



Department of Pediatrics Research Report

March 2022



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SASKATCHEWAN
PEDIATRIC RESEARCH AND
INNOVATION GROUP

Department of Pediatrics welcomes Dr. Wendie Marks- Assistant Professor in Pediatric Indigenous Health

Department of Pediatrics is pleased to welcome Dr. Wendie Marks. She has been appointed as an Assistant Professor in the Department of Pediatrics, College of Medicine, University of Saskatchewan.

Dr. Marks was chosen for the position based on her outstanding track record of research productivity in the areas of neuroscience and stress in animal models. She is also a person of Indigenous background as a status First Nation member of the Anishinabe of Wauzhushk Onigum band.

Dr. Marks obtained her Ph.D at the University of Saskatchewan in the Department of Psychology working under the supervision of Dr. Lisa Kalynchuk. Her graduate work focused on preclinical rodent models of stress and depression, and associated alterations in fear behaviour. Wendie's first postdoctoral fellowship was under the supervision of Dr. John



Photo of Dr. Wendie Marks

Howland in the Department of Physiology at the University of Saskatchewan. This initial postdoctoral work investigated novel therapeutic strategies for the treatment of cognitive and behavioural impairments in preclinical rodent models of childhood epilepsy and schizophrenia. Wendie was a postdoctoral associate at the University of Calgary working under the supervision of Drs. Morris Scantlebury and Jane Shearer in the Department of Biochemistry and

Molecular Biology. Wendie investigated the potential of diet-driven therapies to reduce the severity of seizures in a preclinical rodent model of childhood epilepsy.

Throughout Wendie's academic career, she has obtained many prestigious awards and scholarships. Prior to graduate school, Wendie received the bronze Governor General's Academic Medal, a number of entrance scholarships and was on the Dean's Honours List. As a graduate student, Wendie received NSERC funding, as well as many other prestigious scholarships such as the Queen Elizabeth II Centennial Aboriginal Scholarship, SIGA First Nation Scholarships, and Canadian Federation of University Women Saskatoon Inc. Newstead Doctoral Scholarship. As a postdoctoral fellow, Wendie

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received a Saskatchewan Health Region Foundation Fellowship and was an Eyes High funded Postdoctoral Scholar. Wendie has published in several reputable journals including the Neurobiology of Disease, eNeuro, and Psychopharmacology. Wendie has also volunteered for various committees focused on the health and representation of minority groups. These committees include the Canadian Association for Neuroscience Equity Diversity and Inclusion Committee, the Saskatchewan Association for the Rehabilitation of the Brain Injured, and the Aboriginal and Indigenous Graduate Student Council at the University of Saskatchewan.

Dr. Marks' proposed research involves using a Developmental Origins of Health and Disease lens to investigate obesity in Indigenous children. Stress and malnutrition have been shown to play a strong determining role in the development of metabolic disorders such as obesity. Canadian colonization policies, such as the residential school system, exposed Indigenous peoples to both chronic stress and malnutrition during important developmental periods. This exposure may have a lasting physiological impact transmitted across generations, resulting in a barrier towards wellness. Dr. Marks will use her background in preclinical animal models to build a program of research that integrates clinical and translational research. This research will focus on the intergenerational effects of stress and malnutrition on the gut microbiome and how this relates to obesity in Indigenous children.

This research will contribute important information on the association between environmental factors, such as maternal stress and nutrition, on the development of obesity in Indigenous children living in Saskatchewan. Importantly, this program of research will provide informed and directed strategies to address obesity in Indigenous children, which, in collaboration with Indigenous communities, can be used in the development of strategies to promote wellness.

Please visit Dr. Marks' [Google Scholar](#) page for a list of her publications

Announcing the Dr. Brad Ardell Spirit Award Recipient for 2021



Each year, residents and staff have an opportunity to nominate an individual for the Dr. Brad Ardell Spirit Award in recognition of a resident who has exhibited true "prairie spirit": someone who is dependable and honest, with a strong work ethic. They exemplify selflessness, integrity and care to all.

The selection committee reviewed all the nomination letters, which outlined how each candidate matched the criteria of dedication, compassion and empathy in clinical practice. We are pleased to announce that **Dr. Mackenzie Simpson**, a third-year resident in Pediatrics, was chosen as this year's award recipient.

Department of Pediatrics Virtual Child Health Research Trainee Day

Please join us on **Thursday April 28thth, 2022 12-4 pm** for this research symposium featuring presentations from residents, graduate students, post-doctoral fellows, and undergraduate students engaged in child health research at USask.



This year we welcome Keynote speaker, **Dr. Sandra Davidge** who will present,

"It started with a question and a passion....my research in maternal and perinatal cardiovascular health and the lessons learned along the way"



Dr. Sandy Davidge is the Executive Director of the Women and Children's Health Research Institute, a Distinguished University Professor at the University of Alberta, Edmonton Canada and a Fellow of the Royal Society of Canada and Canadian Academy of Health Sciences. Dr. Davidge serves on many national and international grant panels and serves on the editorial board for the American Journal of Physiology, Hypertension and Biology of Sex Differences. Dr. Davidge's research program encompasses studying cardiovascular function as it relates to 1) complications in pregnancy (preeclampsia and maternal aging) and 2) developmental origins of adult cardiovascular disease. This research is focused on understanding maternal vascular complications as well as developing early intervention/prevention strategies for improving long-term cardiovascular health for the offspring. With her team of trainees, for whom she has mentored >40 national and international graduate students and postdoctoral fellows, Dr. Davidge has published over 250 original peer-reviewed manuscripts and review

Register Today!



Coming Events

DATE	EVENT
April 28	*** Virtual Child Health Research Trainee Day ***
April 7	Pediatric Grand Rounds - Dr. Charissa Pockett
May 4-7	Virtual Sickkids Paediatric Update Conference 2022
May 5	Pediatric Grand Rounds - Dr. Genievue Gerard
May 5	Life and Health Sciences Research Expo
May 26-28	CPS Annual Conference
June 2	Pediatric Grand Rounds - Dr. Catherine Gordon
June 9	Pediatric Grand Rounds - Dr. Bit Hashemi

Congratulations to supervisors who were awarded 2022 Dean's Projects

Dr. Krista Baerg

- “Retrospective Chart Review of Outcomes at Discharge or Transition from Pediatric Chronic Pain Care”
 - “Supporting Youth in School with Chronic Pain: Knowledge Mobilization Phase”

Dr. Tim Bradley

- “A Retrospective Review of Single Ventricle Pathway Management in Saskatchewan”

Dr. Gregory Hansen

- “Canada’s Pediatric Intensive Care Units Response to the COVID-19 Pandemic: A National Survey”

Dr. Susan Petryk

- “Optimizing the diagnostic assessment of complex developmental disabilities conducted by the Complex Diagnosis Assessment Team (CDAT) in Regina”
 - “Virtual Facial Photography in the Diagnosis of Fetal Alcohol Spectrum Disorder (FASD)”
 - “Virtual vs In-clinic Visits in Developmental-Behavioral Pediatrics: Evaluating Patient’s Preferences”
- “Virtual Follow-up Appointments by Medical Students and Residents in Developmental Pediatrics: Expediting Clinical Care and Enriching the Learning Experience”

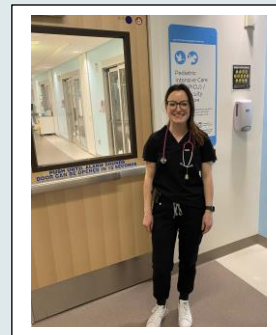
Child Health Research Resident Spotlight

Dr. Amelie Cyr is currently a PGY-4 Pediatrics resident. She was born in Montreal and completed her pre-medicine program and medical training at McGill University. Dr. Cyr will start pediatric intensive care fellowship in Edmonton in 2022.

Throughout her residency, Dr. Cyr explored different research areas based on her various interests. She has always had a strong interest for intensive care, so naturally most of her projects gravitated around that area.

Dr. Cyr's research journey began with a hands-on project in the NICU under the mentorship of **Dr. Sibasis Daspal**. It started with an interest for learning a new skill- a lung ultrasound. Lung ultrasound is used increasingly more in the NICU as an easy bedside tool for diagnosing lung pathology. The project tried to assess if high lung ultrasound scores suggestive of pulmonary edema (or "fluids in the lungs") correlated with the presence hemodynamically significant patent ductus arteriosus (PDA) in preterm neonates. In fact, a well-known consequence of PDAs is pulmonary edema. Some PDAs are treated if they are considered systemically significant, meaning if they impact the perfusion of other vital organs.

Determining if a PDA is significant or not can be done through different clinical and sonographic indicators, but no one has previously looked at lung ultrasound scores. The study assessed 20 premature newborns in the NICU in the past 3 years and correlated their clinical and sonographic PDA scores to their lung ultrasound scores. The data indicated higher lung ultrasound scores do correlate with the presence of hemodynamically significant PDAs. The study did have limitations, notably the small sample size. However, this research opens the door to further projects. As mentioned, lung ultrasound is an easy tool to use at the bedside and results can be interpreted readily. It could be used to assess the severity of PDAs alongside with other clinical markers or even to monitor response to therapy.



During the COVID-19 pandemic, Dr. Cyr had the chance to participate in more public health-focused projects with **Dr. Gregory Hansen**. Drs. Cyr and Hansen were interested in analyzing the Canadian response to the pandemic in terms of public health interventions. They compared how different countries implemented their interventions and analyzed the trend of cases compared to the timeline of interventions. They wrote a perspective on how inconsistent Canada's approach was in terms of its federal and provincial responses throughout the pandemic.

During her residency program, Dr. Cyr took part of PICU QI studies led by **Dr. Holt** and **Dr. Hansen**. The group reviewed the PICU's continuous renal replacement therapy (CRRT) program. Being a smaller unit, reviewing such programs is important to evaluate their efficiencies, effectiveness, and outcomes compared to other units. This was important for patient care and further program/care development. The review of the CRRT program at the JPCH hospital showed that it was able to deliver safe and effective CRRT, leading to positive patient outcomes. A similar project assessing the apheresis program is currently underway.

Dr. Cyr believes that the strongest impact of research in medicine is improved patient care. The goal of research projects is often to find a better approach to certain clinical entities. Projects often arise from a clinical dilemma and the hope to find better

approaches for future patients.

The same applies for research projects that are more population-based. Dr. Cyr noticed this especially during the current pandemic – for example, multiple research projects looked at different pandemic strategies to determine which ones were the most effective at preventing infection and subsequent deaths.

From a more personal level, Dr. Cyr truly believes that research gives the clinician an opportunity to acquire and solidify a new set of skills that is not necessarily obtained in clinical practice. Research allows us to work on our scientific curiosity, imagination, leadership, and commitment to finish projects in a timely manner. It's also a great way to work on our advocacy skills – to be able to identify a lack in our patient care or in the healthcare system and to develop a project that will address that.

Performing research projects such as QI projects gives tangible data to hospitals and governments to support some of our programs. These projects can also reveal some shortcomings in the healthcare system and help stakeholders like hospitals and governments decide where to invest their time and funds.

Dr. Cyr believes research projects also have a role in health advocacy at a societal level – better health prevention projects, strategies for better access to care, highlighting where there are some shortcomings in terms of healthcare delivery/healthcare discrepancies. Research is also a great platform to collaborate with other countries (through conferences, joint research studies). This shared knowledge allows clinicians to see what is done elsewhere and to improve their patientcare.

Dr. Cyr will strive to pursue research in her career. PICU is a domain in constant evolution in terms of medical knowledge and therapies but also in terms of technologies used. Dr. Cyr cannot wait to undertake some research projects as a PICU fellow, and she already has a few ideas especially surrounding the use of ultrasound at bedside.

Dr. Cyr would like to acknowledge the following who contributed to her research:

- Dr. Gregory Hansen (Pediatric Intensivist)
- Dr. Tanya Holt (Pediatric Intensivist)
- Dr. Sibasis Daspal (Neonatalogist)
- Rebecca Brockman, Laura Wihak, Jaclyn Reid (PICU Clinical Coordinators)
- Veronica Samedi (NICU Clinical Associate)
- Dr. Olivia Griffin (pediatric resident)
- Dr. Megan Crone (Pediatric Neurologist)

To learn more about Dr. Cyr's research, please refer to her publications:

- Hansen G, Cyr A. Canada's Decentralized "[Human-Driven](#)" Approach During the Early COVID-19 Pandemic. *JMIR Public Health Surveill.* 2020;6(4)
- Cyr A, Mondal P, Hansen G. [An Inconsistent Canadian Provincial and Territorial Response During the Early COVID-19 Pandemic.](#) *Front Public Health.* 2021;9:708903. Published 2021 Sep 27.
- Holt T, Griffin O, Cyr A, Brockman R, Wihak L, Hansen G. [Lessons Learned from a Small Pediatric Continuous Renal Replacement Therapy Program.](#) *Crit Care Res Pract.* 2021;2021:6481559. Published 2021 Nov 17.
- Cyr A, Frehlick R, Stammers D, Crone M. [Case Report: Propranolol Therapy for Infantile Tremor Syndrome in a Child With Vitamin B12 Deficiency.](#) *Front Pediatr.* 2021;9:774747. Published 2021 Nov 24.

In the News!



THE CONVERSATION

Academic rigour, journalistic flair

Dr. Kurji discussed the pandemic’s effect on the dramatic increase in eating disorders in Canada and internationally. A number of factors related to COVID-19 lockdowns and school closures — such as isolation from peers, disrupted routines, suspension of activities and increased stress and anxiety — may have contributed to this increase. Read [the Conversation](#) article for more information.

“More kids with depression, more kids with anxiety, and this eating disorder is huge.” Jen Quesnel spoke with **Dr. Ayisha Kurji** about face-to-face school, social media and Omicron on the [Researchers Under the Scope Podcast](#)



Virtual health-care pilot project launched for northern Saskatchewan Indigenous communities



By [Jeanelle Mandes](#) · Global News

Posted December 21, 2021 4:45 pm · Updated December 22, 2021 8:46 am



Dr. Gregory Hansen

Unfair to close schools when almost no other public health restrictions in place: Saskatoon pediatrician



Dr. Karen Leis

Children hospitalized as TB rocks northern Saskatchewan

"This should be considered a national emergency."



Dr. Mahli Brindamour

'Protect them': Saskatoon pediatrician encourages families to vaccinate kids against COVID-19



Dr. Ayisha Kurji

2022 January - March Publications

Kobussen, T. A., Hansen, G., & Holt, T. R. (2021). [Comparing subspecialty and intensive care providers perspectives on pediatric complex chronic patients: A survey study](#). *International Journal of Care Coordination*, 20534345211068096.

Holt, T., Parker, K., Shaw, A., & Hansen, G. (2021). [Serial Clinical Scoring to Assess Transported Pediatric Patients](#). *Pediatric Emergency Care*, 37(12), e1600–e1602.

Risling, T., Baerg, K., Tupper, S., & Chartier, L. (2021). [Maximizing Opportunities for User-Centered Design in Acute-Care: Introducing the Focal Wall](#). *Nurses and Midwives in the Digital Age*

Arnason, T., Cameron, A., Nour, M., Inman, M., & Mansell, K. (2022). [A survey of reported changes in diet and activity with the FreeStyle Libre flash glucose monitor: a pilot study](#). *Practical Diabetes*, 39(1), 12–17a.
<https://doi.org/https://doi.org/10.1002/pdi.2374>

Killackey T, Baerg K, Dick B, Lamontagne C, Poolacherla R, Finley GA, Noel M, Birnie KA, Choinière M, Pagé MG, Dassieu L, Lacasse A, Lalloo C, Poulin P, Ali S, Battaglia M, Campbell F, Harris L, Mohabir V, Nishat F, Benayon M, Jordan I, Stinson J. [Experiences of Pediatric Pain Professionals Providing Care during the COVID-19 Pandemic: A Qualitative Study](#). *Children*. 2022; 9(2):230.

Risling, T, Baerg, K, Tupper, S, Chartier, L. [Maximizing Opportunities for User-Centered Design in Acute-Care: Introducing the Focal Wall](#). *Studies in health technology and informatics* vol. 284 (2021): 481-486.

Jariwala M.P., Sawhney S. (2022) [Biologics in Juvenile Idiopathic Arthritis](#). In: Jain N., Duggal L. (eds) *Handbook of Biologics for Rheumatological Disorders*. Springer, Singapore.

Llewelyn-Williams, J. L., Oliver, A. M., Wright, K. D., Runalls, S., Lahti, D. S., Bradley, T. J., Kakadekar, A., Pharis, S., Pockett, C., Erlandson, M. C., & Tomczak, C. R. (n.d.). [Health anxiety and associated constructs in school-age children and adolescents with congenital heart disease and their parents: A children’s healthy-heart activity monitoring program in Saskatchewan cohort study](#). *Journal of Child Health Care*, 0(0), 13674935221075896.
<https://doi.org/10.1177/13674935221075896>

Dassieu, L., Choinière, M., Saint-Jean, L., Webster, F., Peng, P., Buckley, N., Gilron, I., Williamson, O., Finley, G. A., & Baerg, K. (2022). [Frequency and characteristics of patient exclusion criteria in Canadian multidisciplinary pain treatment facilities: a cross-sectional study](#). *Canadian Journal of Anesthesia/Journal Canadien d’anesthésie*, 1–10.

Lee, J. J. Y., Eng, S. W. M., Guzman, J., Duffy, C. M., Tucker, L. B., Oen, K., Yeung, R. S. M., Feldman, B. M., Investigators, R., & Bolaria, R. (2022). [A comparison of Juvenile Idiopathic Arthritis classification systems with the Research in Arthritis in Canadian Children, Emphasizing Outcomes \(ReACCh-Out\) cohort](#). *Arthritis & Rheumatology*.

The Children’s Health Research Trust Fund (CHRTF) was established in 1983 to help raise funds to support child health research at the University of Saskatchewan. As all donated funds are endowed, the CHRTF has continued to grow to become an important part in helping advance research in the Department of Pediatrics. For further information about the CHRTF and to donate:

<https://donate.usask.ca/online/chrtf.php>



Our Partners:

The Jim Pattison Children’s Hospital has historically provided strong support for child health research in Saskatchewan. The recent \$50 million donation from Jim Pattison allows for a steady stream of revenue to help meet research and programming needs for generations to come. Groundbreaking opportunities for pediatric researchers in Saskatchewan are on the horizon!



Contact us

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