



Department of Pediatrics Research Report

June 2014



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Welcome to SPRING!

U OF S SCIENTISTS WORKING TOGETHER TO
ADVANCE CHILD HEALTH RESEARCH

SPRING (Saskatchewan Pediatric Research and Innovation Group) was established by the Department of Pediatrics to promote and facilitate the highest standards of child health, transdisciplinary research among Saskatchewan investigators. The goal of SPRING is to foster research that contributes to the health and well-being of children now and into their long term futures. SPRING comprises an expanding group of participants representing a broad array of biomedical and non-biomedical disciplines.

The SPRING administrative office will help identify and forge interdisciplinary collaborations and assist with coordinating collaborative interactions and project development and implementation.

SPRING will work with researchers to identify and implement research resources, training opportunities and knowledge translation activities.

An inaugural SPRING Workshop was convened May 22nd, 2014. Attendees reported their respective research interests and activities,

discussed the purpose and vision of SPRING and engaged in exploratory discussions relating to six research themes including:

- Social determinants of child health
- Prenatal determinants of health
- Rural, remote and global health
- Indigenous child health
- Nutrition, physical activity and other lifestyle influences on child health
- Genomics, proteomics and other biologically-based determinants of health

To learn more about SPRING or to receive future SPRING communications please contact the SPRING office (see page 4 for contact information).



SPRING workshop discussion groups

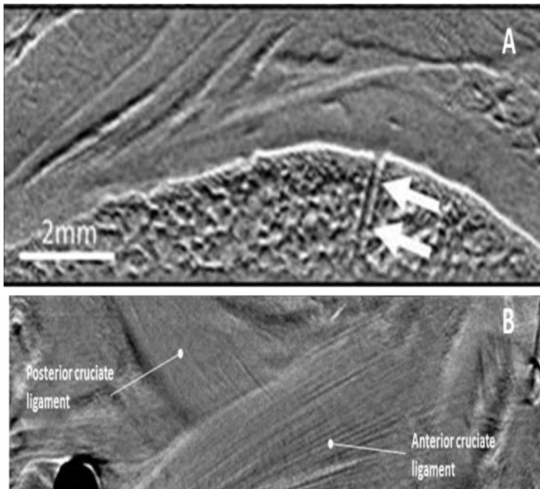


Image of Interest

CT-Diffraction Enhanced Imaging (CT-DEI) scans of a 4 week old piglet joint captured using a synchrotron light source. Vasculature detail is clearly visible within the cartilage. White arrows show vessels traversing through trabecular bone and bone cortex into the cartilage. Panel B is an image showing precise details of the anterior and posterior cruciate ligaments at the center of the joint. These highly detailed images are the first recorded using CT-DEI and a synchrotron light source.

From: Rhoades G, Chapman D, Belev G, Rosenberg AM

TRAINEE RESEARCH PROJECT OPPORTUNITIES

Trainees seeking research project opportunities may contact the project leader listed below

■ Relationship between vitamin D levels and inflammation

Study Format: Database analysis Contact: Alan Rosenberg (alan.rosenberg@usask.ca)

■ Usability and utility of a pediatric discharge pain management chart

Study Format: Semi-structured interview and questionnaire Contact: Dr. Susan Tupper, Coordinator Integrated Pain Strategy & Research, SHR, 306-715-8315, susan.tupper@usask.ca

■ Survey of Kawasaki Disease awareness among Saskatchewan physicians

Study Format: Survey Contact: Alan Rosenberg (alan.rosenberg@usask.ca)

If faculty members have other trainee research project opportunities please contact the SPRING Office to facilitate linking the project with a trainee. **Watch for future information about the Child Health Trainee Research Day planned for April 2015**

FEATURED RESEARCHERS



Dr. Sylvie Cormier, a third year pediatric resident, in collaboration with her supervisors **Drs. Ayisha Kurji and Karen Leis**, is studying new approaches to improve the treatment of children and youth with eating disorders. Using a novel approach to improving nutritional intake Dr. Cormier and her collaborators are studying protocols that can safely restore their patients' nutritional health, improve outcomes and reduce requirements for hospitalizations.



Dr. Ron Siemens, Clinical Associate Professor in the Department of Pediatrics, has assembled an international team of researchers which aims to reduce maternal and infant mortality in Mozambique. Adhering to the principles of community-based participatory action research, Dr. Siemens and his team, together with residents of the local community, propose to develop and implement culturally appropriate enhancements to maternal-newborn care in Marrere Mozambique by improving access to modern technologies and training local health care providers.

RECENT CHILD HEALTH RELATED PUBLICATIONS FROM U OF S FACULTY

- Raj MT, Prusinkiewicz M, Copper DM, George B, Webb MA, Boughner JC: **Technique: Imaging earliest tooth development in 3D using a silver-based tissue contrast agent.** *Anat Rec (Hoboken)*. 2014;297(2):222-233
- Van Oort C, Tupper SM, Rosenberg AM, Farthing JP, Baxter-Jones AD: **Safety and feasibility of a home-based six week resistance training program in juvenile idiopathic arthritis.** *Pediatr Rheumatol Online J*. 2013 Dec 20;11(1):46.
- Duckman RL, Baxter-Jones AD, Johnston JD, Vatanparast H, Cooper D, Kontulainen S: **Does physical activity in adolescence have site-specific and sex-specific benefits on young adult bone size, content, and estimate strength?** *J Bone Min Res* 2014; 29 (2):479-486
- Pannicke U, Baumann B, Fuchs S, Henneke P, Rensing-Ehl A, Rizzi M, Janda A, Hese K, Schlesier M, Holzmann K, Borte S, Laux C, Rump EM, Rosenberg A, Zelinski T, Schrezenmeier H, Wirth T, Ehl S, Schroeder ML, Schwarz K.: **Deficiency of innate and acquired immunity caused by an IKBKB mutation.** *N Engl J Med*. 2013 Dec 26;369(26):2504-14.
- Neufeld KM, Karunanayake CP, Maenz LY, Rosenberg AM.: **Stressful life events antedating chronic childhood arthritis.** *J Rheumatol*. 2013 Oct;40(10):1756-65.
- Katzman M, Lawson J, Whiting SJ, Rosenberg AM: **Factors associated with cord blood vitamin D concentration in Saskatchewan Newborns.** *Applied Physiol Nutr* (<http://www.nrcresearchpress.com/doi/pdf/10.1139/apnm-2013-0579>)

Coming Events



11:00 a.m. "Pediatric Integrative Medicine"
Dr. Sunita Vohra, Sheraton Hotel

Dr. Norman Rosenblum
1:00 p.m. CCHCSP Case Study #3 Rm
6615 RUH
2:00 p.m. Resident teaching, Rm 6615



11:30 a.m. Gertler Lecture – Dr. Norman Rosenblum
"Clinical Researchers: Careers, Training and Opportunities", Sheraton Hotel

PROGRESS FROM THE PAST:

Highlighting landmark contributions from Saskatchewan's pediatric research pioneers

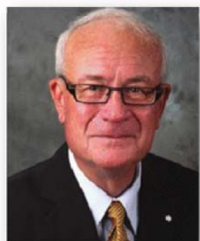


Dr. Mo Shokeir (1938-2010) was a graduate in medicine from Cairo University. After attaining diplomas in general and orthopedic surgery, he studied genetics as a Fulbright Scholar at the University of Michigan, obtaining Masters and Doctoral degrees. In 1969 he joined the University of Saskatchewan's Department of Pediatrics. Apart from a three-year tenure at the University of Manitoba Dr. Shokeir was a faculty member at the University of Saskatchewan for his entire career. He served as Head of the Department of Pediatrics for 17 years (1979-1996).

Dr. Shokeir is renowned for having described two new genetic syndromes, the Pena-Shokeir I and Pen-Shokeir II Syndromes, which bear his and his co-investigator's names.

In 1969 Dr. Shokeir, together with his co-investigator Dr. D.C. Shrefler, published a seminal paper which reported that individuals with Wilson's disease have low levels of cytochrome oxidase in their leucocytes, proportional to the low levels of ceruloplasmin in their sera. The results suggested that "deficiency in serum ceruloplasmin may impair the functional activity of cytochrome oxidase by reducing the enzymatic transfer of copper from ceruloplasmin to the oxidase molecule." (Proc Natl Acad Sci U S A. 1969; 62: 867-72). This contribution contributed substantially to understanding the pathogenesis of Wilson's disease.

OUR PARTNERS



The Dr. Robert and Barbara Haslam Research Fund

The Division of Pediatric Rheumatology is pleased to acknowledge the generous donation received from Dr. Robert Haslam and his wife Barbara. The funds will support research in the Pediatric Rheumatic Disease Research Laboratory under the direction of Dr. A. Rosenberg.

Dr. Haslam, a native of Saskatoon, graduated from the University of Saskatchewan's College of Medicine in 1960. Following a year of general practice in rural Saskatchewan Dr. Haslam, in 1962, began his pediatric training at Johns Hopkins and in 1967 his pediatric neurology training at the University of Kentucky. In 1970 Dr. Haslam was appointed director of the John F. Kennedy Institute in Baltimore, a facility dedicated to caring for physically and cognitively impaired children. In 1975 Dr. Haslam became the Chairman of the Department Pediatrics at the University of Calgary and Alberta Children's Hospital in 1975.

In 1986 he began a 10 year term as Chief of Pediatrics at the Hospital for Sick Children, Toronto. After retiring from faculty at the Hospital for Sick Children in 2000 he returned to Calgary where, as a part-time faculty member, he continued to contribute to clinical and academic activities.

Dr. Haslam is renowned for his contributions to pediatric care, for his brilliant clinical acumen and for his inspiring teaching. His many accomplishments have been acknowledged with numerous awards including the Order of Canada.

The Department of Pediatrics is grateful to Robert and Barbara Haslam for their generosity. The funds are helping to substantially accelerate pilot studies and student engagement in research.



Bioriginal Food and Science Corporation, a Saskatoon-based company, is partnering with the Pediatric Rheumatic Disease Research Laboratory to study the effects of nutraceutical products on pain and inflammation in arthritis.

CONGRATULATIONS



Dr. Darryl Adamko received a Cystic Fibrosis Canada grant for a project entitled: "Improving diagnosis and management of CF: a pilot study to develop metabolomics approach to cystic fibrosis"



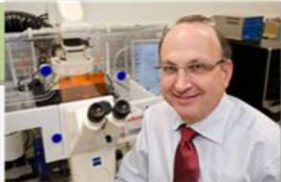
Dr. Tracy Wilson-Gerwing received a Mitacs PDF for a project entitled: "Synergistic actions of nutraceuticals on pain and inflammation in experimental arthritis".



DID YOU KNOW? The University of Saskatchewan Undergraduate Research Journal welcomes submissions from undergraduate health sciences students of research articles, reviews and papers. For more information about USURJ please see: <http://www.usask.ca/urj/> or contact: usurj@usask.ca

Visiting Researcher

Dr. Norman Rosenblum
June 26th-27th



Dr. Norman Rosenblum will be visiting the Department of Pediatrics on June 26th, 2014. On June 27th, 2014 he will be presenting the 10th Annual Clara and Frank Gertler Lecture at 11:30 a.m. at the Sheraton Hotel in Saskatoon on the topic of: *Clinical Researchers: Careers, Training and Opportunities*.

Dr. Rosenblum is Professor of Pediatrics, Physiology, and Laboratory Medicine and Pathobiology at the University of Toronto, and a Pediatric Nephrologist and Senior Scientist in the Research Institute, the Hospital for Sick Children. He is the recipient of a Canada Research Chair in Developmental Nephrology. Dr. Rosenblum is a MD graduate of Dalhousie University. He completed a Pediatric residency and a fellowship in Pediatric Nephrology at the Children's Hospital, Boston followed by a postdoctoral fellowship in the laboratory of Bjorn Olsen in the Department of Anatomy and Cell Biology, Harvard Medical School. Dr. Rosenblum was recruited in 1993 as a clinician scientist to the Hospital for Sick Children and University of Toronto. Since then, the focus of his research has been to elucidate molecular mechanisms that control normal and malformed kidney and cerebellar development in genetic mouse models with a focus on signaling by bone morphogenetic, WNT and Hedgehog proteins.

Dr. Rosenblum is deeply engaged in developing and managing career development programs for clinician scientists. He led the establishment of the CIHR-funded Canadian Child Health Clinician Scientist Program.

contact us

For more information about Department of Pediatrics research and SPRING or to suggest or contribute content to The Pediatric Research Report please contact:

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Online version of **The Pediatric Research Report**:

www.medicine.usask.ca/pediatrics/research/newsletter



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The Pediatric Research Report invites submissions that report on child health research related projects; recent publications, presentations, awards and funding; commentaries; and forthcoming events. Deadline for submissions for the next edition is August 8, 2014.

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Canadian Child Health
Clinician Scientist Program

CCHCSP
PCCSE

Programme canadien de cliniciens-
chercheurs en santé de l'enfant



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

Trainees at the resident, graduate student and undergraduate levels as well as faculty are welcome to participate in the CCHCSP case-based curriculum.

To learn more about CCHCSP and to register as a user and gain access to on-line curriculum materials visit the CCHCSP website at: <http://www.cchcsp.ca>.

The Department of Pediatrics will facilitate the following CCHCSP sessions for the remainder of the current calendar year:

Jun 26, 2014, 1:00pm: Case #3 "Workplace Dilemmas and Company Contracts"

Oct 9, 2014, 1:00pm: Case #4 "No Rash Decision"

Nov 13, 2014, 2:00pm: Case #5 "Clinical Trials and Clinical Patient Care"

Dec 4, 2014, 1:00pm: Case #6 "Clinical Trial and Toxicity"

For further information about the local CCHCSP sessions please contact the Department of Pediatrics Research Office.

Supporting Children's Health Research

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 partner in helping advance research in the Department of Pediatrics.

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

To **DONATE** to the CHRTF please go to:

<http://give.usask.ca/online/chrtf.php>

