scholarship. A lot of the work done in the Division of Preventive Medicine has real-world implications for Alberta, Canada and internationally, and we are fortunate to have such an impact.”**



One example of how population research scholarship in preventive medicine directly addresses public health issues is Dr. Alexander Doroshenko's evaluation of vaccine interventions to control pertussis (whooping cough), a disease that has been on the rise in recent years.

Another public health issue that is reverberating throughout North America is the opioid crisis. Dr. Straube was the senior author in a research collaboration that conducted overviews of Cochrane Reviews (systematic

reviews of systematic reviews) on opioid efficacy and adverse effects when these drugs are used for chronic non-cancer pain. This work showed that adverse events—including serious adverse events—were not uncommon with medium- to long-term opioid use, but also that some of the expected data on adverse events had not been reported. This is an area where future research can be improved.

“We are looking to recruit additional academic staff in occupational medicine in the near future, further strengthening our academic profile,” says Dr. Straube. Other members of the division include occupational health researcher Dr. Nicola Cherry, whose work is featured in a profile, and Dr. Bernadette Quemerais, an occupational hygienist.

## *Alexander Doroshenko*



Evaluating public health policies can be challenging because once they are implemented it is difficult to see what would have happened without them. To address this, Dr. Alexander Doroshenko uses agent-based mathematical modelling to simulate and assess the effects of various public health interventions. His latest study examined the effect of outbreak response immunization in pertussis control. It was widely published and is aimed at informing public health policy locally, nationally and abroad. In addition to his academic role, Dr. Doroshenko is a medical officer of health with Alberta Health Services.

## *Karen Lee*



Part of new Associate Professor Dr. Karen Lee's role in the Division of Preventive Medicine will be working with Alberta Health Services in public, population and Indigenous health. Dr. Lee's background includes contributing to New York City's environmental approach to chronic disease prevention and control. Her award-winning collaborations with non-health sectors have produced resources used globally to improve health and well-being. Dr. Lee won the Canadian Institute of Planners President's Award in 2017.



# Pulmonary Medicine

*Dr. Ron Damant*

**The Division of Pulmonary Medicine continues to be very active across multiple domains: clinical care, clinical innovation, quality improvement, education, research and administration/leadership.**



This group provides a broad range of clinical services: general pulmonary clinics; disease-specific clinics for pulmonary hypertension, chronic obstructive pulmonary disorder (COPD), asthma, hereditary hemorrhagic telangiectasia, sleep medicine, allergy, pleural effusions, interstitial lung disease and bronchiectasis; the University of Alberta lung transplant program; the adult cystic fibrosis program; interventional pulmonary medicine; inpatient ward services; consultation services and bronchoscopy.

The division continues to explore novel ways to provide care to people distributed over large geographic areas through telehealth, a prototype satellite pulmonary clinic in Hinton, Alberta and virtual clinics.

Clinical innovation and quality improvement remain major focuses, with development of a COPD Care Pathway and augmentation of sleep-testing capacity as just two examples.

The division is very active in medical education and provides award-winning teaching to the Faculty of Medicine & Dentistry's undergraduate MD/DDS program, core internal medicine, multiple subspecialty medicine programs and a highly regarded pulmonary medicine residency program. Trainees are engaged in clinical and scholarly work in major cities and small communities across Canada.

Research crosses the spectrum from clinical to basic science and includes optimization of care for those with end-stage pulmonary fibrosis; novel molecular biology techniques to predict rejection in lung transplant recipients; assessment of occupational exposures on health of welders; transmission of tuberculosis in Indigenous peoples; mechanical circulatory supports as a bridge to transplantation; recommendations for pharmacotherapy in COPD; and evaluation of the end-of-life experience in COPD. Medical education is another area of research work. Collectively, Division of Pulmonary Medicine members hold several million dollars of funding from key granting agencies and are disseminating their work in high-impact journals.

Members of the division provide leadership to the Edmonton Zone, the province, across the country and around the world.

## *Andrew Brotto*



Under Dr. Michael Stickland's mentorship, graduate student Andrew Brotto is examining the effects of nitric oxide, a pulmonary vascular vasodilator, on increasing oxygen consumption in young controls. Pulmonary research allows him to apply his previous exercise physiology studies to clinical scholarship in asthma, chronic obstructive pulmonary disease and heart failure.

## *Pen Li*



Dr. Pen Li completed his medical training at the University of Alberta and went on to do a fellowship in interventional pulmonology at the University of Ottawa. He then returned to Edmonton in 2017 to join the Division of Pulmonary Medicine as a clinical lecturer and interventional pulmonologist. His clinical and research interests include minimally invasive and endoscopic techniques to treat pulmonary disease. He will also focus on enhancing innovations such as therapeutic bronchoscopy, endobronchial ultrasound and medical thoracoscopy, in order to reduce the need for surgical interventions.



# Rheumatology

*Dr. Jan Willem Cohen Tervaert*

**The Division of Rheumatology's scholarship strengths were a major draw for Dr. Jan Willem Cohen Tervaert, who was recruited from the Netherlands in November 2017 as Division Director. "Former Interim Director Dr. Steven Katz was very successful in enlarging the division and making it more attractive for residents, researchers and new faculty," he says.**



Dr. Cohen Tervaert's mandate is to tap the power of the division's clinical and research scholarship to develop translational research.

"We're starting by setting up a laboratory and recruiting a basic scientist to focus on vascular biology, so that we can relate vascular immunology findings in the laboratory to patients," he says. The establishment by Dr. Elaine Yacyshyn and Dr. Allison Clifford of a vasculitis clinic was another divisional highlight in 2017.

Another area of clinical and research importance is medication adherence, especially as rheumatology patients are on medications long term. In 2017, a recruit to the division, pharmacist Dr. Jill Hall, looked at natural and homeopathic medication use by rheumatology patients, the results of which were published in *Musculoskeletal Care*.

The division's educational scholarship is well recognized. Dr. Anna Oswald, winner of the 2016 Rutherford Award for Excellence in Undergraduate Teaching, oversees the faculty's competence-based learning program. Dr. Oswald was awarded the Teacher-Educator Award from the Canadian Rheumatology Association in early 2018. Dr. Carrie Ye, recruited from within the program in 2017, heads the rheumatology residency program.

"Because people with rheumatic diseases have them for life, patient education is a priority for the division," says Dr. Cohen Tervaert. "A new website ([albertarheumatology.com](http://albertarheumatology.com)) developed by Dr. Katz helps people get answers about their conditions."

## *Carrie Ye*



Shortly after completing her rheumatology training, Dr. Carrie Ye started the Multidisciplinary Bone Health Clinic—with dietitian Holly Bell, physiotherapist Rashmi Mandhane, occupational therapist Kathy Cotton and pharmacist Theresa Charrois—to care for patients on long-term glucocorticoids. The clinic is the first of its kind in Canada and will be doubling its capacity in 2018. Her research interests include glucocorticoid-induced osteoporosis and immune checkpoint inhibitor-related rheumatologic adverse effects. Dr. Ye was appointed Assistant Clinical Professor in 2018 and Program Director for the adult rheumatology training program in early 2018.

## RESEARCH FUNDING

Alberta Diabetes Foundation  
 Alberta Health Services  
 Alberta Heritage Foundation for Medical Research\*  
 Alberta Innovates  
 Alberta Innovates Bio Solutions\*  
 Alberta Innovates Bio Solutions/Alberta Alzheimer's Research Program\*  
 Alberta Innovates Bio Solutions/Alberta Prion Research Institute\*  
 Alberta Innovates – Health Solutions\*  
 American College of Gastroenterology  
 American Gastroenterological Association Research Foundation  
 Answering Thrombotic Thrombocytopenia Purpura Foundation  
 Arthritis Society  
 Brain Canada Foundation  
 Canadian Association of Gastroenterology  
 Canadian Dermatology Foundation  
 Canadian Diabetes Association  
 Canada Foundation for Innovation  
 Canadian Liver Foundation  
 Canadian Pulmonary Fibrosis Foundation  
 Cleveland Clinic Foundation  
 Creutzfeldt-Jakob Disease Foundation  
 Crohn's and Colitis Canada  
 CSHP Research and Education Foundation  
 Heart & Stroke Foundation  
 International Society of Nephrology  
 Kidney Foundation of Canada  
 MSI Foundation  
 Multiple Sclerosis of Canada  
 National Parkinson Foundation

\*Now Alberta Innovates

## NEW TO THE DEPARTMENT

**Ali Kohansal**, Assistant Clinical Professor, Gastroenterology  
**Anna Lam**, Assistant Professor, Endocrinology & Metabolism  
**Toru Tateno**, Assistant Professor, Endocrinology & Metabolism  
**William Gibson**, Assistant Professor, Geriatric Medicine  
**Linda Sun**, Assistant Professor, Hematology  
**Trevor Steve**, Assistant Professor, Neurology  
**Clarissa Agosto**, Clinical Lecturer, General Internal Medicine  
**Katherine Ross**, Clinical Lecturer, General Internal Medicine  
**Naheed Rajabali**, Clinical Lecturer, Geriatric Medicine  
**Aatif Hussain**, Clinical Lecturer, Geriatric Medicine  
**Justin Chen**, Clinical Lecturer, Infectious Diseases  
**Nikhil Shah**, Clinical Lecturer, Nephrology  
**Daniel Baumgart**, Professor, Gastroenterology  
**Nelson Lee**, Professor, Infectious Diseases  
**Chester Ho**, Professor, Physical Medicine & Rehabilitation  
**Jan Willem Cohen Tervaert**, Professor, Rheumatology

## LEFT THE DEPARTMENT

**Katherine Lechelt**, Associate Clinical Professor, Geriatric Medicine  
**Alain Brassard**, Professor, Dermatology  
**Vivian Huang**, Assistant Professor, Gastroenterology  
**Rebecca Charbonneau**, Assistant Clinical Professor, Physical Medicine & Rehabilitation  
**Cathy Lu**, Assistant Professor, Gastroenterology

## ACADEMIC PROMOTION

**Craig Butler**, Cardiology, Associate Professor w/ tenure  
**Karen Kroeker**, Gastroenterology, Associate Professor w/ tenure  
**Jennifer Ringrose**, General Internal Medicine, Associate Professor w/ tenure  
**Roopinder Sandhu**, Cardiology, Associate Professor w/ tenure  
**Juan Gonzalez-Abraldes**, Gastroenterology, Granted Tenure (as Associate Professor)  
**Sebastian Straube**, Preventive Medicine, Granted Tenure (as Associate Professor)  
**Kannayiram Alagiakrishnan**, Geriatric Medicine, Professor  
**Kenneth Butcher**, Neurology, Professor  
**Ronald Damant**, Pulmonary Medicine, Professor  
**Justin Ezekowitz**, Cardiology, Professor  
**Donald Gross**, Neurology, Professor  
**Padmaja Kaul**, Cardiology, Professor  
**Ian Paterson**, Cardiology, Professor  
**Zaeem Siddiqi**, Neurology, Professor  
**Michael Stickland**, Pulmonary Medicine, Professor

*Promoted effective July 1, 2017*

## CLINICAL PROMOTION

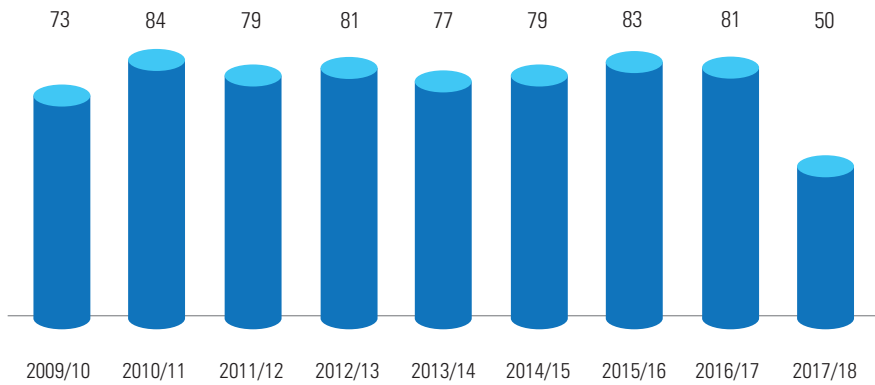
**Leena Amin**, General Internal Medicine, Assistant Clinical Professor  
**Lauren Bolster**, Hematology, Assistant Clinical Professor  
**Ashley Gillson**, Pulmonary Medicine, Assistant Clinical Professor  
**Ramona Hrimiuc**, General Internal Medicine, Assistant Clinical Professor  
**Abraam Isaac**, Infectious Diseases, Assistant Clinical Professor  
**Heather Lindstrom**, Physical Medicine & Rehabilitation, Assistant Clinical Professor  
**Charles (Chuck) Lortie**, Dermatology, Assistant Clinical Professor  
**Dennis Marion**, Infectious Diseases, Assistant Clinical Professor  
**Amy Morse** Gastroenterology, Assistant Clinical Professor  
**Kimberley Mulchey**, Pulmonary Medicine, Assistant Clinical Professor  
**Leah Remington**, Infectious Diseases, Assistant Clinical Professor  
**Mariam Shahidi**, Endocrinology & Metabolism, Assistant Clinical Professor  
**Sarah Takach Lapner**, Hematology, Assistant Clinical Professor  
**Erinjit Toor**, General Internal Medicine, Assistant Clinical Professor  
**Hemish Acharya**, Physical Medicine & Rehabilitation, Associate Clinical Professor  
**Deena Hinshaw**, Preventive Medicine, Associate Clinical Professor  
**John Kachope**, General Internal Medicine, Associate Clinical Professor  
**William Keeble**, Cardiology, Associate Clinical Professor  
**Kathryn Koliaska**, Preventive Medicine, Associate Clinical Professor  
**Sarah Kwong**, Endocrinology & Metabolism, Associate Clinical Professor  
**Winnie Leung**, Pulmonary Medicine, Associate Clinical Professor  
**Jennifer McCombe**, Neurology, Associate Clinical Professor  
**Muzaffar Siddiqui**, Neurology, Associate Clinical Professor  
**Minakshi Taparia**, Hematology, Associate Clinical Professor  
**Jonathan Windram**, Cardiology, Associate Clinical Professor  
**Tammy McNab**, Endocrinology & Metabolism, Clinical Professor  
**Mariusz Sapijaszko**, Dermatology, Clinical Professor

*Promoted effective July 1, 2017*

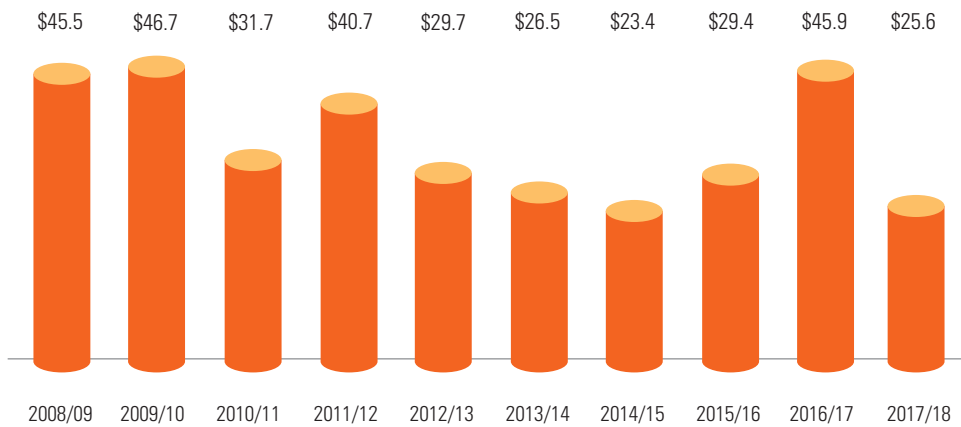
## RECRUITMENT & ATTRITION SUMMARY

	RECRUITMENT				TOTAL	ATTRITION				TOTAL
	Male		Female			Male		Female		
	ARP	FFS	ARP	FFS		ARP	FFS	ARP	FFS	
2009/10	9	3	9	3	24	5	0	1	0	6
2010/11	2	6	6	9	23	1	0	0	1	2
2011/12	2	14	1	12	29	5	1	8	4	18
2012/13	3	2	3	1	9	3	4	6	4	17
2013/14	4	0	2	1	7	2	3	3	1	9
2014/15	6	2	4	7	19	10	0	2	0	12
2015/16	9	5	11	8	33	5	3	2	3	13
2016/17	3	11	5	6	25	1	0	1	7	9
2017/18	8	17	3	10	38	2	5	4	6	17

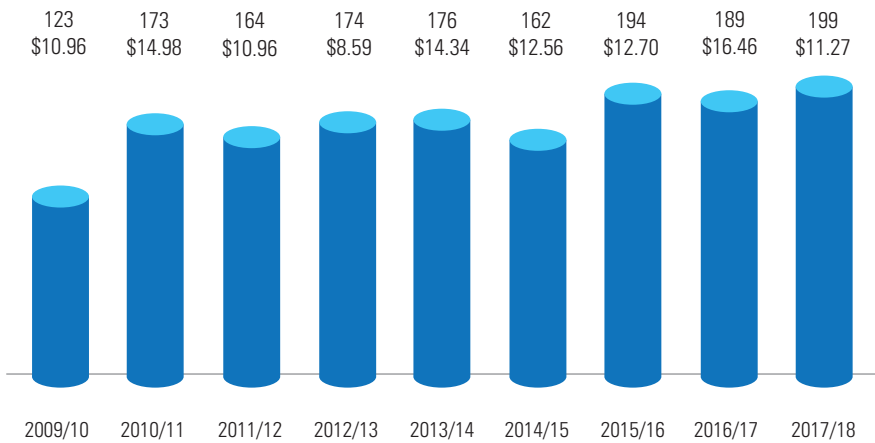
**TRI-COUNCIL FUNDING (# OF INVESTIGATORS)**



**TOTAL RESEARCH FUNDING (\$MILLIONS)**



**CLINICAL TRIALS FUNDING (NEW CLINICAL STARTS/YEAR – INCOME/YEAR \$MILLIONS)**



## ENDOWED FUNDS AND CHAIRS

FUND NAME	PRINCIPAL VALUE MARCH 31, 2018
J Lorna-MG Bud Atkin EN Multiple Sclerosis Research	\$2,935,027.14
Toupin HM Chair Neurology Science	\$1,413,627.76
Royal Canadian Legion Kidney Research	\$405,021.95
AstraZeneca Chair in Asthma Research	\$3,000,000.00
King EG Mem Endowment	\$164,956.66
Muttart Chair Clinical Immunology Endowment	\$1,675,100.00
Cars-Rheumatic Disease	\$14,535.07
Gastrointestinal Visionary	\$115,895.00
Edwards AM Lecture Clinical Education	\$105,004.67
<b>TOTAL</b>	<b>\$9,829,168.25</b>

OTHER ENDOWMENTS	PRINCIPAL VALUE MARCH 31, 2018
HSFA Chair Cardiovascular Research	\$1,561,650.00
Henri M Toupin Chair Neurology	\$2,389,202.54
H Toupin Chair Neurocognitive	\$2,389,427.54
Capital Health Chair in Obesity	\$1,500,000.00
Capital Health Chair in Aboriginal Health	\$1,500,000.00
Capital Health Chair in Cardiac Sciences	\$1,500,000.00
Capital Health Chair in Healthy Aging	\$1,500,500.00
Kidney Health Research Chair	\$8,297,480.62
GlaxoSmithKline Chair Air Inflammation	\$1,393,465.05
Chair Patient Health Management	\$3,000,000.00
Sophie Balemba Memorial Travel Fund	\$146,478.85
<b>TOTAL</b>	<b>\$25,178,204.60</b>

## ENDOWED EXTERNALLY FUNDED CHAIRS

**Harald Becher**, Cardiology  
Heart and Stroke Foundation Chair in Cardiovascular Research

**Dean Befus**, Pulmonary Medicine  
AstraZeneca Canada Chair in Asthma Research

**Branko Braam**, Nephrology  
Kidney Health Research Chair – Translational Research

**Kenneth Butcher**, Neurology  
Heart and Stroke Foundation Chair in Stroke Research

**Nicola Cherry**, Preventive Medicine  
Tripartite Chair in Occupational Health

**Phillip Halloran**, Nephrology  
Muttart Research Chair in Clinical Immunology

**Chester Ho**, Physical Medicine & Rehabilitation  
Spinal Cord Injury Chair

**Scott Klarenbach**, Nephrology  
Kidney Health Research Chair – Health Outcomes

**Sumit Majumdar**, General Internal Medicine  
Chair in Patient Health Management

**Finlay McAlister**, General Internal Medicine  
Capital Health Chair in Cardiac Health Outcomes

**Paolo Raggi**, Cardiology  
Capital Health Chair in Cardiac Sciences

**Arya Sharma**, Endocrinology  
Capital Health Chair in Obesity Research and Management

**Sangita Sharma**, Endocrinology  
Centennial Professor, University of Alberta

**Sangita Sharma**, Endocrinology  
Capital Health Chair in Aboriginal Health

**Oksana Suchowersky**, Neurology  
Henri M. Toupin Chair in Neurology

**Gopinath Sutendra**, Cardiology  
AIHS Translational Health Chair in Cardiovascular Research

**Harissios Vliagoftis**, Pulmonary Medicine  
GlaxoSmithKline/RxD/CIHR Chair in Airway Inflammation

**Adrian Wagg**, Geriatrics  
Capital Health Chair in Healthy Aging Research

## AIHS TEAM GRANTS

**Goodman K. et al**  
Addressing Community Concerns about Health Risks from H.pylori Infection

**Oudit G. et al**  
The human explanted heart program (HELP) at the Mazankowski Alberta Heart Institute: A Translational Bridge for Cardiovascular Medicine

**McAlister F. et al**  
Evaluating the Impact of Alberta Health System Change on Outcomes in General Internal Medicine

**Padwal R. et al**  
Telemonitoring and case management for hypertensive community dwelling seniors with diabetes (TECHNOMED)

**Power C. et al**  
Neurosteroids as Biomarkers and Therapeutics in Multiple Sclerosis

**Preiksaitis J. et al**  
Improving the prevention, diagnosis and treatment of post-transplant lymphoproliferative disorders after solid organ transplantation using peripheral blood and tissue biomarkers

**Sharma S. et al**  
Attitudes towards cancer in arctic communities & Examining uptake of screening services: The access project

**Sharma A. et al**  
Implementation and Validation of the “5As Framework of Obesity Management” in Primary Care-“5As CRIO”

**Stickland M. et al**  
How does management of chronic obstructive pulmonary disease hospitalizations affect patient-centered health outcomes and cardiovascular risk?

## CANADA RESEARCH CHAIRS

**Kenneth Butcher**, Neurology  
Canada Research Chair (Tier 2) in Cerebrovascular Disease

**Evangelos Michelakis**, Cardiology  
Canada Research Chair (Tier 1) in Applied Molecular and Mitochondrial Medicine

**Gavin Oudit**, Cardiology  
Canada Research Chair (Tier 2) in Heart Failure

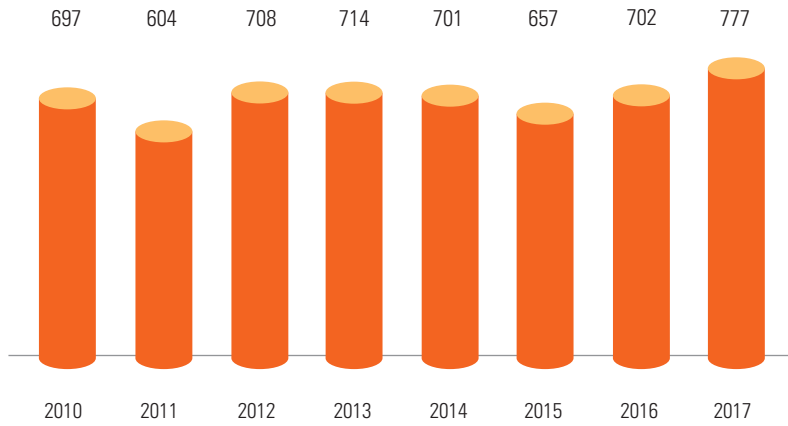
**Patrick Pilarski**, Physical Medicine & Rehabilitation  
Canada Research Chair (Tier 2) in Machine Intelligence for Rehabilitation

**Christopher Power**, Neurology  
Canada Research Chair (Tier 1) in Neurological Infection & Immunity

**David Westaway**, Neurology  
Canada Research Chair (Tier 1) in Prion Disease



## PUBLICATIONS



## GRADUATE STUDENT SUMMARY

Currently enrolled	96
MSc program	54
PhDs	42
# of Students Who Published in 2017	41
Total Publications	94
Total Students (including graduated, withdrawn, & transferred)	112
Average Publications per Student	0.84
Active Postdoctoral Fellows	24





## COVER PHOTOS

### Tayne Hewer, BSc

Tayne Hewer will be defending her thesis for a master's with specialization in Translational Medicine (TM) in August of 2018. She's finding the specialized knowledge she's gained from the two-year TM program instrumental in her work as clinical research coordinator with the Royal Alexandra Hospital's critical care and quality assurance research group. She sees first-hand how integrating information from basic and clinical research helps her better understand and develop protocols, designs and tests for clinical trials. It's also improved her communications with patients and families who want to learn more about the research they are involved with. Tayne wants to continue in clinical research, specifically in patient and family centered care within the ICU. For her, clinical research provides unique opportunities to interact at the bedside and contribute to quality initiatives and research behind the scenes.

**CHAIR**  
 Department of Medicine

Barbara Ballermann, MD

**Executive Editors**

Barbara Ballermann, MD  
 Barbara Hiscock, Assistant Chair, Administration

**Department Liaison**

Andrea Cliff, Event Administrator, Office of the Chair  
 Sonia Gisenya, Executive Assistant to the Chair

**Managing Editor**

Kathleen Thurber  
 Fridman Thurber Consulting Ltd.  
[fridmanthurber@gmail.com](mailto:fridmanthurber@gmail.com)

**Writing**

Kathleen Thurber

**Editing**

Sasha Roeder Mah  
[sasha.roedermah@gmail.com](mailto:sasha.roedermah@gmail.com)

**Design**

Helix Design Communications 2001 Inc.  
[hello@helixdesigns.com](mailto:hello@helixdesigns.com)  
[helixdesigns.com](http://helixdesigns.com)

**Photography**

Richard Siemens  
[Richard.siemens@ualberta.ca](mailto:Richard.siemens@ualberta.ca)

Melissa Fabrizio  
[mfabrizi@ualberta.ca](mailto:mfabrizi@ualberta.ca)

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