

Kidney Research Centre

Annual Report
2017-2018

Inspired by research.
Driven by compassion.

Inspiré par la recherche.
Guidé par la compassion.



About the KRC

The Kidney Research Centre (KRC) was established in 2000 at The Ottawa Hospital Research Institute, University of Ottawa, and is the first centre of its kind in Canada devoted exclusively to the prevention, diagnosis and treatment of kidney disease. The KRC team

consists of laboratory scientists, clinician investigators, students and research trainees, technologists, research coordinators, research managers, and clerical and administrative staff. Since 2000, the KRC has experienced significant growth in the size of its team of researchers, and in the scope of the research being conducted.



Cover: Image shows the interaction between tiny pieces of injured kidney cells known as microparticles (seen in green) with kidney tubule cells (seen in red with blue nuclei). The laboratory of Dr. Dylan Burger recently published the first evidence that these microparticles can damage kidney tubules leading to fibrosis (kidney scarring). This newly discovered process may play a key role in kidney failure. Dr. Burger's work can be accessed at <https://doi.org/10.1080/20013078.2018.1432206>

Contents

Message from the Director	4
Message du directeur	6
Profile of Dr. Richard L. Hébert	9
Community Outreach.....	11
KRC Golf Tournament	11
Italian Night.....	11
Alive to Strive	11
KRC Staff / Trainees.....	12
Publications.....	17
KRC Grant Funding	22
Investigators—Invited Presentations	25
Awards and Distinctions.....	28
Visiting Speakers	29

Message from the Director

Academic Year 2017-2018

Every year, more than 3,000 people in Ontario are diagnosed with kidney failure, a number that has risen progressively over the past 3 decades. Once kidney failure is established, treatment options are limited, and include life-long dialysis treatments or kidney transplantation. And while transplant is a preferred treatment, many patients do not have a living kidney donor, and must sustain difficult and costly dialysis treatments for an average of 4 years before a kidney becomes available from a deceased donor. Indeed, some people do not survive long enough to receive a kidney transplant, and many others are not eligible for this surgery because of the fragile state of their health. Here at the Kidney Research Centre, we are dedicated to finding innovative solutions to prevent, diagnose and treat kidney disease. Our goal is to enhance the quality of life for people affected by all forms of kidney disease. And in 2017-18, we made steady progress, both at the laboratory bench and in the hospital and out-patient clinics.

In 2017-18, researchers at the KRC published more than 60 peer-reviewed manuscripts in scientific/medical journals, and presented their findings at local, national and international meetings. At the laboratory level, advances were made by Drs. Chris Kennedy and Richard Hébert in understanding how diabetes damages the tiny filters of the kidneys (“glomeruli”) and alters the transport of salt and water by kidney tubules. Dr. Dylan Burger’s laboratory has discovered the damaging



Dr. Kevin Burns, Director of the Kidney Research Centre

effects of small vesicles released by blood vessel cells (“microparticles”) in diabetes, which could lead to new strategies to treat vascular disease in these patients. On the clinic side, there have been several important research developments, including understanding the place of anticoagulant medications to prevent stroke for people on dialysis (Dr. Manish Sood), ways to increase kidney donation rates and improve transplant outcomes (Dr. Greg Knoll), a link between results of newborn blood tests and risk of kidney disease in children (Dr. Sood), and the connection between high blood pressure and risk of kidney failure (Drs. Sood, Marcel Ruzicka, Swapnil Hiremath, Ayub Akbari, Deb Zimmerman and Brendan McCormick), amongst many others. These advances are also highlighted in our monthly newsletter, the KRC Newsflash (www.ohri.ca/centres/krc/newsflash.asp).

The KRC has been very successful once again in securing major provincial and national grant funding. Dr. Dylan Burger received a prestigious Early Researcher Award from the Government of Ontario (Ministry of Research, Innovation and Science) to support his studies on the effects of circulating microparticles in causing injury to blood vessels and kidney cells in diabetes. Dr. Burger was the sole recipient of this award at the OHRI, which attests to the importance and high quality of his research. Dr. Kevin Burns was awarded a 5-year grant from the Canadian Institutes of Health Research (CIHR) to continue his research on cell-based treatments for acute kidney failure. Dr. Burns and his group have shown that in animals with sudden kidney failure, intravenous administration of tiny vesicles (“exosomes”) isolated from human cord blood “progenitor” cells significantly protects against kidney injury and allows for more rapid recovery. With this grant, his lab hopes to uncover the

mechanisms in which these exosomes protect the kidneys, and then transfer this technology for use in humans with kidney failure in the near future. On the clinical side, Dr. Zimmerman was awarded a grant from the CIHR to launch a clinical trial focused on the effects of exercise on quality of life in patients on dialysis treatments. Funding for this important study was granted after a tough competition in which only 1 out of 10 applications was successful. Dr. Ayub Akbari received a grant from the Kidney Foundation of Canada to study why some people with advanced kidney disease must start dialysis treatments urgently, without time for planning or assistance with decision-making. Dr. Edward Clark was awarded funding from the Ontario Renal Network (ORN) to study the factors that lead to recovery of kidney function in patients with acute kidney failure on dialysis, and Dr. Manish Sood also received a grant from ORN, to improve understanding of end-of-life decisions and “do-not-resuscitate” status in patients on hemodialysis. Dr. Swapnil Hiremath was granted funding from the Lotte and John Hecht Memorial Foundation to support his research on the effects of dietary potassium supplementation on high blood pressure, a major risk factor for kidney disease.

Graduate students at the KRC successfully defended their theses in 2017-18: Ms. Maddison Turner (Dr. Burger’s lab), and Ms. Randa Haneef (Dr. Burns’ lab) each received their MSc degrees from the University of Ottawa for their research accomplishments. Ms. Naomi Boisvert (Dr. Kennedy’s lab) was awarded the Doctorate (PhD) degree for her research study on “The role of ubiquitin C-terminal hydrolase-1 in renal function and glomerular disease”.

We receive tremendous support from the Ottawa community. The 34th La Serata Italiana/Italian Night gala dinner on March 3rd, 2018 featured a

“Night at the Opera” and raised \$50,000 for the KRC. We thank Anna Monteduro, Mario Frangione, and all members of the Italian Night organizing committee for hosting this great gala, as well as The Ottawa Hospital (TOH) Foundation for their assistance and support. At the dinner, KRC graduate student Matthew Spence (Dr. K. Burns’ lab) and Nephrology Fellowship trainee Dr. David Massicotte-Azarniouch (supervisor Dr. M. Sood) were awarded KRC scholarships, sponsored by the Italian Night and the Kidney Foundation of Canada. Mr. Spence has been studying the ways in which exosomes from cord blood progenitor cells are able to selectively target the injured kidneys (and not other organs) to exert their beneficial effects. Dr. Massicotte-Azarniouch is interested in a condition called “ANCA vasculitis”, which can cause sudden kidney failure. He will conduct research to potentially uncover the risk factors for this debilitating disease, as well as the optimal treatments. The KRC scholarships support the training of these excellent students and fund their attendance and presentations at national and international meetings.

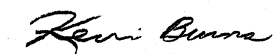
More than \$4,500 was raised to support the KRC at the 8th annual Alive to Strive Kidney Fitness Project event on April 29, 2018. The event involved runners and walkers from all age groups, and included patients and their family members. Many thanks to Ms. Marie-Eve Chainey, Chair of the event, Dr. Zimmerman, and all committee members for their hard work and dedication to this important cause.

On September 18, 2017 the 14th Annual KRC Golf Tournament at The Meadows course attracted more than 130 golfers, and raised \$30,000 to support kidney research. Our guest speaker for the evening, Ms. Marie-Eve Chainey shared her experience as a kidney transplant recipient. Organization of the event was led once again by

Mr. Sam Karkache, his committee of volunteers, and TOH Foundation. We thank Sam and all committee members, our Honorary Chair-hockey legend Brian Kilrea, Dean Roberts from TSN 1200, Michael O'Byrne, Urbandale, the CLV Group, and all participants and sponsors.

Lastly, we are very grateful for our private donors, who have made major donations to the KRC in the past year that will go directly to support biomedical and clinical research projects. We also thank the trainees, research staff, our lab manager Ms. Gaby Cherton-Horvat, and administrative staff (Ms. Brittany Hollingsworth and Ms. Jennifer Brownrigg) for their contributions to another successful year of research at KRC. I hope you enjoy reading about the achievements over the past year, including a special feature on one of our lead scientists, Dr. Richard Hébert!

Sincerely,



Kevin D. Burns MD CM, FRCPC
Professor of Medicine, Division of Nephrology,
Dept. of Medicine
The Ottawa Hospital
Director, Kidney Research Centre
Chronic Disease Program
Ottawa Hospital Research Institute, University of Ottawa

Message du directeur

Année scolaire 2017-2018



Dr Kevin Burns, Directeur du Centre de recherche sur les maladies du rein.

Chaque année, plus de 3 000 personnes en Ontario reçoivent un diagnostic d'insuffisance rénale, un nombre qui a augmenté progressivement au cours des trois dernières décennies. Une fois l'insuffisance rénale établie, les options de traitement sont limitées et comprennent des traitements de dialyse à vie ou une greffe de rein. Et bien que la greffe soit un traitement de choix, de nombreux patients n'ont pas de donneur vivant pour le rein et doivent subir des traitements de dialyse difficiles et coûteux pendant 4 ans en moyenne avant que le rein d'un donneur décédé ne soit disponible. En effet, certaines personnes ne survivent pas assez longtemps pour recevoir une greffe de rein, et beaucoup d'autres ne sont pas admissibles à cette chirurgie en raison de leur état de santé fragile. Ici, au Centre de recherche sur les maladies du rein, nous nous engageons à trouver des solutions innovantes pour prévenir, diagnostiquer et traiter les maladies du rein. Notre objectif est d'améliorer la qualité de vie des personnes touchées par toutes les formes d'insuffisance rénale. Et en 2017-18, nous avons fait des progrès constants, à la fois au laboratoire, à l'hôpital et dans des cliniques externes.

En 2017-18, les chercheurs du CRMR ont publié plus de 60 manuscrits évalués par des pairs dans des revues scientifiques/médicales et présenté leurs conclusions lors de réunions locales, nationales et internationales. Au niveau des laboratoires, les progrès ont été réalisés par les Drs Chris Kennedy et Richard Hébert comprennent comment le diabète endommage les minuscules filtres des

reins (« glomérules ») et modifie le transport du sel et de l'eau par les tubules rénaux. Le laboratoire du Dr Dylan Burger a découvert les effets néfastes des petites vésicules libérées par les cellules des vaisseaux sanguins (« microparticules ») dans le diabète, ce qui pourrait donner lieu à de nouvelles stratégies pour traiter les maladies vasculaires chez ces patients. En ce qui concerne les chercheurs en cliniques, plusieurs recherches importantes ont été réalisées; notamment la place des anticoagulants dans la prévention des accidents vasculaires cérébraux chez les dialysés (Dr Manish Sood), les moyens d'augmenter les taux de dons de reins et d'améliorer les résultats des greffes (Dr Greg Knoll), un lien entre les résultats des analyses de sang du nouveau-né et le risque de maladie rénale chez les enfants (Dr Sood), et le lien entre l'hypertension artérielle et le risque d'insuffisance rénale (Drs Sood, Marcel Ruzicka, Swapnil Hiremath, Ayub Akbari, Deb Zimmerman et Brendan McCormick), parmi beaucoup d'autres. Ces avancées sont également soulignées dans notre bulletin mensuel, le Newsflash du CRMR (www.ohri.ca/centres/krc/newsflash.asp).

Le CRMR a encore une fois réussi à obtenir d'importantes subventions provinciales et nationales. Le gouvernement de l'Ontario (ministère de la Recherche, de l'Innovation et des Sciences) a décerné au Dr Dylan Burger un prestigieux prix de nouveau chercheur pour ses travaux sur les effets des microparticules circulantes sur les vaisseaux sanguins et les cellules rénales du diabète. Le Dr Burger a été l'unique lauréat de ce prix à l'IRHO, ce qui témoigne de l'importance de la grande qualité de ses recherches. Le Dr Kevin Burns a reçu une subvention de cinq ans des Instituts de recherche en santé du Canada (IRSC) pour poursuivre ses recherches sur les traitements à base de cellules pour l'insuffisance rénale aiguë. Le Dr Burns et son groupe ont montré que chez les animaux souffrant d'insuffisance rénale subite, l'administration par voie intraveineuse de minuscules vésicules («exosomes») isolées à partir de

cellules «progénitrices» du sang de cordon humain protège de manière significative des lésions rénales et permet une récupération plus rapide. Grâce à cette subvention, son laboratoire espère découvrir les mécanismes par lesquels ces exosomes protègent les reins, pour ensuite transférer cette technologie pour une utilisation chez l'humain souffrant d'insuffisance rénale dans un proche avenir. Sur le plan clinique, la Dre Zimmerman a reçu une subvention des IRSC pour le lancement d'un essai clinique axé sur les effets de l'exercice sur la qualité de vie des patients traités par dialyse. Le financement de cette importante étude a été octroyé à l'issue d'une compétition dans laquelle une seule candidature sur 10 avait été retenue. Le Dr Ayub Akbari a reçu une subvention de la Fondation canadienne du rein pour étudier les raisons pour lesquelles certaines personnes atteintes d'insuffisance rénale avancée doivent commencer les traitements de dialyse de façon urgente, sans délai pour ainsi aider où planifier la prise de décision. Le Dr Edward Clark a reçu un financement du Réseau rénal de l'Ontario (RRN) pour étudier les facteurs conduisant au rétablissement de la fonction rénale chez les patients présentant une insuffisance rénale aiguë en dialyse. Le Dr Manish Sood a également reçu une subvention de l'ORN visant à améliorer la compréhension des décisions de fin de vie et du statut de « non-réanimation » chez les patients sous hémodialyse. Le Dr Swapnil Hiremath a reçu un financement provenant de « Lotte et John Hecht Memorial Foundation » pour ses recherches sur les effets des suppléments en potassium alimentaire sur l'hypertension artérielle, un facteur de risque majeur des maladies du rein.

Les étudiants diplômés du CRMR ont défendu avec succès leurs thèses en 2017-2018 : Mme Maddison Turner (laboratoire du Dr Burger) et Mme Randa Haneef (laboratoire du Dr Burns) ont obtenu leur maîtrise en sciences à l'Université d'Ottawa. Mme Naomi Boisvert (laboratoire du Dr Kennedy) a obtenu un doctorat pour son

étude sur le rôle de l'hydrolase-1 C-terminale de l'ubiquitine dans la fonction rénale et la maladie glomérulaire.

Nous recevons un soutien formidable de la communauté à Ottawa. Le souper et gala de la 34^e soirée La Serata Italiana / Italian Night du 3 mars 2018 a présenté une « nuit à l'opéra » et a permis de récolter 50 000 \$ pour le CRMR. Nous remercions Anna Monteduro, Mario Frangione et tous les membres du comité organisateur de la Nuit Italienne d'avoir organisé ce grand gala, ainsi que la Fondation de L'Hôpital d'Ottawa (FHO) pour leur aide et leur soutien. Lors du dîner, Matthew Spence, étudiant diplômé du CRMR (laboratoire du Dr K. Burns), et le Dr David Massicotte-Azarniouch, stagiaire de néphrologie, ont reçu une bourse CRMR, parrainée par la Nuit Italienne et la Fondation du rein du Canada. M. Spence étudie les moyens par lesquels les exosomes des cellules progénitrices du sang de cordon peuvent cibler de manière sélective les reins blessés (et non d'autres organes) afin d'exercer leurs effets bénéfiques. Le Dr Massicotte-Azarniouch s'intéresse à une infection appelée « vasculite à AN-CA », qui peut provoquer une insuffisance rénale subite. Il mènera des recherches pour découvrir les facteurs de risque de cette maladie débilitante, ainsi que les traitements optimaux. Les bourses du CRMR soutiennent la formation de ces excellents étudiants et financent leur participation et leurs présentations lors de réunions nationales et internationales.

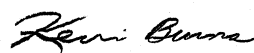
Plus de 4 500 \$ ont été collectés pour soutenir le CRMR lors de la 8^e édition du projet de remise en forme « Vivre ses défis » le 29 avril 2018. Cet événement réunissait des coureurs et des marcheurs de tous les groupes d'âge, ainsi que des patients et des membres de leur famille. Nous remercions chaleureusement Mme Marie-Eve Chainey, présidente de l'événement, Dre Zimmerman, et tous les membres du comité pour leur

travail acharné et leur dévouement à cette cause importante.

Le 18 septembre 2017, le 14^e tournoi de golf annuel du CRMR au club « The Meadows » a attiré plus de 130 golfeurs et a permis d'amasser 30 000 \$ pour soutenir la recherche sur les maladies du rein. Mme Marie-Eve Chainey (Vivre ses défis), notre conférencière invitée pour la soirée, a raconté son expérience en tant que greffée de rein. L'organisation de l'événement a été une nouvelle fois dirigée par M. Sam Karkache, son comité de bénévoles et la Fondation de l'Hôpital d'Ottawa. Nous remercions Sam et tous les membres du comité, notre président d'honneur – une légende du hockey Brian Kilrea, Dean Roberts de TSN 1200, Michael O'Byrne, Urbandale, le groupe CLV ainsi que tous les participants et commanditaires.

Enfin, nous sommes très reconnaissants envers nos donateurs privés, qui ont effectué des dons importants au CRMR au cours de la dernière année et qui serviront directement à soutenir des projets de recherche biomédicale et clinique. Nous remercions également les stagiaires, le personnel de recherche, notre responsable de laboratoire, Mme Gaby Cherton-Horvat, et le personnel administratif (Mme Brittany Hollingsworth et Mme Jennifer Brownrigg) pour leur contribution à une nouvelle année de recherche fructueuse au CRMR. J'espère que vous apprécierez la lecture des réalisations de la dernière année, y compris un article spécial sur l'un de nos scientifiques, le Dr Richard L. Hébert!

Cordialement,



Kevin D. Burns, MD CM, FRCPC
Professeur de médecine, Division de néphrologie
Université d'Ottawa et l'Hôpital d'Ottawa
Directeur, Centre de recherche sur les maladies du rein
Institut de recherche de L'Hôpital d'Ottawa, Université d'Ottawa

KRC Profile — Dr Richard L. Hébert

Growing up on a farm in the small town of Saint-Jean D'Iberville, QC, Dr. Richard Hébert was more interested in hockey and football than biomedical research. However, a decision to move to Ottawa, and a personal connection played a central role in launching the career of one of the world's leading authorities on kidney tubule function. "I was supposed to study Optometry in Montreal, but I wanted to learn English and so I chose to do my undergraduate studies in Ottawa. I decided to leave, to the great despair of my parents who wanted me to stay nearby". Dr. Hébert arrived in Ottawa in 1971 and after completing studies at the University of Ottawa, he actually worked in the federal government for a time. It was during this time that he recognized his desire to be involved in medical research. So after 4 years in the civil service, Dr. Hébert moved to the Université de Sherbrooke for his graduate studies. Why kidney research? "Because on my mother's side I had two aunts who had kidney disease and at the time there were very few treatment options".

A major turn in Dr. Hébert's career came at the start of his postdoctoral studies. "I was supposed to go to Texas Southwestern University to work with Dr. Harry Jacobson. I wanted to go there because it was in Dallas and the football culture was very appealing! Just before I was set to leave he called me to tell me that he was moving to Nashville, Tennessee. There was no hockey or football at the time, but I really liked Harry and I was able to learn a technique that very few people in the world can do. So I drove my AMC Gremlin down Highway 81 and spent the next 4 years performing microperfusion".



Microperfusion is a technique that measures the function of individual kidney tubules. It is one of the most technically challenging experiments used to study kidney function and is critical to understanding how kidneys work in health and disease. "It took me a year to learn the technique" says Dr. Hébert "to have results that you can repeat and begin to understand". His investment in learning microperfusion paid off as Dr. Hébert published several manuscripts in the world's most prestigious journals including the *Journal of Clinical Investigation*. Dr. Hébert also kept in touch with scientists in Canada, eventually returning to start his own laboratory in 1990. "I received offers from both McGill and the University of Ottawa, but I wanted to come to Ottawa because they had a core of people working on kidney disease".

Starting a new laboratory can be a challenge to anyone but Dr. Hébert says that the environment in Ottawa was a major factor in his early success. "The person who helped me the most early in my career was Dr. Steven Nadler. He was also working on kidney tubules and we were able to collab-

orate and publish several excellent studies. Unfortunately, a few years later he decided to focus on his clinical nephrology practice but our work together helped launch my career”.

At the same time, Dr. Hébert was increasing his teaching contributions, notably he assisted in founding the francophone stream of medical education at the University of Ottawa. “I was able to combine research along with medical education, which I really enjoy, and administration (Dr. Hébert was Assistant Dean of Admissions in the Faculty of Medicine from 2000-2010). I was able to balance this mainly due to the work of two excellent graduate students: Christopher Kennedy (now himself a Senior Scientist at the KRC) and Rania Nasrallah who were able to do a lot of independent work which opened up time for my teaching and administration. Rania (who is Dr. Hébert’s research associate), in particular has been a real driver of my laboratory’s activities”.

The 1990s also marked a dramatic expansion of kidney research in Ottawa culminating in the formation of the Kidney Research Centre in 1998. “Drs. Kevin Burns, David Levine, and I formed the Kidney Research Centre which was the first centre in Canada devoted entirely to research in the Kidney. And with the help of Chris Kennedy, who joined the KRC in 2001, we received a major grant from the Canada Foundation for Innovation to build a brand new research facility for the KRC. This facility opened in 2003 and I consider it one of the greatest achievements in my career. It really enhanced kidney research in Ottawa”.

Today, Dr. Hébert’s research focuses on sodium glucose cotransporter 2, which is involved in glucose transport in the kidney. “This is a really hot topic! This year, at the American Society of Nephrology Kidney Week there will be two symposia on this. Inhibitors of this transporter are now be-

ing used to treat diabetes and a key question is “What is the effect of long-term use of these drugs on the kidney”?

Outside of the lab Dr. Hébert enjoys long walks with his wife and dog and is an avid car enthusiast. When asked what makes a great car? “The sound of the engine, not so much the speed but the handling, feel and a quiet interior”. He lists a 2020 Porsche 911 Carrera S as his dream vehicle. Hearing him describe the car you get the sense that he has a plan to own one.

KRC Outreach

KRC Golf Tournament

The 14th annual KRC golf tournament held on September 18, 2017 at the Meadows Golf and Country Club was a success, raising more than \$30,000 to support kidney research. The KRC is grateful to the golfers, sponsors, The Ottawa Hospital Foundation, and the organizing committee led by Mr. Sam Karkache. Special thanks to our generous main sponsors, the CLV Group and Urbandale Corporation.

Italian Night

La Serata Italiana continued its tradition of fundraising and celebration on Saturday, March 3rd, 2018. The KRC joined in celebrating the 34th Italian Night Dinner which raises funds for research and trainee scholarships at the KRC. The dinner was held at the Sala San Marco and featured great food, networking, entertainment and a silent auction. The theme of the 34th Annual gala was “A Night at the Opera,” a magnificent evening for everyone that raised more than \$50,000.

Each year two KRC Trainees are awarded the Agostino Monteduro Italian Night Scholarships, on behalf of the Kidney Foundation of Canada. The 2018 awardees were Dr. David Massicotte-Azarniouch and Mr. Matthew Spence. Dr. Massicotte-Azarniouch is a RCPSC Fellow in the Nephrology Program at the University of Ottawa, supervised by Dr. Manish Sood. He has published a number of population-based research studies related to kidney disease during his training. Mr. Spence is a graduate student in the Laboratory of Dr. Burns. Mr. Spence completed an



Photo: Members of the KRC staff and La Serata Italiana organizing committee.

Honours undergraduate project in the lab in 2017, focused on the tissue distribution of intravenously administered exosomes (tiny vesicles derived from cord blood endothelial colony forming cells) in ischemia-reperfusion kidney injury. For his Masters’ thesis, he is studying how these exosomes (which protect against kidney injury) selectively target the kidneys.

The KRC is thankful for the tireless efforts of the Italian Night organizing committee in support of research aimed at improving the lives of people affected by kidney disease.

Alive to Strive

The 2018 Alive to Strive race was held Sunday, April 29, 2018 at the Terry Fox Athletic Facility. More than 500 runners and walkers participated in the morning’s races. The participants and over 100 volunteers raised over \$21,000. Over the past 8 years, the event has raised more than \$36,000 for the KRC. Thank you to Marie-Eve Chainey (President of the Board of Directors) and the entire Alive to Strive Organizing Committee!

KRC Staff / Trainees

Research Personnel

Members of the Division of Nephrology / Kidney Research Centre

<u>Name</u>	<u>Title</u>	<u>Scientific Rank</u>
Dr. Ayub Akbari	Associate Professor Division of Nephrology	Senior Clinician Investigator, OHRI
Dr. Robert Bell	Associate Professor Division of Nephrology	
Dr. Mohan Biyani	Assistant Professor Division of Nephrology	Clinician Investigator, OHRI
Dr. Pierre Antoine Brown	Assistant Professor Division of Nephrology	Clinician Investigator, OHRI
Dr. Ann Bugeja	Assistant Professor Division of Nephrology	
Dr. Dylan Burger	Assistant Professor Dept of Cellular and Molecular Medicine	Scientist, OHRI, KRC
Dr. Kevin D. Burns	Professor of Medicine Division of Nephrology Director of Kidney Research Centre	Senior Scientist, OHRI
Dr. Edward Clark	Assistant Professor Division of Nephrology	Clinician Investigator, OHRI
Dr. Janet Davis	Assistant Professor Division of Nephrology	Clinician Investigator, OHRI
Dr. Cedric Edwards	Assistant Professor Division of Nephrology	Clinician Investigator, OHRI
Dr. Todd Fairhead	Assistant Professor Division of Nephrology	Clinician Investigator, OHRI
Dr. Richard L. Hébert	Full Professor Dept of Cellular & Molecular Medicine	
Dr. Caitlin Hesketh	Clinical Associate Division of Nephrology	
Dr. Swapnil Hiremath	Associate Professor Division of Nephrology	Senior Clinician Investigator, OHRI
Dr. Stephanie Hoar	Assistant Professor Division of Nephrology	
Dr. Jolanta Karpinski	Associate Professor Division of Nephrology	Clinician Investigator, OHRI
Dr. Chris Kennedy	Full Professor Dept of Cellular & Molecular Medicine	Senior Scientist, OHRI
Dr. Greg Knoll	Professor of Medicine Division of Nephrology Head, Division of Nephrology	Senior Scientist, OHRI

Members of the Division of Nephrology / Kidney Research Centre

Dr. Susan Lavoie	Associate Professor Division of Nephrology	Clinician Investigator, OHRI
Dr. David Z. Levine	Emeritus Professor Division of Nephrology	Affiliate Investigator, OHRI
Dr. Peter Magner	Associate Professor Division of Nephrology	Clinician Investigator, OHRI
Dr. Brendan McCormick	Associate Professor Division of Nephrology	Clinician Investigator, OHRI
Dr. Soraya Moghadam	Clinical Associate Division of Nephrology	
Dr. Steven Nadler	Associate Professor Division of Nephrology	
Dr. Sushil Ratnaparkhe	Clinical Nephrology Associate	
Dr. Marcel Ruzicka	Associate Professor Division of Nephrology	Clinician Investigator, OHRI
Dr. Manish Sood	Jindal Research Chair for Prevention of Kidney Disease Assistant Professor Division of Nephrology	Associate Scientist, OHRI
Dr. Deborah Zimmerman	Associate Professor Division of Nephrology, Director of Clinical Research, KRC	Clinician Investigator, OHRI

Clinical Scholars, Trainees and Fellows

<u>Name</u>	<u>Title</u>
Dr. Rima Abou Arkoub	Clinical Fellow
Dr. Syed Obaid Amin	Clinical Fellow (RCPSC)
Dr. Mahesh Bennikal	Clinical Fellow
Dr. Tushar Dhakate	Clinical Fellow
Dr. Ankur Gupta	Clinical Fellow
Dr. Januvi Jegatheswaran	Clinical Fellow (RCPSC)
Dr. Prabhu Kanchi	Clinical Fellow
Dr. Teerath Kumar	Clinical Fellow
Dr. Darius Lazarus	Clinical Fellow
Dr. Trevor Mace-Brickman	Clinical Fellow (RCPSC)
Dr. David Massicotte-Azarniouch	Clinical Fellow (RCPSC)
Dr. Amr Nagy	Clinical Fellow (RCPSC)
Dr. Rajeevalochana Parthasarathy	Clinical Fellow
Dr. Krishnam Penmatsa	Clinical Fellow
Dr. Rayees Yousuf Sheikh	Clinical Fellow
Dr. Sriram Sriperumbuduri	Clinical Fellow

Advanced Practice Nurses

Name

Dr. Janice Bissonnette

Dr. Mary Ann Murray

Research Associates

Name

Supervisor

Dr. Alexey Gutsol

Dr. K. Burns

Dr. Chet Holterman

Dr. C. Kennedy

Dr. Mercedes Munkonda

Dr. D. Burger

Dr. Rania Nasrallah

Dr. R. L. Hébert

Dr. Jean-François Thibodeau

Dr. C. Kennedy (*Prometic collaboration*)

Dr. Jose Vinas

Dr. K. Burns

Dr. Fengxia Xiao

Dr. D. Burger / Dr. K. Burns

Post Graduate Medical Trainees

Name

Supervisor

Dr. Justin Ashley

Dr. M. Sood

Dr. Jason Bau

Dr. D. Burger

Dr. Adrianna Douvris

Dr. E. Clark

Dr. Danielle Moorman

Dr. S. Hiremath

Medical Students

Name

Supervisor

Mohammed Ali Faraz

Dr. S. Hiremath

Maryam Basim Zaree

Dr. S. Hiremath

Michael Che

Dr. A. Akbari

Jamie Ghossein

Dr. R. L. Hébert

Rana Hassan

Dr. A. Akbari / Dr. S. Hiremath

Johnny Huang

Dr. S. Hiremath

Rameez Imtiaz

Dr. D. Zimmerman

Jonathan Lau

Dr. A. Akbari

Gurpreet Mahli

Dr. E. Clark

Soroush Rouhani

Dr. S. Hiremath

Tharshka Thangarasa

Dr. D. Zimmerman

Khalid Zeid

Dr. E. Clark

Graduate Students (Basic Research)

<u>Name</u>	<u>Project Title</u>	<u>Supervisor</u>
Akram Abolbaghaei	Microparticles in diabetes and pregnancy	Dr. D. Burger
Naomi Boisvert	The role of ubiquitin C-terminal hydrolase L1 in ACT-N4-associated focal segmental glomerulosclerosis.	Dr. C. Kennedy
Randa Haneef	ECFC exosomes in acute kidney injury.	Dr. K. Burns
Matthew Spence	Mechanisms for kidney targeting of exosomes in acute kidney injury.	Dr. K. Burns
Maddison Turner	The effects of high glucose on endothelial micro-particle composition and bioactivity.	Dr. D. Burger

Honours Student (Clinical Research)

<u>Name</u>	<u>Supervisor</u>
Adesewa Oloko	Dr. S. Hiremath

Honours Students (Basic Research)

<u>Name</u>	<u>Supervisor</u>
Chloé Landry	Dr. D. Burger
Jude Sanon	Dr. D. Burger
Suzy Sun	Dr. D. Burger
Tessa Whiteley	Dr. D. Burger

Summer Students (Clinical Research)

<u>Name</u>	<u>Supervisor</u>
Olivia McBride	Dr. S. Hiremath
Brianna Lahey	Dr. S. Hiremath

Summer Students (Basic Research)

<u>Name</u>	<u>Supervisor</u>
Sirene Bellanid	Dr. D. Burger
Jamie Ghossein	Dr. R. L. Hébert
Chloé Landry	Dr. D. Burger
Jude Sanon	Dr. D. Burger
Matthew Spence	Dr. K. Burns
Suzy Sun	Dr. D. Burger
Mayur Tailor	Dr. D. Burger
Tessa Whiteley	Dr. D. Burger

Co-Op Student (Basic Research)

<u>Name</u>	<u>Supervisor</u>
Amélie Blais	Dr. C. Kennedy

Volunteers (Clinical Research)

<u>Name</u>	<u>Supervisor</u>
Gabrielle McKay	Dr. D. Zimmerman
Emma Ruzicka	Dr. D. Zimmerman

Technical Staff

<u>Name</u>	<u>Title</u>	<u>Supervisor</u>
Gabriele Cherton-Horvat	Laboratory Manager	Dr. K. Burns
Lihua Zhu	Laboratory Technician	Dr. C. Kennedy
Joseph Zimpelmann	Senior Laboratory Technician	Dr. K. Burns / Dr. R. L. Hébert

Clinical Research Staff

<u>Name</u>	<u>Title</u>	<u>Supervisor</u>
Valerie Cronin	Clinical Research Coordinator	Dr. D. Zimmerman
Wendy Fusee	Clinical Research Coordinator	Dr. D. Zimmerman
Julie Leidecker	Clinical Research Coordinator	Dr. D. Zimmerman
Jessica Wagner	Clinical Research Coordinator	Dr. D. Zimmerman

Research Administrative Staff

<u>Name</u>	<u>Title</u>	<u>Supervisor</u>
Jennifer Brownrigg	Research Administrative Assistant	Dr. K. Burns
Brittany Hollingsworth	Research Administrative Assistant	Dr. D. Zimmerman

Publications

1. **Brown PA, Hiremath S, Clark EG**, Kwok ESH, McCudden C, **Akbari A**. Implementation and evaluation of structured nephrology morbidity and mortality conferences: A quality education report. *International Urology and Nephrology* 50(5):929-938, 2018.
2. **Bugeja A, Clark EG**. Living kidney donation. *Canadian Medical Association Journal* 189(32):E1041, 2017.
3. **Bugeja A, Clark EG, Sood MM**, Sohrab A. As in real estate, location is what matters: A case report of transplant ureteral obstruction due to an inguinal hernia. *Canadian Journal of Kidney Health and Disease* 5:1-4, 2018.
4. **Munkonda MN, Akbari S, Landry C, Sun S, Xiao F, Turner M, Holterman C, Nasrallah R, Hébert RL, Kennedy CRJ** and **Burger D**. Podocyte-derived microparticles promote proximal tubule fibrotic signaling via p38 MAPK and CD36. *Journal of Extracellular Vesicles* 7:1, 2018.
5. Tang VA, Renner TM, Fritzsche AK, **Burger D**, Langlois MA. Single-particle discrimination of retroviruses from extracellular vesicles by nanoscale flow cytometry. *Scientific Reports* 7(1):17769, 2017.
6. Nash LA, McFall ER, Perozzo AM, Turner M, Poulin KL, De Repentigny Y, Burns JK, McMillan HJ, Warman Chardon J, **Burger D**, Kothary R, Parks RJ. Survival motor neuron protein is released from cells in exosomes: A potential biomarker for spinal muscular atrophy. *Scientific Reports* 7(1):13859, 2017.
7. Ma L, Gagnon A, Landry A, Le T, **Xiao F, Sun C**, Lochnan HA, **Burger D**, Sorisky A. Thyroid-stimulating hormone-stimulated human adipocytes express thymic stromal lymphopoietin. *Hormone and Metabolic Research* 50(04):325-330, 2017.
8. **Burger D, Turner M, Xiao F, Munkonda MN, Akbari S, Burns KD**. High glucose increases the formation and pro-oxidative activity of endothelial microparticles. *Diabetologia* 60(9):1791-1800, 2017.
9. Levin A, Adams E, Barrett BJ, Beanlands H, **Burns KD**, Chiu HH, Chong K, Dart A, Ferera J, Fernandez N, Fowler E, Garg AX, Gilbert R, Harris H, Harvey R, Hemmelgarn B, James M, Johnson J, Kappel J, Komen-da P, McCormick M, McIntyre C, Mahmud F, Pei Y, Pollock G, Reich H, Rosenblum ND, Scholey J, So-chett E, Tang M, Tangri N, Tonelli M, Turner C, Walsh M, Woods C, Manns B. Canadians seeking solu-tions and innovations to overcome chronic kidney disease (Can-SOLVE CKD): Form and function. *Canadian Journal of Kidney Health and Disease* 5:1-12, 2018.
10. **Douvrin A**, Malhi G, **Hiremath S**, McIntyre L, Silver SA, Bagshaw SM, Wald R, Ronco C, Sikora L, Weber C, **Clark EG**. Interventions to prevent hemodynamic instability during renal replacement therapy in critically ill patients: A systematic review. *Critical Care* 22:41 2018.
11. **Massicotte-Azarniouch D, Amin SO, Hesketh C, Clark EG**. Renal replacement therapy: Timing of initia-tion and intradialytic hypotension. *American Journal of Respiratory Critical Care Medicine* 196(1): 102-104, 2017.
12. **Arbou-Arkoub R**, Worrall JC, **Clark EG**. Emergency department patients with acute kidney injury: Ap-properly discharged but inadequately followed-up? *Academic Emergency Medicine* 25(7):815-818, 2018.

13. **Nasrallah R, Zimpelmann J, Eckert D, Ghossein J**, Geddes S, Beique JC, **Thibodeau J-F, Kennedy CRJ, Burns KD, Hébert RL**. PGE2 EP1 receptor inhibits vasopressin-dependent water reabsorption and sodium transport in mouse collecting duct. *Laboratory Investigation* 98:360-370, 2018.
14. Gagnon L, Leduc M, **Thibodeau J-F**, Zhang M-Z, Grouix B, Sarra-Bournet F, Gagnon W, Hince K, Tremblay M, Geerts L, **Kennedy CRJ, Hébert RL, Gutsol A, Holterman CE, Kamto E**, Gervais L, Ouboudinar J, Richard J, Felton A, Laverdure A, Simard J-C, Létourneau S, Cloutier MP, Leblond FA, Abbott SD, Penney C, Duceppe J-S, Zacharie B, Dupuis J, Calderone A, Nguyen QT, Harris RC, Laurin P. A newly discovered antifibrotic pathway regulated by two fatty acid receptors: GPR40 and GPR84. *The American Journal of Pathology* 188(5):1132-1148, 2018.
15. **Hiremath S**, Kayibanda JF, Chow BJW, Fergusson D, **Knoll GA**, Shabana W, Lahey B, **McBride O**, Davis A, **Akbari A**. Drug discontinuation before contrast procedures and the effect on acute kidney injury and other clinical outcomes: A systematic review protocol. *Systematic Reviews* 7(1):34, 2018.
16. Schieda N, Blauchman JI, Costa AF, Glikstein R, Hurrell C, James M, Maralani PJ, Shabana W, Tang A, Tsampalieros A, van der Pol CB, **Hiremath S**. Gadolinium-based contrast agents in kidney disease: Comprehensive review and clinical practice guideline issued by the Canadian Association of Radiologists. *Canadian Journal of Kidney Health and Disease* 5:1-17, 2018.
17. Schieda N, Blauchman JI, Costa AF, Glikstein R, Hurrell C, James M, Maralani PJ, Shabana W, Tang A, Tsampalieros A, van der Pol CB, **Hiremath S**. Gadolinium-based contrast agents in kidney disease: Comprehensive review and clinical practice guideline issued by the Canadian Association of Radiologists. *Canadian Association of Radiologists Journal* 69(2):136-150, 2018.
18. **Hiremath S, Akbari A**, Wells G, Chow B. Are iso-osmolar, as compared to low-osmolar, contrast media cost-effective in patients undergoing cardiac catheterization? An economic analysis. *International Journal of Urology and Nephrology* 50:1477-1482, 2018.
19. **Ruzicka M, Edwards C, McCormick B, Hiremath S**. Thus far and no further: Should diastolic hypotension limit intensive blood pressure lowering? *Current Treatment Options in Cardiovascular Medicine* 19:80, 2017.
20. Nerenbert A, Zarnke KB, Leung AA, Dasgupta K, Butalia S, McBrien K, Harris KC, Nakhla M, Cloutier L, Gelfer M, Lamarre-Cliche M, Milot A, Bolli P, Tremblay G, McLean D, Padwal RS, Tran KC, Grover S, Rabkin SW, Moe GW, Howlett JG, Lindsay P, Hill MD, Sharma M, Field T, Wein TH, Shoamanesh A, Dresser GK, Hamet P, Herman RJ, Burgess E, Gryn SE, Grégoire JC, Lewanczuk R, Poirier L, Campbell TS, Feldman RD, Lavoie KL, Tsuyuki RT, Honos G, Prebtani APH, Kline G, Schiffrin EL, Don-Wauchope A, Tobe SW, Gilbert RE, Leiter LA, Jones C, Woo V, Hegele RA, Selby P, Pipe A, McFarlane PA, Oh P, Gupta M, Bacon SL, Kaczorowski J, Trudeau L, Campbell NRC, **Hiremath S**, Roerecke M, Arcand J, **Ruzicka M**, Prasad GVR, Vallée M, **Edwards C**, Sivapalan P, Penner SB, Fournier A, Benoit G, Feber J, Dionne J, Magee LA, Logan AG, Côté AM, Rey E, Firoz T, Kuyper LM, Gabor JY, Townsend RR, Rabi DM, Daskalopoulou SS, Hypertension Canada. Hypertension Canada's 2018 guidelines for diagnosis, risk assessment, prevention, and treatment of hypertension in adults and children. *Canadian Journal of Cardiology* 34(5): 506-525, 2018.
21. **Hiremath S**. Towards better blood pressure: Do non-pharmacological strategies provide the right path? *Journal of Clinical Hypertension* 20(3):528-531, 2018.
22. Dumaine C, Kiaii M, Miller L, Moist L, Oliver MJ, Lok CE, **Hiremath S**, MacRae JM. Vascular access practice patterns in Canada: A National Survey. *Canadian Journal of Kidney Health and Disease* 5:1-12, 2018.

23. Liu P, Quinn RR, Oliver MJ, Ronksley PE, Hemmelgarn BR, Quan H, **Hiremath S**, Bello AK, Blake PG, Garg AX, Johnson J, Verrelli M, Zacharias JM, Abd ElHafeez S, Tonelli M, Ravani P. Association between duration of predialysis care and mortality after dialysis start. *Clinical Journal of the American Society of Nephrology* 13(6):893-899, 2018.
24. Colbert GB, Topf J, Jhaveri KD, Oates T, Rheault M, Shah S, **Hiremath S**, Sparks MA. The social media revolution in Nephrology education. *Kidney International* 3(3):519-529, 2018.
25. **Jegatheswaran J**, Torres C, **Clark EG**. Uremic cranial neuropathy. *Kidney International* 93(4):1021, 2018.
26. **Karpinski J**, Ajjawi R, Moreau K. Fellowship training: A qualitative study of scope and purpose across one department of medicine. *BMC Medical Education* 17(1):223, 2017.
27. Jha JC, Banal C, Okabe J, Gray SP, Hettige T, Chow BSM, Thallas-Bonke V, De Vos L, **Holterman CE**, Coughlan MT, Power DA, Skene A, Ekinci EI, Cooper ME, Touyz RM, **Kennedy CRJ**, Jandeleit-Dahm K. NADPH Oxidase Nox5 accelerates renal injury in diabetic nephropathy. *Diabetes* 66(10):2691-2703, 2017.
28. Abdallah MS, **Kennedy CRJ**, Stephan JS, Khalil PA, Mroueh M, Eid AA, Faour WH. Transforming growth factor- β 1 and phosphatases modulate COX-2 protein expression and TAU phosphorylation in cultured immortalized podocytes. *Inflammation Research* 67(2):191-201, 2018.
29. **Knoll GA**, Chadban S. Preexisting Cancer in transplant candidates: Time for a change in practice? *Transplantation* 2018 102(7):1037-1038, 2018.
30. Tsampalieros A, **Knoll GA**, Fergusson N, Bennett A, Taljaard M, Fergusson D. Center variation and the effect of center and provider characteristics on clinical outcomes in kidney transplantation: A systematic review of the evidence. *Canadian Journal of Kidney Health and Disease* 4, 2017.
31. Fergusson NA, Ramsay T, Chassé M, English SW, **Knoll GA**. The win ratio approach did not alter study conclusions and may mitigate concerns regarding unequal composite endpoints in kidney transplant trials. *Journal of Clinical Epidemiology* 98:9-15, 2018.
32. Brett K, Bennett A, Ritchie L, **Knoll GA**. Physical frailty and functional status in patients with advanced kidney disease: A protocol for a systematic review. *Systematic Reviews* 6(1):133, 2017.
33. Naylor KL, McKenzie S, Cherry C, McArthur E, Li AH, McCallum MK, Kim SJ, Prakash V, **Knoll GA**, Garg AX. Evaluation of a hockey deceased organ donation awareness campaign: A population-based cohort study. *Canadian Journal of Kidney Health and Disease* 4:1-8, 2017.
34. Li A, Al-Jaishi A, Weir M, Lam N, Maclean J, Dhanani S, Kim SJ, **Knoll GA**, Garg A. Familial consent for deceased organ donation amongst immigrants and long-term residents in Ontario, Canada: A population-based retrospective cohort study. *Canadian Journal of Kidney Health and Disease* 4:1-8, 2017.
35. Naylor KL, **Knoll GA**, Allen B, Li AH, Garg AX, Lam NN, McCallum MK, Kim SJ. Trends in early hospital readmission after kidney transplantation, 2002 to 2014: A population-based multicenter cohort study. *Transplantation* 102(4):e171-e179, 2018.
36. Li A, Garg A, Prakash V, Grimshaw J, Taljaard M, Mitchell J, Matti D, Linklater S, Naylor K, Dixon S, Faulds C, Bevan R, Getchell L, **Knoll GA**, Kim J, Sontrop J, Bjerre L, Tong A, Presseau J. Promoting deceased organ and tissue donation registration in family physician waiting rooms (RegisterNow-1 trial): Protocol for a pragmatic, stepped-wedge, cluster randomized controlled registry trial. *Trials* 18(1):610, 2017.

37. Keely E, Li J, **Magner P**, Afkham A, Liddy C. Nephrology eConsults for primary care providers: Original investigation. *Canadian Journal of Kidney Health and Disease* 5:1-6 2018.
38. **Langote A, Hiremath S, Ruzicka M, McCormick BB**. Spironolactone is effective in treating hypokalemia among peritoneal dialysis patients. *PLoS One* 12(11):e0187269, 2017.
39. Yao J, Witherspoon L, **McCormick BB**, Belanger E, Warren JE. Abdominal visceral perforation by buried peritoneal dialysis catheters: Cause or coincidence? *Seminars in Dialysis* 31(3):305-308, 2018.
40. **McCormick BB**, Chan CT, ORN Home Dialysis Research Group. Striving to achieve an integrated home dialysis system: A report from the Ontario renal network home dialysis attrition task force. *Clinical Journal of the American Society of Nephrology* 13(3):468-470, 2018.
41. **Ruzicka M, McCormick BB, Magner P**, Ramsay T, **Edwards C, Bugeja A, Hiremath S**. Thiazide diuretic-caused hyponatremia in the elderly hypertensive: Will a bottle of Nepro a day keep hyponatremia and the doctor away? Study protocol for a proof-of-concept feasibility trial. *Pilot and Feasibility Studies* 4:71, 2018.
42. Molnar AO, Eddeen AB, Ducharme R, Garg AX, Harel Z, McCallum MK, Perl J, Wald R, **Zimmerman D, Sood MM**. Association of proteinuria and incident atrial fibrillation in patients with intact and reduced kidney function. *Journal of the American Heart Association* 6(7):e005685, 2017.
43. **Massicotte-Azarniouch D**, Kuwornu JP, Carrero JJ, Lam NN, Molnar A, **Zimmerman D**, McCallum MK, Garg AX, **Sood MM**. Incident atrial fibrillation and the risk of congestive heart failure, myocardial infarction, end-stage kidney disease, and mortality among patients with a decreased estimated GFR. *American Journal of Kidney Disease* 71(2):1991-1999, 2018.
44. **Sood MM, Akbari A**, Manuel DG, **Ruzicka M, Hiremath S, Zimmerman D, McCormick BB**, Taljaard M. Longitudinal blood pressure in late-stage chronic kidney disease and the risk of end-stage kidney disease or mortality (Best blood pressure in chronic kidney disease study). *Hypertension* 70(6):1210-1218, 2017.
45. **Ashley J, Sood MM**. Novel oral anticoagulants in chronic kidney disease: Ready for prime time? *Current Opinion in Nephrology and Hypertension* 27(3):201-208, 2018.
46. **Massicotte-Azarniouch D**, Bader Eddeen A, LazoLanger A, Molnar AO, Lam NN, McCallum MK, Bota S, **Zimmerman D**, Garg AX, Harel Z, Perl J, Wald R, **Sood MM**. Risk of venous thromboembolism in patients by albuminuria and estimated GFR. *American Journal of Kidney Disease* 70(6):826-833, 2017.
47. Lam NG, Lentine K, Klarenbach S, **Sood MM**, Kuwornu PJ, Naylor K, **Knoll GA**, Kim S, Young A, Garg AX. Validation of living donor nephrectomy codes. *The Canadian Journal of Kidney Health and Disease* 5:1-9, 2018.
48. Molnar A, Moist L, Klarenbach S, Lafrance JP, Kim J, Tennankore K, Perl J, Kappel J, Terner M, Gill J, **Sood MM**. Hospitalizations in dialysis patients in Canada: A National cohort study. *The Canadian Journal of Kidney Health and Disease* 5:1-10, 2018.
49. McCudden C, **Akbari A, Biyani M, Hiremath S, Brown PA**, Tangri N, Brimble S, **Knoll GA**, Blake P, **Sood MM**. Individual patient variability with the application of the kidney failure risk equation in advanced CKD. *PLoS ONE* 13(6):e0198456, 2018
50. **Sood MM**, Murphy MSQ, Hawken S, Wong CA, Potter BK, **Burns KD**, Tsampalieros A, Atkinson KM, Chakraborty P, Wilson K. Association between newborn metabolic profiles and pediatric kidney disease. *Kidney International Reports* 3(3):691-700, 2018.

51. Mathew AT, Park J, Sachdeva M, **Sood MM**, Yeates K. Barriers to peritoneal dialysis in Aboriginal patients. *Canadian Journal of Kidney Health and Disease* 5:1-9, 2018.
52. Turakhia MP, Blankestijn PJ, Carrero JJ, Clase CM, Deo R, Herzog CA, Kasner SE, Passman RS, Pecoits-Filho R, Reinecke H, Shroff GR, Zareba W, Cheung M, Wheeler DC, Winkelmayr WC, Wanner C; Conference Participants. Chronic kidney disease and arrhythmias: Conclusions from a Kidney Disease: Improving Global Outcomes (KDIGO) Controversies Conference. *European Heart Journal* 39(24):2314-2325, 2018.
53. Rajasekeran H, Reich HN, Hladunewich MA, Cattran D, Lovshin JA, Lytvyn Y, Bjornstad P, Lai V, Tse J, Cham L, Majumder S, Bowskill BB, Kabir MG, Advani SL, Gibson IW, **Sood MM**, Advani A, Cherney DZI. Dapagliflozin in focal segmental Glomerulosclerosis: A combined human-rodent pilot study. *American Journal of Renal Physiology* 314(3):F412-422, 2018.
54. Molnar A, **Sood MM**. Predicting in a predicament: Stroke and hemorrhage risk prediction in dialysis patients with atrial fibrillation. *Seminars in Dialysis* 31(1):37-47, 2018.
55. Trinh E, Na Y, **Sood MM**, Chan CT, Perl J. Racial differences in home dialysis utilization and outcomes in Canada. *Clinical Journal of the American Society of Nephrology* 12(11):1841-1851, 2017.
56. Budhram B, **Akbari A**, **Brown PA**, **Biyani M**, **Knoll GA**, **Zimmerman D**, **Edwards C**, **McCormick BB**, **Bugeja A**, **Sood MM**. End stage kidney disease in patients with autosomal dominant polycystic kidney disease. Canadian Organ Replacement Registry (CORR). *Canadian Journal of Kidney Disease* 5: 1-8, 2018.
57. Molnar A, Bota S, McArthur E, Lam N, Garg A, Wald R, **Zimmerman D**, **Sood MM**. Risk and complications of venous thromboembolism in dialysis patients. *Nephrology Dialysis Transplantation* 33(5): 874-880, 2017.
58. Lam N, Garg A, **Knoll GA**, Kim SJ, Lentine K, McArthur E, Naylor K, Bota S, **Sood MM**. Venous thromboembolism and the risk of death and graft loss in kidney transplant recipients. *American Journal of Nephrology* 46(4):343-354, 2017.
59. Harel Z, Chertow GM, Shah PS, Harel S, Dorian P, Yan AT, Saposnik G, **Sood MM**, Molnar AO, Perl J, Wald RM, Silver S, Wald R. Warfarin and the risk of stroke and bleeding in patients with atrial fibrillation receiving dialysis: A systematic review and meta-analysis. *Canadian Journal of Cardiology* 33(6):737-746, 2017.
60. **Imtiaz R**, Atkinson K, Guerin J, Wilson K, **Leidecker J**, **Zimmerman D**. A pilot study of OkKidney, a phosphate counting application in patients on peritoneal dialysis. *Peritoneal Dialysis International* 37(6):613-618, 2017.
61. Mazarova A, **Hiremath S**, **Sood MM**, **Clark EG**, **Brown PA**, **Bugeja A**, England G, **Zimmerman D**. Hemodialysis access choice: Impact of health literacy. *HLRP: Health Literacy Research and Practice* 1(3): e136-e144, 2017.
62. **Jegatheswaran J**, Warren J, **Zimmerman D**. Reducing intra-abdominal pressure in peritoneal dialysis patients to avoid transient hemodialysis. *Seminars in Dialysis* 31(3):209-212, 2018.

KRC Grant Funding (2017-2018)

Clinical Research Grants

Dr. Edward Clark

Predicting renal recovery in patients requiring outpatient dialysis after acute kidney injury (RECOVER AKI).

Ontario Renal Network (ORN)

2018-2019

\$147,230

Saline versus albumin fluid for extracorporeal removal with slow low efficiency dialysis.

Co-principal-investigator with Dr. S. Hiremath

University of Ottawa Department of Medicine

2017-2019

\$47,988

Dr. Swapnil Hiremath

Potassium for hypertension.

Lotte & John Hecht Memorial Foundation

2018-2022

\$286,540

Blood pressure measurement: Should technique define targets?

The Physicians Services Incorporated Foundation (PSI)

2017-2018

\$45,000

Dr. Greg Knoll

A research program to improve patient outcomes in kidney transplantation.

Canadian Institutes of Health Research

2015-2022

\$2,099,382

The Canadian national transplant research program: Increasing donation and improving transplantation outcomes.

Canadian Institutes of Health Research

2013-2018

\$13,850,000

Dr. Manish Sood

Bridging the gap between patients and physicians in clinical decision-making: An online mobile app to examine dialysis patients and physicians' acceptable levels of risk and benefit for anticoagulation to prevent strokes with atrial fibrillation.

SPOR Network in Chronic Disease (CIHR)

2017-2019

\$99,000

Dr. Manish Sood (*continued*)

The risk: Benefit trade-off of newer anticoagulants for heart disease in patients with CKD.

The Ottawa Hospital Academic Medical Organization (TOHAMO)

2018-2019

\$98,939

Understanding advanced care directives and do not resuscitate status in hemodialysis patients in Ontario (The Do No wRong Study).

Ontario Renal Network (ORN)

2017-2018

\$120,000

Characteristics and clinical outcomes of polycystic kidney disease patients with end stage kidney disease in Canada.

Otsuka Pharmaceuticals

2017

\$22,460

Dr. Deb Zimmerman

IOS APP to assist end stage kidney disease patients with phosphate self-management.

The Ottawa Hospital Academic Medical Organization (TOHAMO)

2017

\$93,330

A simple exercise program for patients with end stage kidney disease to improve strength and quality of life: A feasibility study.

Canadian Institutes of Health Research

2018-19

\$50,490

Basic Research

Dr. Dylan Burger

Microparticles in diabetes.

Early Researcher Award—Government of Ontario, Ministry of Research, Innovation and Science

2018-2023

\$140,000

Microparticles in diabetes.

Canadian Institutes of Health Research

2017-2022

\$284,676

Extracellular vesicles in vascular and renal disease.

Canada Foundation of Innovation

2015-2020

\$173,953

Dr. Kevin Burns

Endothelial progenitor cell exosomes and MicroRNA transfer as therapy for acute kidney injury.

Canadian Institutes of Health Research

2017-2018

\$100,000

Endothelial progenitor cell exosomes and MicroRNA transfer as therapy for acute kidney injury.

Canadian Institutes of Health Research

2018-2023

\$742,050

Exosomal transfer of MicroRNA-486-5p in acute kidney injury repair.

Kidney Foundation of Canada

2017-2019

\$100,000

Listening, Learning, Leading: Canadians seeking solutions and innovations to overcome chronic kidney disease (Can-SOLVE CKD).

Canadian Institutes of Health Research

2016 to 2021

\$12,500,000 (Cell therapy in diabetic nephropathy trial: \$2,000,000)

Dr. Richard Hébert

The renal PGE2/EP3 system affects kidney concentrating mechanisms and diabetic polyuria.

Kidney Foundation of Canada

2016-2018

\$100,000

Investigators—Invited Presentations

Dr. Ayub Akbari

Proteinuria in pregnancy.

Grand Rounds, Brown University

December 2017

Providence, Rhode Island, USA

Hemodialysis and pregnancy.

Grand Rounds, Hamad Medical Centre

March 2018

Doah, Qatar

Dr. Ann Bugeja

Obesity in living kidney donation.

Division of Nephrology, Department of Medicine, Queen's University

June 2018

Kingston, ON

Dr. Dylan Burger

Insights into glomerular injury from podocyte microparticles.

International Podocyte Conference

May 2018

Montreal, QC

Vascular and renal assessment with membrane-derived microparticles.

University Health Network Division of Nephrology Seminar Series

February 2018

Toronto, ON

Microparticle biology and diabetes.

CanSOLVE AddIT and iCARE Working Group Meeting

February 2018

Toronto, ON

Careers in academia: Basic science.

Canadian Hypertension Congress - Trainee Day.

October 2017

Toronto, ON

Microparticles in the diabetic microenvironment.

Cell Biology WIP Seminar Series - University of Ottawa

September 2017

Ottawa, ON

Dr. Kevin Burns

Cell therapy in kidney disease.

Nephrology Rounds, Centre hospitalier de l'Université de Montréal

April 2018

Montreal, QC

Dr. Kevin Burns *(continued)*

Effects of endothelial progenitor cell-derived exosomes in experimental acute kidney injury.

Basic Science Conference, Centre hospitalier de l'Université de Montréal

April 2018

Montreal, QC

Dr. Edward Clark

'Dry this patient out!': Fluids and the use of RRT for 'de-resuscitation.'

Annual Meeting, Canadian Society of Nephrology

May 2018

Vancouver, BC

Dr. Swapnil Hiremath

Learning from other fields in medicine to improve Nephrology education.

Spring Clinical Meetings, National Kidney Foundation

April 2018

Austin, Texas

Why and how should I tweet? Social media for healthcare professionals.

Annual Canadian Association of Nephrology Administrators Summit

May 2018

Vancouver, BC

Dr. Chris Kennedy

Role of mechanical stress in diabetic injury.

American Society of Nephrology, Basic Science Symposium

November 2017

New Orleans, Louisiana

Dr. Greg Knoll

ECD/DCD: Evaluation of the marginal kidney donor.

CST/Astellas Canadian Transplant Fellows Symposium CST-CTRMS Joint Scientific Meeting,

September 2017

Halifax, NS

Transplantation research: Tips for a successful academic career.

CST Research FiTS, CST-CTRMS Joint Scientific Meeting

September 2017

Halifax, NS

Recipient candidacy: Who is a candidate for a kidney transplant in 2017?

American Society of Nephrology Annual Scientific Meeting

November, 2017

New Orleans, USA

Dr. Manish Sood

ASN highlights ESRD: Back to school.

March 2018

Mumbai, India

Dr. Manish Sood *(continued)*

Updates on the CAN-DOPPS.

DOPPS Symposium, the American Society of Nephrology

November 2017

New Orleans, USA

Dialysis modalities in Canada.

The Canadian Agency for Drug and Health Technology Evaluation (CADTH)

November 2017

Ottawa, ON

Should we anticoagulate kidney disease patients with atrial fibrillation to prevent stroke? A nephrologist's perspective.

Visiting Professorship, Department of Medicine Grand Rounds, QEII Health Sciences Centre

November 2017

Halifax, NS

Recent Nephrology studies from the Institute of Clinical Evaluative Sciences.

Visiting Professorship, Nephrology Grand Rounds, QEII Health Sciences Centre

November 2017

Halifax, NS

Outcome of Aboriginal peoples with kidney disease in Canada.

DEVENIR Foundation 15th Annual Meeting

October 2017

Montreal, QC

Dr. Deb Zimmerman

Elevated Phosphate levels should be lowered towards the normal range.

CME for Nephrologists

April 2018

Toronto, ON

Awards and Distinctions

Recipient	Year	Award
Dr. Dylan Burger	2017	Chair of the Membership Committee for Hypertension Canada.
	2018	Deputy Editor of Hypertension News, International Society of Hypertension.
	2018	Named member of the organizing committee for the 2018 International Society of Hypertension Scientific Meeting, Beijing, China.
Dr. Chris Kennedy	2018	Interim Director of Awards and Prizes for Excellence in Education and Research for the Faculty of Medicine, University of Ottawa.
Dr. David Massicotte-Azarniouch	2018	2018 Agostino Monteduro Italian Night Scholarship
Mr. Matthew Spence	2018	2018 Agostino Monteduro Italian Night Scholarship

Visiting Speakers

Date	Scholar	Title of Presentation	Seminar
Oct. 12 2017	Dr. Michael Walsh MD, FRCPC, PhD Associate Professor, Division of Nephrology McMaster University Hamilton, Ontario	<i>Aldosterone and cardiovascular morbidity and mortality in end-stage renal disease.</i>	Nephrology Grand Rounds
Oct. 19 2017	Dr. Jeffrey Perl MD, FRCPC(C), SM Nephrologist, Division of Nephrology, St. Michael's Hospital Associate Professor, Division of Nephrology University of Toronto	<i>PD: The Future is Here.</i>	Nephrology Grand Rounds
Dec. 7 2017	Dr. Amy Neville , MD, MSc, FRCPSC Medical Director, The Ottawa Hospital Bariatric Centre of Excellence General and Bariatric Surgery, The Ottawa Hospital Assistant Professor of Surgery, University of Ottawa	<i>Bariatric Surgery in Patients with Chronic Kidney Disease.</i>	Nephrology Grand Rounds
Dec. 8 2017	Nicole Veltri, MD Internal Medicine, PGY2 Queen's University	<i>Hypertension Canada 2017 Updates: A brief review.</i>	Division of Nephrology Morning Rounds
Dec. 14 2017	Dr. Rosendo Rodriguez, PhD Department of Medicine The Ottawa Hospital Ottawa, ON	<i>Animal Research and Scientific Writing: Have reporting guidelines changed our writing style?</i>	KRC Journal Club
Feb. 1 2018	Dr. Muhammad Oneeb Rehman Mian, PhD Postdoctoral Fellow, Lab Dr Anne Monique Nuyt, Fetomaternal and Neonatal Pathologies Axis, Research Center of CHU Sainte Justine, University of Montreal	<i>Preterm birth and the heart: A spectrum of premature opinions.</i>	KRC Journal Club
Mar. 8 2018	Dr. Gregory Hundemer, MD, MPH Brigham & Women's Hospital Boston, MA	<i>The Expanding Spectrum of Primary Aldosteronism.</i>	Nephrology Grand Rounds

Date	Scholar	Title of Presentation	Seminar
Mar. 22 2018	Dr. Matthew Lanktree, BSc, MD, PhD, FRCPC St Joseph's Healthcare Division of Nephrology Hamilton, ON	<i>Past, Present and Future in Nephrology Genetics.</i>	Nephrology Grand Rounds
Mar. 29 2018	Dr. Lakshman Gunaratnam, MD, MSc Director of Regional Transplant Assessment Program at London Health Sciences Centre, Associate Professor, Schulich Clinician-Scientist Schulich School of Medicine and Dentistry, University of Western Ontario London, ON	<i>Uncovering the role of kidney injury molecule-1 (KIM-1) in acute kidney Injury and beyond.</i>	Nephrology Grand Rounds
Apr. 12 2018	Dr. Jean Chouinard, MD Medical Chief St. Vincent Hospital Ottawa, Ontario	<i>SVH past and future.</i>	Nephrology Grand Rounds
May 16 2018	Dr. Qingping Feng MD, PhD Professor of Physiology, Pharmacology and Medicine Richard and Jean Ivey Chair in Molecular Toxicology Schulich School of Medicine and Dentistry University of Western Ontario	<i>Regulation of fetal heart development by NO and ROS.</i>	KRC Journal Club
Jun. 28 2018	Sagar Nigwekar, MD MMSc Assistant Professor of Medicine Massachusetts General Hospital Department of Medicine	<i>Calciphylaxis.</i>	Nephrology Grand Rounds

This list includes Invited Scholars for the KRC Journal Club and Nephrology Grand Rounds.

The Kidney Research Centre—Ottawa Hospital Research Institute
Centre de recherche sur les maladies du rein—Institut de recherche de l’Hôpital d’Ottawa
University of Ottawa / Université d’Ottawa
2518-451 chemin Smyth Road, Ottawa, Ontario K1H 8M5

