

# DEPARTMENT OF PEDIATRICS UNIVERSITY OF SASKATCHEWAN RESEARCH NEWSLETTER



# **IN THIS ISSUE...**

2	Trainee Research Opportunities	2
2	Researcher Profile	2
2	Recent Publications	3
2	Progress from the Past	3
2	Our Partners	4
2	Clinician Investigator Program	4
2	Coming Events	5
2	Outside the Box	6
2	Pain in Child Health	7
2	Knowledge Translation	7
2	Internal Grant Review Process	7
2	Canadian Child Health Clinician Scientists	8



REMINDER Trainee Research Day Abstract Submission Deadline MARCH 29, 2012 See details on page 5



In a future issue of the Newsletter watch for articles on....

- Bone health research from the College of Kinesiology
- Research ethics
- Translating research results into action

## **OUR PARTNERS**

**The Ludwig, Olga and Constance Kaye Research Fund** provides sustainable support for child health research through establishment of an endowment at the University of Saskatchewan.

See page 4 for details.





## **Image of Interest**

Dr. Tracy Wilson-Gerwing, Post-Doctoral Fellow in the Department of Pediatrics, is investigating novel pain and inflammation networks in an attempt to discover new treatment approaches to manage inflammatory pain. TRPV1 is a receptor providing sensation of heat and pain (nociception). In this image Dr. Wilson-Gerwing shows that TRPV1 expression is increased in the dorsal root ganglion (DRG) in the presence of inflammation.

For information about research in the Department of Pediatrics, University of Saskatchewan or to contribute content to the Research Newsletter please contact:

Office of Pediatric Research, Department of Pediatrics, Royal University Hospital, 103 Hospital Drive, Saskatoon, Saskatchewan, Canada S7N 0W8. Phone: 306-966-7608 e-mail: <u>pediatric.research@usask.ca</u> website: <u>www.medicine.usask.ca/pediatrics/research</u> On-line version of the Newsletter : <u>www.medicine.usask.ca/pediatrics/research/research-newsletter</u> Director of Research: Dr. Alan M. Rosenberg

For information about sponsoring a Newsletter page or issue please contact: <u>pediatric.research@usask.ca</u>

DEADLINE FOR SUBMISSIONS FOR THE NEXT NEWSLETTER IS MAY 15, 2012

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## TRAINEE RESEARCH PROJECT OPPORTUNITIES



# FEATURED RESEARCHER: Dr. Darryl Adamko, Pediatric Respirologist



Dr. Darryl Adamko joined the Department of Pediatrics, Division of Respirology in September 2011. Originally from Saskatoon Dr. Adamko completed his undergraduate degree at the University of

Saskatchewan, following which he attended medical school at the U of S (1989-1993) where he also completed his residency in Pediatrics. He went on to become a Pediatric Pulmonary specialist with a strong bench research background after training in a Pediatric Pulmonary Fellowship at The Johns Hopkins University in Baltimore, Maryland (1997-2001). He was an Associate Professor of Pediatrics Pediatric Pulmonary Medicine and an Adjunct Associate Professor of Medicine at the University of Alberta since 2001.

Dr. Adamko's research focus has been within the field of asthma primarily. He has developed expertise in understanding the mechanisms of virus induced asthma attacks. In addition, he has been studying the mechanisms underlying the development of asthma from infancy. This includes *in vitro* and *in vivo* models in humans and animals. In the last seven years, he also has been the lead on team grants developing a novel way to diagnose and monitor patients with asthma using nuclear magnetic resonance analysis of urine. Dr. Adamko's work has great potential to improve the care for patients with respiratory diseases. Based on this research, he is first author on a patent and Director for a company called Respirlyte.

Dr. Adamko remains as an Adjunct Professor and a member of the Pulmonary Research Group (PRG) at the University of Alberta. He enjoys teaching medical students and mentoring the two graduate students currently in his lab. He has had funding through the Sick Kids Foundation, CIHR and AllerGen.

He has a growing publication record in peerreviewed articles, book chapters and review articles. Examples of recent publications are listed below:

■ Erik J. Saude, Christopher Skappak, Kim Cook, Shana Regush, Brian H. Rowe, Redwan Moqbel, Brian D. Sykes, and Darryl J. Adamko. Metabolomic profilingp pediatric asthma: The diagnostic utility of urine NMR. J Allergy Clin Immunol. 2011 Mar;127(3):757-64.e1-6. PMID: 21377043

■ Ramses Ilarraza, Yingqi Wu, Francis Davoine, Cory Ebeling, and **Darryl J. Adamko**. Human dendritic cells promote an antiviral immune response when stimulated by CVT-E002. J Pharm Pharmacol. 2011 May;63(5):670-678. doi: 10.1111/j.2042-7158.2011.01257.x. Epub 2011 Apr 4. PMID: 21492169

Cory Ebeling, Yinqi Wu, John R. Gordon, PhD, and Darryl J. Adamko. Compound CVT-E002 significantly reduces allergen induced airway inflammation and airway hyperresponsiveness in vivo. In Press, Molecular Nutrition and Food Research



### Did you know...

The Saskatchewan Division of the Lung Association was instrumental in helping establish Saskatchewan's first pediatric respirology program in 1999. The Association continues to advocate for clinical and research programs to benefit Saskatchewan children with respiratory diseases.

THE LUNG ASSOCIATION

### RECENT PUBLICATIONS FROM MEMBERS OF THE DEPARTMENT OF PEDIATRICS

### Dr. Kirsta Baerg et al.

**Baerg K,** Lake D, Paslawski T: **Survey of interprofessional collaboration learning needs and training interest in health professionals, teachers, and students: An exploratory study**. Journal of Research in Interprofessional Practice and Education. 2012 2.2:187-204

Interprofessional collaboration is emerging as an important and effective model for care and research. In this article Dr. Baerg and her co-authors highlight the importance of considering training in interprofessional collaboration. The authors surveyed 486 health care and educational professionals to gauge their experiences and satisfaction with interprofessional collaboration. With the information gathered the authors concluded that "Training should provide knowledge about [interprofessional collaboration] models and research, leadership styles, team stages, and conflict management while also ensuring that it applies to the workplace or practicum placement."

### Dr. Karen Leis et al.

Leis KS, McNally JD, Montgomery MR, Sankaran K, Karunanayake C, Rosenberg AM: Vitamin D intake in young children with acute lower respiratory infection. Translational Pediatrics (In press).

Dr. Leis and her collaborators prospectively evaluated vitamin D status in children with acute lower respiratory infection (ALRI). When controlling for age, ethnicity, socio-economic status, northern residence, breastfeeding, immunizations and smoking contact, children with a vitamin D intake of less than 80 IU/kg/d were greater than four times more likely to have acute lower respiratory infections when compared to children with a vitamin D intake exceeding 80 IU/kg/day. A higher vitamin D intake than currently recommended might be needed to offer protection against diseases such as ALRI. Increased vitamin D supplementation could have important public health consequences, as bronchiolitis and pneumonia are the most common reasons for hospitalization in young children.

# **PROGRESS FROM THE PAST:**

# Highlighting landmark contributions from Saskatchewan's pediatric research pioneers



**DR. JOHN W. GERRARD** 

In 1953, the University of Saskatchewan's College of Medicine recruited **Dr. John Watson Gerrard** as the first Head of Pediatrics. Dr. Gerrard served as Department head until 1971. He retired from the Department of Pediatrics in 1983. Dr. Gerrard was recognized as an astute, dedicated and respected pediatrician and mentor.

Dr. Gerrard, the son of a missionary physician, was born in Kasenga, Rhodesia in 1916. He graduated from Oxford University in 1941. Then, after serving in the British Army, he studied pediatrics and did his doctoral research at Oxford. Subsequently, he studied pediatric endocrinology at Johns Hopkins School of Medicine.

Dr. Gerrard was an innovative, precise, enthusiastic and thoughtful researcher. Almost 60 years ago Dr. Gerrard, together with Horst Bickel and Evelyn Hickmans, discovered the first effective treatment for phenylketonuria (PKU). Prior to their discovery PKU, a genetic disease, was associated with severe brain damage as a consequence of the toxic effects of high phenylalanine levels. The team discovered that a diet low



John Gerrard (left), Evelyn Hickmans and Horst Bickel taken at the time they received the John Scott Medal in 1962 for their discovery of a treatment for PKU. (Photo courtesy of Dr. Jon Gerrard, son of J.W. Gerrard).

in phenylalanine prevented the neurologic damage. The first patient to be treated had severe neurologic abnormalities which improved dramatically on the diet. When phenylalanine was re-introduced to the diet, the neurologic signs recurred until the child again improved when the diet was re-introduced. For their work in developing treatment for children with PKU, Gerrard, Bickel and Hickmans received the prestigious John Scott medal from the American Philosophical Society in 1962.

# **OUR PARTNERS**

# **KAYE FAMILY CONTINUES GENEROUS SUPPORT OF PEDIATRIC RESEARCH**



The Ludwig, Olga and Constance Kaye Research Fund has made generous contribution to the Children's Health Research Trust Fund (CHRTF) to support research

that focuses particularly on understanding and preventing the effects on children of infectious diseases during mothers' pregnancies. The Fund is named in honour of the late Ludwig Kaye, Olga Kaye and their late daughter Constance. Mrs. Kaye was honoured recently by the University of Saskatchewan for her generous support of University of Saskatchewan programs including her contributions in support of pediatric research.

For further information about the CHRTF please go to: http://www.medicine.usask.ca/pediatrics/research/CHRTF/



Mrs. Olga Kaye (centre) at a tea in her honour hosted by the University of Saskatchewan. She is pictured with Department of Pediatric researchers Dr. Eddy Risseeuw, Research Scientist; Dr. Alan Rosenberg; and Dr. Susan Tupper and Dr. Tracy Wilson-Gerwing, Post-doctoral Fellows.



...about ongoing studies still recruiting subjects



Dr. Susanna Martin, Department of Pediatrics, is seeking subjects for a study relating to childhood obesity. Assistance with recruitment would be appreciated. Details are available in the Pediatric Outpatient Department or from Dr. Martin.



Drs. Abid Lodhi and Alan Rosenberg are investigating the potential for the protein HMGB1 to serve as an early prognostic indicator in children with sepsis. Please contact Dr. Lodhi or Joan Dietz, R.N. (966-2485) for further information.

## The Clinician Investigator Program College of Medicine, University of Saskatchewan



The Clinician Investigator Program (CIP), which is administered by the College of Medicine, University of Saskatchewan, is available to residents enrolled in residency programs accredited by the Royal College and who have interest and potential for a career as a clinician investigator. It is expected that each CIP trainee will develop skills and scholarly attitudes required to perform high quality health research. Two CIP training streams are offered:

### **Graduate Stream**

In the **Graduate Stream**, applicants enrol in graduate (M.Sc. or Ph.D.) programs at the University of Saskatchewan and must meet all requirements of the College of Graduate Studies and Research. CIP trainees in the Graduate Stream must fulfill all course and thesis requirements of their graduate degree program. These trainees will also be required to complete a web-based training curriculum offered by the Canadian Child Health Clinician Scientist Program (CCHCSP).

### **Postdoctoral Stream**

The **Postdoctoral Stream** is designed for residents who already hold a PhD and are interested in undertaking a structured research program. The program of research training may be individualized but must be similar in content and rigor to a graduate school degree program. For Postdoctoral Stream trainees, completion of the research component means successfully attaining the specified research goals and objectives to the satisfaction of resident's Research Program Advisory Committee and completion of a web-based CCHCSP training curriculum.

For more information about the CIP program: http://www.medicine.usask.ca/research/clinical-programs/clinical-program-files/CIP-2011

# **COMING EVENTS**



TRAINEE RESEARCH DAY

# April 12<sup>th</sup>, 2012 11:00 a.m.–2:00 p.m. East Lecture Theatre (Room G763) Royal University Hospital

The Department of Pediatrics will host a Child Health Trainee Research Day on **April 12, 2012**. The event provides an opportunity for trainees from the University of Saskatchewan who are engaged in child health related research to present their research project in an oral format. Participants may present completed research work, projects currently being conducted but not yet completed, or conceptual ideas for planned research. The event is open to:

**Residents:** Residents engaged in child health related research are encouraged to take this opportunity to present their research work.

■ Fellows: Trainees pursing graduate studies (Master's, Doctoral or Post-doctoral) engaged in child health related research are encouraged to take this opportunity to present their research work. Trainees from any discipline and from any University of Saskatchewan College are invited to participate.

■ Undergraduate Students: Undergraduate students who have engaged in research projects relating to child health are encouraged to participate in this symposium.

For further information about the Trainee Research Day or to obtain a Registration and Abstract Submission Form please contact <u>pediatric.research@usask.ca</u> or visit

http://www.medicine.usask.ca/pediatrics/research/





Based on presentations at the Trainee Research Day two trainees may be selected to represent the University of Saskatchewan at THE 24th ANNUAL NATIONAL PEDIATRIC RESIDENT AND FELLOW RESEARCH COMPETITION Winnipeg, Manitoba May 17, 2012



Mentoring Seminars May 10<sup>th</sup>, 2012 9:00 a.m. – 4:00 p.m. Sasktel Theatre, RUH



Successful grant applications in the current CIHR environment Ross T. A. MacGillivray, Ph.D.



Changes to the CIHR application process - the Importance of the CV and publication planning Roger A. Pierson, PhD



Patient Oriented Research Thomas W. Wilson, MD

If you plan to attend the Mentoring Seminar please RSVP your attendance by May 1, 2012 to Stacey Clark by phone 966-1676 or e-mail: <u>medicine.mentorship@usask.ca</u> (photographs reprinted with permission )

### Patient Narratives April 20<sup>th</sup>, 2012, 1:00pm to 2:30pm Health Sciences Building, Room B450

This program provides an opportunity to hear from patients and families about their experiences as well as to discuss how health care professionals can practice in a patient- and family-centered way. For more information visit:

https://wiki.usask.ca/display/umecc/Patient+Narrativ es+Student+Page+2011+to+2012 or contact Marcel D'eon at: marcel.deon@usask.ca



PAWS BULLETIN BOARD, ON-CAMPUS NEWS AND THIS WEEK IN PEDIATRICS ARE SOURCES OF EVENT INFORMATION: The Bulletin Board feature on PAWS, On-Campus News and This Week in Pediatrics are sources for keeping informed about coming child health related research events, lectures and visitors. The Research Newsletter will also provide information about events of interest to child health researchers. Please submit any notices of forthcoming events to: pediatric.research@usask.ca

# THINKING OUTSIDE THE BOX: PROMOTING TRANSDISCIPLINARY RESEARCH



The Department of Pediatrics is committed to promoting multidisciplinary research collaborations and transdisciplinary research programs. In future issues of the Newsletter child health related research activities from other departments and colleges at

the University of Saskatchewan will be featured and the University of Saskatchewan's participation in national and international research will be highlighted.

Currently, Department of Pediatric researchers collaborate with ten different colleges and agencies and work with collaborators from 22 different University of Saskatchewan academic departments.

### New Approach to Procedural Pain Management Reported

Baxter AL, Cohen LL, McElvery HL von Baeyer CL: An integration of vibration and cold relieves venipuncture pain in a pediatric emergency department. 2011. Pediatr Emerg Care 27:1151-6

Dr. Carl von Baeyer, Professor Emeritus, University of Saskatchewan and Associate Member of the Department of Pediatrics collaborated with investigators in Atlanta Georgia to study the beneficial affects of integrating vibration and cold stimulation to reduce venipuncture pain in the pediatric emergency setting. The investigators concluded that cold and vibration applied together prior to venipuncture was more effective at reducing pain than standard care (predominantly vapocolant spray) and did not compromise procedural success. The authors used a newly invented device for applying the integrated vibration and cold stimulation.

# High Levels of Endotoxins in Homes of Children with Asthma Living in Rural Regions

Lawson JA, Dosman JA, Rennie DC, Beach J, Newman SC, Sensilselvan A: The association between endotoxin and lung function among children and adolescents living in a rural area. 2011 Can Respir J 18:e89-94

Dr. Josh Lawson and his colleagues at the Centre for Health and Safety in Agriculture, University of Saskatchewan studied associations of endotoxin levels in the homes of children with asthma or wheeze who live in a rural setting. The investigators found that high levels of endotoxin were present in homes of children with asthma or wheeze and may be associated with reduced lung function especially in association with tobacco exposure and in girls.



Drs. Natalie Shiff and Alan Rosenberg, Department of Pediatrics, Dr. Adam Baxter-Jones, College of Kinesiology, and Dr. Chandima Karunanayake, Department of Medicine are collaborators in a Canadian, multi-disciplinary research program that will study the effects of exercise and physical activity on outcomes of childhood arthritis. The program, titled Linking Exercise Activity and Pathophysiology in Juvenile Idiopathic Arthritis: The LEAP Study, is funded by the Canadian Institutes of Health Research.

Further information about LEAP can be found at: http://www.leapjia.com/

# **Beyond Our Borders**

Members of the Department of Pediatrics are active participants in national and international pediatric research consortia including, as examples, the following:



Canadian Alliance of Pediatric Rheumatology Investigators (CAPRI; pictured above)

Maternal Infant Child Youth Research Network (MICYRN) <a href="http://www.micyrn.ca/">http://www.micyrn.ca/</a>

Canadian Neonatal Network (CNN) http://www.canadianneonatalnetwork.org/portal/

The Children's Oncology Group (COG) http://www.childrensoncologygroup.org/

Paediatric Investigators Collaborative Network on Infections in Canada (PICNIC)

Understanding Childhood Arthritis Network (UCAN) <a href="http://ucanetwork.com/">http://ucanetwork.com/</a>



Please keep us informed. If you have published or presented your research recently please let us know so the work can be reported in a future issue of The Newsletter.

Symposium Highlights Approaches to

**Knowledge Translation for Researchers** 

The University of Saskatchewan's Colleges of



The University of Saskatchewan is one of five training centres in Pain in Child Health (PICH), a transdisciplinary strategic training initiative in health research funded by the Canadian Institutes of Health Research (2002-2015).

The goal of PICH is to develop a community of scholars in pediatric pain. It offers stipends, an annual research training institute, monthly international lab meetings via web conference, trainee visits to other research centres, and an international speaker series.

With funds from a private foundation, PICH includes trainees from 14 countries around the world. PICH trainees come from many different disciplines including pediatrics. Trainees have published more than 1,000 articles and abstracts to date with their mentors and associates. At the University of Saskatchewan the PICH co-principal investigator is Carl von Baeyer, PhD, Professor Emeritus of Psychology and Associate Member in Pediatrics. Collaborating faculty are Alan Rosenberg, MD, Professor of Pediatrics, and Tammy Marche, PhD, Associate Professor of Psychology, St Thomas More College. (See the previous issue of this newsletter for information about recent awards of Saskatoon PICH trainees Dr. Tracy Wilson-Gerwing and Dr. Susan Tupper.)

More information about PICH can be obtained via <u>www.paininchildhealth.dal.ca</u> or <u>carl.vonbaeyer@usask.ca</u>.



- Article contributed by Dr. Carl von Baeyer

"When burned on a CD, the human genome is smaller than Microsoft Office." - Steve Jurvetson

"...sometimes you need to be imaginative about what kinds of research you do, compromise and be driven by the questions that need answering, rather than the tools available to you." - Ben Goldacre

### Medicine, Nursing and Veterinary Medicine and the Saskatchewan Health Research Foundation sponsored a Scientist Knowledge



Scientist Knowledge Translation Training (SKTT) Workshop. The two-day workshop was conducted by Dr. Melanie Barwick, Scientific Director of

knowledge translation at The Hospital for Sick Children, Toronto and Dr. Donna Lockett, knowledge translation consultant. SKTT was designed for researchers in health, education and social sciences who have an

interest in sharing and disseminating their research results and knowledge beyond the academic community. The workshop, which was attended by approximately 40 University of Saskatchewan researchers, introduced the principles of



Drs. Melanie Barwick (left) and Donna Lockett, co-developers of the SKTT program

effective knowledge translation using powerful examples of successful knowledge translation. Strategies for forging effective relationships with the traditional media were presented and approaches to capitalizing on social media to help translate research into action were discussed. Drs. Barwick and Lockett have created a Knowledge Translation Planning Template that can aid researchers in planning the format and implementation of their researcher knowledge translation programming.

Information about SKTT can be found at: http://www.sickkids.ca/Learning/AbouttheInstitute/Programs/Knowled ge-Translation/Scientist-Knowledge-Translation-Training-Workshop/Scientist-Knowledge-Translation-Training-Workshop.html

## **INTERNAL GRANT REVIEW PROCESS**

The University of Saskatchewan has instituted an internal grant review process which is a requirement for certain funding competitions. Applications requiring an internal review are CIHR Operating Grants, Social Sciences and Humanities Research Council Standard Grants, CIHR grants which are eligible for Regional Partnership Program funding, Saskatchewan Health Research Foundation New Investigator Awards and applications to the Canadian Foundation for Innovation. The Internal review process requires that one or two faculty, from the either the University of Saskatchewan or from within Saskatchewan, review the grant. The Department of Pediatrics Research Office can assist with organizing internal reviews even for applications for which an internal review is not mandatory.



### Canadian Child Health Clinician Scientist Program

The Canadian Child Health Clinician Scientist Program (CCHCSP) is a transdisciplinary training program for the next generation of clinician-scientists in child and youth health research in Canada.

CCHCSP offers five types of awards:

- 🌞 Predoctoral
- Postdoctoral
- 🌞 Career development
- Career Enhancement Program (non-salary)
- Rising Research Support (non-salary)

### **Predoctoral Award**

This award is directed at candidates with a health professional degree who wish to engage in or enhance their research training.

#### **Postdoctoral Award**

This award is directed at candidates with a health professional degree and a prior PhD who wish to extend their research competence in child and youth health research.

#### **Career Development Award**

This award is directed at clinician-scientists who have completed doctoral level research training and who are newly appointed as a clinician-scientist.

### **Career Enhancement Award**

Upon acceptance into the CCHCSP CEP, trainees will be funded to attend and participate in CCHCSP Annual National and Mini Symposia and will be granted access to the CCHCSP web-based curriculum. Trainees will participate in center-based curriculum meetings. Trainees will receive an additional non-salary award of \$5,000 per year to support their career development specifically related to research. The trainee's research mentor will be invited to participate in the CCHCSP Annual National Symposium with financial support from CCHCSP.

### **RRSP** Award

The Rising Researcher Support Program aims to provide highly qualified individuals who are training towards certification as a child health clinician with an opportunity to engage in research career planning prior to application to the CCHCSP Predoctoral or Postdoctoral Training Programs.

### **CCHCSP Curriculum Opportunities**

CCHCSP offers a variety of training opportunities through on-line programs and retreats.

• Web-based Educational Modules: Web-based modules have been developed as a source for key information and resources.

• **Interactive Educational Session:** At each training centre, a coordinator will recruit trainees of the CCHCSP and others in the organization who have a career goal of becoming a Clinician Scientist. The study group will meet regularly with facilitators who will work with them to complete each of the sections.

• Weekend Educational Retreats: Three times annually a 1-1/2 day educational retreat will be held. This will provide an opportunity to complete special projects, and for each of the sites to be linked by video conferencing for a special educational focus.

• **Core Teaching Modules:** The curriculum will be divided into core modules including: Research Ethics and Integrity; Research Design and Analytic Methods; Intellectual Property; Commercialization;Contracts and Conflicts of Interest; Mentoring/Supervising Research Trainees; Oral and Written Communication Skills; Tools of Research; Management of People, Time and Resources; Child Health Policy Development.

To learn more about CCHCSP and to register as a CCHCSP user and gain access to on-line curriculum materials trainees and faculty interested in child health related research are encouraged to visit the CCHCSP website at: <a href="http://www.cchcsp.ca">http://www.cchcsp.ca</a>

-Material for this article was extracted from the CCHCSP website-



NEED ASSISTANCE? If you need assistance in developing child health related research ideas and protocols, identifying funding opportunities, implementing your research project or finding potential collaborators please contact the Pediatric Research Office at <u>pediatric.research@usask.ca</u>

# YOUR OPINION PLEASE!



We would like your thoughts about the format and content of future issues of The Research Newsletter. If you have not already done so please complete a brief online survey by going to: <u>https://www.surveymonkey.com/s/NQVV6SB</u>

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