The past year and a bit, starting at the beginning of the 2012/13 academic year and ending at the end of 2013, has been exceedingly eventful, punctuated by pivotal recruitments, new funding for research, highly successful accreditations, and “the new building,” The Peter Gilgan Centre for Research and Learning.

RECRUITMENTS
We have three new Division Chiefs:
Steven Miller joined us from the University of British Columbia and BC Children’s Hospital, and recruited Emily Tam (returning to our Department from a neonatal neurology fellowship at UCSF), Vann Chau (from UBC), and Jim Dowling, a clinician scientist in muscular dystrophies, from the University of Michigan. Steven also leads the Centre for Brain and Mental Health, working closely with Peter Szatmari who was recruited as the Head of Child Psychiatry. Thanks to Carter Sneed for his 13 plus years at the helm of Neurology. His stewardship has made this one of the premier training programs in the world.

Ronald Cohn has come from Johns Hopkins University to head the Division of Clinical and Metabolic Genetics, and co-head the Centre for Genetic Medicine (with Steve Scherer). Ronni is a clinician scientist interested in muscle physiology and pathology.

Michelle Shouldice takes over from Jeremy Friedman as Head of Paediatric Medicine, while Jeremy moves into the Paediatrics Executive office giving more of his time to planning and evaluating excellence in clinical care. Julia Morinis is joining the Division in the complex care team, and Adam Rapoport is establishing himself as leader of the Paediatric Active Care Team (Palliative Care).

Also joining the Department this year: Furquan Sheikh and Sumit Gupta in Oncology, Charisse Kwan, Anna Kempinska, Maala Bhatt, Debbie Schoenfeld, and Vanessa Razak in Emergency Medicine, Robert Bandsma in GI, Soheil El-Saleh in Respiratory Medicine, Mina Matsuda-Abedini in Nephrology.
ACCRREDITATIONS
The Royal College of Physicians and Surgeons of Canada (RCPSC) performed an accreditation of all the postgraduate training programs at the University of Toronto. The verdict: not only were all of our programs accredited unconditionally, but the Department was cited for its excellent level of support of these programs. Congratulations to Rayfel Schneider, Adelle Atkinson and all of the subspecialty program directors.

SickKids accreditation: The hospital accreditors were suitably impressed by how SickKids met the major and almost all of the minor standards. Well done to all who participated.

RESEARCH
In an environment increasingly hostile to biomedical research, members of our faculty continue to flourish, with good grant support, multiple papers, trainees, etc. As an indication of their success a number of individuals were honoured with academic chairs:

Rae Yeung (Rheumatology) is the inaugural Hak Ming and Deborah Chiu Chair in Translational Medicine
Brian Feldman is the Ho Chair in Autoimmunity
Eyal Grunebaum is the Campbell Chair in Immunology.

CONCLUSIONS
We congratulate Mary Jo Haddad, President and CEO of SickKids for a magnificent 10 years at the helm of SickKids. We are in a great position due to your leadership. We also welcome the new CEO, Mike Apkon, to SickKids: the times ahead are indeed exciting.

Thanks to everyone for their stellar contributions.
All the best,
Denis Daneman

Building capacity in child health is a priority at SickKids. We encourage our staff to be innovative and find ways to improve our performance with the resources we have, and when we hire new talent we consider how a new member of our department can help to enhance child health systems.

This year our annual report focuses on some of our new people and new programs that help us extend our expertise into new fields for the benefit of children in Canada and around the world. We are fortunate to have such talented staff members under our roof and proud to feature five of them in our annual report.

Sarah Bowdin, Trey Coffey, James Dowling, Indra Narang, Adam Rapoport

SARAH BOWDIN
Clinical Geneticist in Clinical and Metabolic Genetics and Project Investigator, SickKids Research Institute
Dr. Sarah Bowdin earned her medical degree and a master’s degree in prenatal genetics and fetal medicine in England. She was Honorary Clinical Lecturer in the Division of Reproductive and Child Health at the University of Birmingham before joining SickKids in 2008. Her role in patient care is to make a diagnosis that explains a child’s condition, often when the condition is rare.

“At SickKids, we are starting to use whole genome sequencing, which promises to provide many more patients and their families with an accurate diagnosis,” she says. “The technology allows us to sequence virtually every part of the human genome in order to find a genetic change that may be causing the child’s condition.

“As a member of the research team that has introduced this technology directly into patient care, I am able to talk to families about the benefits and risks of whole genome sequencing. It is of huge importance that families are so willing to share their thoughts as we learn how best to use this new technology. The experience that we are gaining now will be used across Canada and North America to help make this technology part of the best patient care.”
Dr. Trey Coffey earned her MD at the University of Chicago Pritzker School of Medicine in 2001. Before joining SickKids in 2005 she worked with the Infant Ground Transport Team in Seattle and in the Emergency Department at Children’s Hospital and Regional Medical Center in Seattle.

Teamwork matters a great deal to Dr. Coffey. “Seeing front line teams get ignited around quality and safety, to see them have ‘ah-ha’ moments when they recognize opportunities to improve our service delivery or work environment, seeing them problem-solve creatively as a team, and know they have support to see their ideas turned into tangible results – all of this makes my job exciting,” Dr. Coffey says. “It is immensely satisfying to see before your eyes the increase in staff engagement, job satisfaction, and personal investment in patients’ experience.”

Her publications include three papers on medication reconciliation and a chapter on “Quality and Safety in Pediatric Complex Care” in Current Pediatric Reviews 2012. Her most important academic work is around handoffs, and she is leading an international qualitative study of handoff improvement implementation.

Dr. James Dowling joined SickKids and U of T in September 2013. He completed his medical training at the University of Chicago following a degree from Yale University in Molecular Biophysics and Biochemistry, and a PhD from the University of Chicago in Molecular Genetics and Cell Biology.

His research interests include new gene discovery in childhood muscle diseases, the role of phosphoinositide regulation in muscle development and muscle disease, molecular pathogenesis of congenital onset muscle diseases, and drug discovery for congenital myopathies and muscular dystrophies. In 2011 he received the Philip Dodge Young Investigator Award of the Child Neurology Society.

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This year we started an eating disorders clinic; a literacy program for babies of teen mothers; planning for a new clinic for transgender youth; new transition initiatives for the complex care population; and an evaluation of health status of our Substance Abuse Program graduates.
The Division of Adolescent Medicine at The Hospital for Sick Children is an interprofessional group committed to promoting and providing excellence in adolescent health care, and collaborating with local, national and international communities in the areas of patient care, training, education and research.

Some of the exciting events of the year included: the start of a psychologist-led, under-13-year-old eating disorders clinic; a literacy program for babies of teen mothers; planning (with the Division of Endocrinology) for a new clinic for transgender youth; new transition initiatives for the complex care population; and the completion of an evaluation of the long-term health status of graduates of our Substance Abuse Program.

The Division has five programs: The Young Families Program (YFP), The Substance Abuse Program, The Good 2 Go Transition Program (G2G), The Eating Disorders Program, and the SickKids Interprofessional Team for Youth (SITY). These programs continue to be active in clinical care, education, research, resource creation and international collaborations.

The Young Families’ Program. The Young Families Program continues to host a wide range of interprofessional education trainees from a variety of disciplines including medicine, nursing, and midwifery social work and has expanded the role for social paediatrics students into its clinical, research and educational programs. Research and QI projects have increased and include work in the areas of young fatherhood, contraception, literacy and evidence-based health services for adolescent parents. Enhancing and strengthening community networks and affiliations is an active strategic focus.

The Substance Abuse Program provides a continuum of care from outpatient to day treatment, incorporating best practices in clinical care, while providing learning for a variety of health professional trainees. A validated assessment tool for concurrent disorders (GAIN-SS) has been introduced, studied and is now being utilized as a regular component of the assessment process. The program is a member of collaborative project team that is developing an evidence-informed approach for program evaluation for youth addictions treatment programs across the province.

Good 2 Go Transition Program (Good 2 Go) continues to support SickKids staff and members of the paediatric and adult healthcare community in servicing the needs of youth in healthcare transitions. Highlights from the past year include successful response to a call from the MOHLTC to better understand the transition needs of youth with complex care needs through a partnership with Canadian Foundation for Healthcare Improvement. The past year has stressed our role as consultants/experts in transition at the provincial and national level, including recent examples as working group members on transition initiatives with Canadian Association of Paediatric Health Centres, the Child Youth Advisory Table of the Toronto Central LHIN and Provincial Council for Maternal and Child Health Child Youth Advisory Committee. Good 2 Go continues to revise and develop new resources and tools, including our first ever Resource Manual and updates to the Complex Care Transition Resource Guide.

The Eating Disorders Program provides integrated clinical services (inpatient, day hospital, outpatient and consultation) to adolescents and their families. All aspects of the program are interdisciplinary and family-based as fits with best evidence based practice. The program continues to explore innovative treatments and their outcomes and to add to its research with studies on transition to adult care, evaluating a new referring protocol, and developing a treatment model for younger children with eating disorders. Educating current and new providers on best practices in eating disorders care remains a core mission of the program.

SITY is an important educational resource providing continuity clinics for fellows and subspecialty residents and teaching about a broad range of adolescent issues. Collaborations continue with clinics throughout the hospital and we are continuing to form partnerships with subspecialty clinics to improve the care of youth in both the inpatient and ambulatory settings. SITY continues to optimize the involvement of practitioners and trainees in a number of disciplines to role model and deliver care in an integrated and interprofessional manner. Research has been concluded on our review of our model of care in subspecialty clinics and has been submitted for publication.

HONOURS AND AWARDS
Katzman D: Winner of the 2013 Academy for Eating Disorder’s Leadership Award for Clinical, Administrative or Educational Service. Awarded at the International Conference on Eating Disorders, Montreal, Quebec.

PUBLICATIONS


BOOKS


GRANTS AND FUNDING


Creation and usability testing of a mobile application to support self-management and transition of adolescents with lupus. Kaufman M, Levy D, Ruth N, Williams E, Regina A. Lupus Foundation of America, Lucy Vodden Research Award. $110,000 USD. 2012-2013


Effects of anorexia nervosa on peak bone mass. Kilbanski A, Katzman DK (Principal Investigator at SickKids site), Misra M, Herzog D, Levitsky L, Bouxsein M, Russell M. National Institutes of Health/CFAR Health Canada for Clinical Trials Application at SickKids site and for project at-large. $5,000,000 CAD. 2011-2016

Examining the long-term outcomes of adolescents receiving treatment in a substance abuse day treatment program. Leslie K, Brinda B, Masen C, Health Canada. $37,161CAD. 2010-2012


Further development of the MyHealth Passport. Good 2 Go Transition Program. John Deere Foundation $50,000 CAD. 2008-2013

Improving the transition from paediatric to adult care services for adolescents with eating disorders. Toulany A, Dimitropoulos G, Samuels D, Leclerc A, Turrini T, Anderson J, Colton R; Kaufman M, Steinegger C. SickKids Paediatric International Patient Safety and Quality Care (PIPSQC) Funding. $4,500 CAD. 2012


Students and faculty as partners in innovation: The e-Faculty Development Project. Leslie K, Law M, Ballon B, Yeung E, Shami A, Lindzon G. University of Toronto Instruction Technology Incentive Fund (ITIF). $15,000+matched funds of $15,000 from the Faculty of Medicine T-IME initiative. 2011-2013

Vitamin D status in children and adolescents with anorexia nervosa. Steinegger C, Sherwood K, Segal S, Pinhas L, Katzman DK. Pediatric Consultants Partnership Grant for Creative Professional Activity. $9,889 CAD. 2010-2012

DIVISION HEAD
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Dr. Cathleen Steinegger
Dr. Alene Toulany
Dr. Eudice Goldberg
Dr. Kathy Hick
Dr. Karen Leslie

PART-TIME
Dr. Joey Bonifacio
Dr. Rohul Saxena

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Dr. Chana Korenblum
Dr. Maya Kumar
Dr. Renee Morgan
Dr. Ashley Vandermeer
Dr. Ian Chen

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Noreen Akhtar
Joy Gouldbourne
The Division of Cardiology forms an important part of a multi-disciplinary and “expert model of care” team, with dedicated cardiac intensive care facilities, state-of-the-art imaging, an internationally renowned electrophysiology service, and a world-leading heart function and transplant service.
DIVISIONAL OVERVIEW

Following the appointment in 1938 of its first Chief, Dr. John Keith, the Division of Cardiology at The Hospital for Sick Children has gone from strength to strength. Always working in close collaboration with colleagues from surgery, anaesthesia, intensive care, and all the specialties involved in the care of children with heart disease, the Division has established itself as one of the leading programs. Committed to outstanding clinical care, cutting-edge research and teaching, the Division has been at the forefront of developments in the specialty for over 70 years. As an integral partner in the Labatt Family Heart Centre, the Division forms an important part of a multi-disciplinary cardiovascular care unit, with dedicated cardiac intensive care facilities, state-of-the art imaging, an internationally renowned electrophysiology service, and a world-leading heart function and transplant service.

Alumni of the Division’s fellowship program populate heart centres around the world, and the sub-specialty residency and fellowship programs are amongst the most highly regarded internationally. Research and development have always been at the forefront of the activities of the Division, and the current faculty continue to perform at the highest level. The Division is a long-standing member of the Paediatric Heart Network, an NIH-funded network of centres of excellence, it houses the Congenital Heart Surgeons Society database, and leads the world in the clinical epidemiology and outcomes analysis of congenital heart disease. At a mechanistic level, our world-leading imaging research spans all disciplines from CT, MRI, to echocardiography and fetal medicine. At the same time, the heart function and transplant research activities have made a world impact. Working closely with our surgical colleagues, the interventional cardiology program has been at the leading edge of the field for well over 20 years, and continues to develop novel interventions, hybrid procedures, and multidisciplinary cardiovascular functional research.

HONOURS AND AWARDS
Grosse-Wortmann L: Best Cases from the SCMR website, Society of Cardiovascular Magnetic Resonance (SCMR); Windram J, Bradley T, Yoo SJ: A severe ductal aneurysm in a neonate, February 2013.

PUBLICATIONS
Alghamdi M, Mertens L, Lee W, Yoo SJ, Grosse-Wortmann L: Longitudinal right ventricular function is a better predictor of right ventricular contribution to exercise performance than global or outflow tract ejection fraction in tetralogy of Fallot: A combined echocardiography and magnetic resonance study. European Heart Journal - Cardiovascular Imaging 2013: 14 (3): pp 235-239.


Friedberg MK. Squeezing better function out of the systemic right ventricle by optimizing its pacing site. Heart Rhythm 2013: 10 (5): pp 683-684.


Hamilton RM. One man’s junk is another man’s treasure: QWAS, ENCODE, and the search for control of the heart. Heart Rhythm 2013: 10 (3): pp 409-411.


BOOK CHAPTERS


BOOK CHAPTERS


Personalized medicine in the care of the child with heart disease: Discovery to application. Mital S. CIHR Planning Grant. $23,500 CAD. 2012 Nov 1-2013 Oct 31


TLR4 signaling in acute and chronic responses to remote ischemic conditioning. Canadian Institute of Health Research. Redington AN, Rohailla S. $360,099 CDN. 2013 March 1-2016 Feb 28

Vascular smooth muscle differentiation from patient iPS cells: Development of a drug screening platform. Ellis J, Mital S. SickKids Stem Cell Innovation Grant. $56,000 CAD. 2013 Jan 1-2014 Dec 31
During the 2012-2013 academic year, the residency program underwent an external review and received full approval. Strengths include excellent faculty, residents’ research funding and publication productivity, and the availability of a continuity clinic.
The Division of Clinical and Metabolic Genetics is committed to providing excellence in patient care, research and education. As new genomic discoveries continue to have significant impact on health-care delivery, the Division has responded to the challenges and opportunities of genomic medicine and its potential to transform children's health. Building on these new genomic discoveries, the Division’s overall approach to medical consultation has shifted to encourage greater collaboration, and leverage the demonstrated programmatic strengths within SickKids’ medical specialties to fuel change.

To support this evolution, the Division is co-leading the launch of a five-year genome clinic research project sponsored by the Centre for Genetic Medicine. The project will leverage whole genome sequencing to test multiple hypotheses concerning the implementation of whole genome sequencing in the routine clinical care of children and their families. Recruitment of patient cohorts for the project will be supported through unconventional partnerships.

The Division’s commitment to invest in genomic literacy will result in more informed health professionals and families taking responsibility for creating the environment for constructive change. In partnership with the Centre for Genetic Medicine, the Division of Clinical and Metabolic Genetics has taken a leadership role through the creation of a multi-year clinical education plan to support knowledge uptake across the organization. This plan will be supported through the strategic partnerships associated with the Centre, ensuring the alignment of accelerating translation opportunities with the required infrastructure to ensure successful and measurable outcomes.

The Division welcomed Dr. Ronald Cohn as new Division Head in 2012. Dr. Cohn joined SickKids as the Chief of the Division of Clinical and Metabolic Genetics, Co-Director of the Centre for Genetic Medicine and Senior Scientist. He received his medical degree from the University of Essen, Germany. After his postdoctoral fellowship at the Howard Hughes Medical Institute in the laboratory of Dr. Kevin Campbell, he moved to Baltimore where he was the first combined resident in paediatrics and genetics at the Johns Hopkins University. He subsequently joined the faculty of the McKusick-Nathans Institute of Genetic Medicine at Johns Hopkins where he became the director of the worlds’ first multidisciplinary centre for hypotonia, which has earned national and international recognition. The centre focused on identifying, supporting and treating patients with various conditions associated with hypotonia with the goal to directly combine clinical experience and basic research efforts to ensure that the clinical approach to and therapy for the patient will be tailored to his/her individual needs. Dr. Cohn will continue his work in this area at SickKids. He was also the director of the medical genetics residency program at Johns Hopkins.

In 2012, the Division also welcomed Tamar Altschuler to support Dr. Cohn. Ms. Altschuler joined SickKids after working at Providence Healthcare in Vancouver, she is a University of Victoria graduate with a Post-Graduate Certificate in Human Resources Management and she holds her CHRBP Candidate certification. The Division also welcomed Sheila Andover, the new Patient Information Clerk. Ms. Andover spent many years volunteering in the Division before becoming a permanent member of the team.

Increased and timely access to genetic counselling services has been implemented, based on the increased utilization of genetic testing by SickKids health-care providers. Information provided via genetic counselling includes patients/families with information about the genetic etiology, specific molecular test result, recurrence risks, and testing options such as cascade testing for family members. As well, two new SickKids genetic counselling positions have been added – one in the Heart Centre addressing cardiogenetic disorders and the other (.5 FTE) in Neurology with a focus on neuromuscular disorders.

Dr. Roberto Mendoza was promoted to the specialty of Genetist with the College of Physicians and Surgeons. Dr. Melissa Carter launched two new clinics this year. The Rett Syndrome Complex Care clinic opened in May 2013. Dr. Carter and co-director Tessa Gres-ley-Jones, nurse practitioner, run this clinic six times a year at Holland Bloorview Kids Rehabilitation Hospital. At SickKids, Dr. Carter has opened a research clinic for families of children with autism spectrum and related neurodevelopmental disorders. Along with genetic counsellor Ny Hoang, Dr. Carter sees families interested in enrolling in the Autism Genome Project through The Centre for Applied Genomics (Stephen Scherer, PI).

The Twelfth Annual Starbucks Clinical Research Summer Students Competition was awarded to Dr. Melissa Carter (Early Infantile Epileptic Encephalopathy (EIEE) and Genetic Testing – Do we need a systematic approach?). Laura Burt (Rates of exclusive breastfeeding and breastfeeding sustainability in newborns with inborn errors of metabolism identified following a positive newborn screen), Tracy Stockley (Genome Diagnostics: Development of Clinical Laboratory Genomic Variant Reporting Tools) and Rosanna Weksberg (DNA Methylation Alterations in CHARGE syndrome).

The Division of Clinical and Metabolic Genetics has led important teaching initiatives and is a host to a variety of training programs in medical genetics. The Royal College of Physicians and Surgeons-certified residency program in Medical Genetics and the Canadian College of Medical Geneticists-certified clinical fellowship programs in Medical and Biochemical genetics are the largest in Canada. During the 2012-2013 academic year the residency program underwent an external review and received full approval. Strengths that were highlighted included the excellent faculty and residents’ research funding and publication productivity, the availability of a continuity clinic which provides an excellent experience for graduated professional responsibility and the supportive faculty with a broad range of clinical, research, and teaching expertise. The Division is also home to the MSc Program in Genetic Counselling. Through its links to the Research Institute, the genetics centre and the Department of Paediatric Laboratory Medicine, the Division is actively involved in the training of scientists and physicians who work together translating new discoveries into clinical practice and realizing the ideal of individualized genomic medicine.

HONOURS AND AWARDS

Raiman J: Creative Professional Activity Grant Winner, Department of Pediatrics, The Hospital for Sick Children, Toronto, Canada

Raiman J: Yellow Belt Training and demonstrating knowledge of fundamental Continuous Improvement Principles, Continuous Improvement Program, The Hospital for Sick Children, Toronto, Canada
PUBLICATIONS


Nightingale S, Raiman JA, CUTZ E, Faghoury H, Ng VL. Late-onset ornithine transcarbamylase deficiency presenting with symptomatic liver dysfunction. Journal Pediatric Gastroenterology Nutrition 2012: Dec 18 [Epub].


BOOKS AND CHAPTERS


GRANTS AND FUNDING

A phase 3, randomized, double-blind, placebo-controlled, uni­national clinical study to evaluate the efficacy and safety of 2.0 mg/kg/week and 2.0 mg/kg/every other week BMN 110 in patients with mucopolysaccharidosis IVA (Mucopolysaccharidosis IVA Syndrome) 004. Raiman J, Biomarin Pharmaceutical. $191,129. 2011-2012.
A pilot study into developing novel testing in mucopolysaccharidoses and Niemann Pick disease type C. Creative Professional Activity Grant, Department of Pediatrics, The Hospital for Sick Children, Toronto, Canada. $10,000 CAD. May 2013


BMN004: A phase 3, randomized, double-blind, placebo-controlled, multinational clinical study to evaluate the efficacy and safety of 2.0mg/kg/week and 2.0 mg/kg/every other week BMN 110 in Patients with Mucopolysaccharidosis IVA (Morquio A Syndrome). Raiman J. Biomarin Pharmaceutical. $56,690 CAD per patient [7 patients]. 2011-Present

BMN005: A multicenter, multinational, extension study to evaluate long-term efficacy and safety of BMN 110 in patients with Mucopolysaccharidosis IVA (Morquio A Syndrome). Raiman J. Biomarin Pharmaceutical. $234,044 CAD per patient [7 patients]. 2011-Present

Clinical and radiological investigation of cerebellar atrophy in childhood. Al-Maawali A, Yoon G. Rare Diseases Foundation Microgrant. $1,490.00 CAD. 2011-2012


Dietary treatment with a high medium chain triglyceride formula in early life and nutritional status of children with long chain fatty acid oxidation defects. Starbucks Summer Studentship: Husam Saleh. $4,800 CAD. 2012 May-Aug 2012

Effects of creatine supplementation on muscle pathophysiology in children with dermatomyositis. Feldman B, Schulze A, Stephens S, Wells G, Tein I. Rare Disease Foundation. $3,500 CAD. 2012-2013


Expanding the phenotypic spectrum of GLUT1 deficiency: A treatable metabolic epilepsies. Mahmutoglu S. Rare Disease Foundation, Microgrant Program. $3,500 CAD. 2012-2013

Finding of rare disease genes in Canada (FORGE Canada) Canadian Pediatric Genetic Disorders Sequencing Consortium Competition. Mendoza R. Advancing Technology Innovation through Discovery Funders: Genome Canada, CIHR, Genome Quebec, Genome BC. $3,000,000 CAD. Mar 2011-Aug 2012

First steps to the improvement of long-term outcome of GAMT deficiency by using an international database. Mahmutoglu S. Rare Disease Foundation, Microgrant Program. $3,500 CAD. 2011-2012

First steps towards newborn screening for GAMT deficiency. Mahmutoglu S. Rare Disease Foundation, Microgrant Program. $3,500 CAD. 2011-2012

Genomic basis of congenital heart disease. Mital S, Brudno M, Bowdin S, Oechslin E, Chitayat D. McLaughlin Centre Accelerator Grant in Genomic Medicine. $50,000 CAD. 2011-2012


Identifying the genes and underlying causes for intractable epilepsies by next generation sequencing. McLaughlin Centre - Accelerator Grants in Genomic Medicine. $75,000 CAD/year. 2013-2014


Is low creatine kinase a nonspecific-screening marker for creatine deficiency syndromes? Rare Disease Foundation, Microgrant Program. $3,500 CAD. 2012


MetaKids. Mahmutoglu S. The Netherlands. CAD $56,000 CAD. 2012-2014
DIVISIONAL STAFF

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Tina Martins
Andrea Pemberton
Deb Taylor
Rozmin Visram
Khadine Wiltshire


Myoclonic epilepsy: Generating a database to identify treatable causes. Mahmutoglu S. Rare Disease Foundation, Microgrant Program. $3,500 CAD. 2012-2013

Neurodevelopmental function in rare diseases fellowship educational grant proposal. Industry Sponsored Educational Grant. $90,000 CAD/yr over 3 years. 2010-2013

Neuropsychological and quality of life outcomes in untreated adults with mild hyperphenylalaninemia (MHP) with phenylalanine (Phe) levels between 360 and 600 µMolecular/L. Biomarin Pharmaceuticals Inc. $252,114 CAD. 2012


Retrospective review of patients with myoclonic epilepsy to generate a database: First steps to identify underlying aetiology. Starbucks Summer Student Research Program. $4,800 CAD. 2012

The FACTs project: Fabry disease clinical research and therapeutics. Medin J. CIHR Emerging Team Grant in Rare Diseases. $2,500,000 CAD. 2012

The GeneMed Program, Division of Clinical Pharmacology and Toxicology, The Hospital for Sick Children. Koren G, Chitayat D, Ito S, Madadi P. McLaughlin Centre Accelerator Grant Competition. $60,000 CAD. 2011-2012


The effect of creatine supplementation on muscle function in childhood. Feldman B. Myositis Association. $100,000 CAD. 2013 May-2015 Apr


The clinical toxicology section, based in the Ontario Poison Centre, has been a popular destination for elective residents and fellows. Importantly, the Centre has started clinical toxicology coverage for the province of Manitoba, playing an increasingly crucial role in high-standard toxicology care for Canadians.
In the 2012-2013 academic year, faculty members, staff and trainees of Division of Clinical Pharmacology and Toxicology published more than 50 papers, based on 12 active research grants. Not only the research output, but also leadership activity of the division members continues to contribute to the discipline. In June 2013, Dr. Ito became the President of the Canadian Society of Pharmacology and Therapeutics, assuming responsibility for bringing together basic, translational and clinical researchers to facilitate high-impact research, education and clinical applications in the field of drug therapy. As a leader of an international fellowship program development in the European Union-funded project (Global Research in Pediatrics: GRiP), Dr. Ito organized the first consortium meeting of paediatric pharmacology fellowship programs in Salzburg, Austria. The Motherisk program led by Dr. Koren continues to be the flagship of the division.

Last year, the book from the Motherisk program (Medication safety in pregnancy and lactation: A preliminary report. Journal of Clinical Pharmacology 2012: 19: pp e488-506.) was translated into Chinese, expanding its influence worldwide as a leading reference book. In addition, the Fetal Alcohol Spectrum Disorder Guide for Teachers has sold more than 20,000 copies. The clinical toxicology reference book. In addition, the Fetal Alcohol Spectrum Disorder Guide for Teachers has sold more than 20,000 copies. The clinical toxicology spectrum of newborns is the first consortium meeting of paediatric pharmacology fellowship programs in Salzburg, Austria. The Motherisk program led by Dr. Koren continues to be the flagship of the division.

HONOURS AND AWARDS
Koren G: Winner of Sumner J. Yaffe Lifetime Achievement Award in Pediatric Pharmacology and Therapeutics, 2012.

PUBLICATIONS


DIVISIONAL STAFF

DIVISIONAL STAFF

THE HOSPITAL FOR SICK CHILDREN

DIVISION HEAD
Dr. Shinya Ito

FULL-TIME
Dr. Gideon Koren
Dr. Irena Nulman
Dr. Margaret Thompson

PART-TIME
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Dr. Lisa Thurgur

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Dr. Denis Scolnik
Dr. Marco Sivilotti
Dr. Savithiri Rathnapalan
Dr. Sheila Jacobson
Dr. Sylvain Baruchel
Dr. Yaron Finkelstein
Dr. Alejandro Nava-Ocampo
Dr. Anna Taddio
Dr. Bonnie Stevens
Dr. Lidia Derewlany

RESEARCH FELLOWS
Dr. Anders Hellden
Dr. Noga Rogalla
Dr. Parvaz Madadi
Dr. Smita Karande
Dr. Tohru Kobayashi

CLINICAL FELLOWS
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Dr. Shirin Namouz-Haddad
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Niki Balamatsis
Hila Halshoto
Leah Moscato
Shannon Vanderkooy
Sarah Bondy
Donna Tesesco
Joyceyn Peters-Adams

BOOK CHAPTERS

GRANTS AND FUNDING
Behavioral phenotype for FAS. Canadian Foundation for Fetal Alcohol Research. Rasmussen C., $48,000. 2012-2014

DLAC (Drug in Lactation Analyses Consortium) Phase 1. Ito S. Canadian Institute of Health Research and DSEN (Catalyst grant), $97,150 CAD. 2012-2013

Hair cortisol for stress in mothers of children with FASD. Varúš S, PI. Canadian Foundation for Fetal Alcohol Research. $24,000. 2012-2014


Long term outcomes and corresponding vulnerability and protective factors in adolescents with fetal alcohol spectrum disorder. Nulman I. Canadian Institute of Health Research Doctoral Research Award. $70,000 CAD. 2013-2015


Neurocognitive-phenome, genome, epigenome and nutriome in childhood leukemia survivors: N-PhenoGENICS. Childhood Cancer-Late Effects of Treatment. Team grant competition. Ito S. Canadian Institute of Health Research, $1,898,381 (over 5 yrs). 2012-2017


Post tonsillectomy use of opioids in children with obstructive sleep apnea. Canadian Institute of Health Research DSEN. $99,000 CAD. 2012-2013

Pregnancy outcome following gestational exposure to Muscle Care products. Ontario Centers of Excellence: $59,000. 2012-2014

Surveillance program for diclectin in pregnancy. Duchesnay, Inc. Blairville Quebec. $168,000/yr CAD. 2012-2017


Members of the Division of Developmental Paediatrics actively lead research projects, in association with the Bloorview Research Institute. Highlights include the creation of two research networks funded by the Ontario Brain Institute – one focused on autism spectrum disorders, another on cerebral palsy.
The Division members actively lead research projects in applied childhood disability studies, in association with the Bloorview Research Institute. Highlights include the creation of two Ontario-based research networks funded by the Ontario Brain Institute – one focused on autism spectrum disorders, led by Dr. Evdokia Anagnostou, another focused on cerebral palsy, led by Dr. Darcy Fehlings.

PUBLICATIONS


GRANTS AND FUNDING

Active video games for promotion of physical activity in children and youth with disabilities: Risks and benefits. Biddiss E, McKeever P, Wright V, Chau T, Fehlings D. Canadian Institutes of Health Research. $147,272 CAD. 2010-2013


Case formulation in developmental paediatrics: Seeing the process through the eyes of the expert. Kawamura M, Orsino A, Mylopoulos M. Royal College of Physicians and Surgeons of Canada, Medical Education Research Grant. $5,628 CAD. 2012-2013


OptEC: Optimizing early child development in the primary care practice setting: Pragmatic randomized tri...
DIVISIONAL STAFF

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FULL TIME
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Dr. Jolene Huber
Dr. Ryan Hung
Dr. Elizabeth Jimenez
Dr. Anne Kawamura
Dr. Alvin Loh
Dr. Laura McAdam
Dr. Golda Milo-Manson
Dr. Angela Orsino
Dr. Wendy Roberts
Dr. Jay Rosenfield
Dr. Peter Runney
Dr. Sharon Smile

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Dr. Janine Fanagan
Dr. Cynthia Goldboro
Dr. Mark Handley-Derry
Dr. Carolyn Hunt
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Dr. Diann Superina-Bell

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Dr. Melissa Carter
Dr. Patricia McKeever

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Dr. Mohammad S. Zubairi
Dr. Deepali Mankad
Dr. Shannon Knights
Dr. Rudaina Ibrahim
Banhani
Dr. Melanie Penner
Dr. Andrea Hoffman

ADMINISTRATIVE STAFF AT THE HOSPITAL FOR SICK CHILDREN
Maureen Hodge
Barbara Zimnowodzki


Therapists’ beliefs regarding the value of walking. Gibson B, Fehlings D, Narayanan U, Wright V, Teachman G. University of Toronto - Connaught New Researcher Award. $45,294 CAD. 2012-2014

The Division of Endocrinology is highly collaborative and is engaged in joint programs with care providers from many disciplines, such as social work, general paediatrics, general surgery, urology, genetics, oncology, orthopaedic surgery, psychology, nuclear medicine, and respirology.
2012-2013 was another productive year for the Division of Endocrinology. We continued to provide high-quality, comprehensive care for children and youth with a wide variety of endocrine disorders. These efforts include care for patients with (i) diabetes, including type 1 and type 2 diabetes, diabetes that results from medications such as glucocorticoids, and diabetes secondary to cystic fibrosis; (ii) general endocrine disorders, including growth, thyroid disease, disorders of sex development, pubertal disorders and reproductive health; (iii) abnormalities of calcium metabolism and bone health; and (iv) endocrine cancers, including thyroid cancer, adrenal cortical carcinoma, and pheochromocytoma.

The Division of Endocrinology is highly collaborative and is engaged in joint clinical programs with care providers from many different disciplines. Ongoing collaborations exist with social work, general paediatrics, general surgery, urology, genetics, oncology, orthopaedic surgery, psychology, nuclear medicine, and respirology. The interdisciplinary medical-surgical SickKids Team Obesity Management Program (STOMP) continues to flourish, and, within Endocrinology, the Section of Paediatric and Adolescent Gynecology provides care to pregnant adolescents and to pre-teen and adolescent girls with gynecology disorders.

In addition to clinical care, the Division of Endocrinology continues efforts to train future endocrinologists from Canada and around the world. This year, we had nine trainees in our subspecialty training program: Four Canadians, one from Israel, one from Kuwait, one Australian, one from United Arab Emirates.

We also maintained a substantial focus on research, with faculty having now secured several million dollars of funding. Diabetes remained the area of greatest focus with involvement in (i) prediction and prevention of type 1 diabetes through involvement in the multinational TrialNet and TRIGR study groups; (ii) implications and treatment of insulin resistance and obesity among children and adolescents; (iii) the evolution of obesity and insulin resistance in young children; and (iv) prevention and treatment of the medical complications of diabetes. Our Juvenile Diabetes Research Foundation (JDRF)-sponsored Canadian Clinical Trial Network (CCTN) site is very active, with three ongoing studies.

New research initiatives include the use of smart phones to help adolescents with the management of type 1 diabetes and studies regarding how sex steroids (estrogen and testosterone) affect brain development and contribute to male-female differences in cognition and in susceptibility to mental health disorders. Another area of increased focus is endocrine cancers. In 2012, Dr. Jonathan Wasserman joined our faculty and continued working on the development of his research program related to the etiology and treatment of adrenal and thyroid cancers.

HONOURS AND AWARDS
Daneman D: Recipient of Lifetime Achievement Award, C&SS/CDA, 2013.
Kives S: Winner of Chair’s Award for Postgraduate Teaching, Department of Obstetrics and Gynaecology, Faculty of Medicine, University of Toronto, Toronto, ON, Canada, 2012.

PUBLICATIONS


Limenis E, Shulman R, Daneman D. Is the frequency of ketoacidosis at onset of type 1 diabetes a child health indicator that is related to income inequality? Diabetes Care 2012: 35 (2): pp e5.

Luca P, Hamilton J. Ask the experts: If and when should insulin-sensitizing agents be considered in children and/or adolescents with type 1 diabetes? Diabetes Management 2012: 2 (6): pp 489-495.


Palmert MR. Mild neonatal hyperthyrotropinemia: 10 years’ experience suggests the condition is increasingly common but often transient. Clinical Endocrinology 2013: Epub 2013 Apr 24.


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**DIVISION HEAD**
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Dr. Jill Hamilton
Dr. Farid Mahmud
Dr. Kusiel Perlman
Dr. Etienne Sochett
Dr. Jonathan Wasserman
Dr. Diane Wherrett

**PART-TIME**
Dr. Jacqueline Curtis
Dr. Susan Kirsch
Dr. Dror Koltin
Dr. Stacey Urbach

**GYNECOLOGY**
Dr. Anjali Aggarwal
Dr. Lisa Allen (Section Head)
Dr. Nicolette Caccia
Dr. Yolanda Kirkham
Dr. Sari Kives
Dr. Alexandra Nevin Lam
Dr. Rachel Spitzer

**BOOKS AND CHAPTERS**


**GRANTS AND FUNDING**


Health care utilization patterns among survivors of pediatric thyroid carcinoma. Wasserman JD. Pediatric Oncology Group of Ontario-Seed Grant. $15,000 CAD. 2013 Apr 15-2014 Apr 15


**CLINICAL FELLOWS - GYNECOLOGY**
Dr. Elise Dubuc

**HONORARY**
Dr. Robert Ehrlich

**SUBSPECIALTY RESIDENTS/CLINICAL FELLOWS**
Dr. Fahed Aljaser
Dr. Sareea Al Remethi
Dr. Allison Bahm
Dr. Michal Cohen
Dr. Andrea Ens
Dr. Jennifer Harrington
Dr. Isaac Levy
Dr. Paola Luca
Dr. Rayzie Shulman

**ADMINISTRATIVE STAFF**
Saeedah Ahamad
Shahtia Amiri
Angela Edoo
Mary Mathew
Elizabeth Rodgers
Minet Smith
Zarine Tilak
The future for Clinical Nutrition has been ensured with the appointment of an academic clinician with a focus on clinical nutrition and a laboratory-based clinician/scientist with a focus on nutritional science – opening up opportunities for collaborations with the STOMP obesity program and the Centre for Global Health.
The GI/Hepatology/Nutrition Division aims to integrate clinical care and research for the benefit of patients, and to educate the next generation of academic subspecialists and investigators.

There have been many faculty retirements and other transitions within the Division of GI/Hepatology/Nutrition during the past five years. Of the current 12 full-time faculty, only six were members of the Division prior to 2008. Whilst several, who are no longer full time in the Division, remain giants in their fields, the renewed Division consolidated during 2012-2013 is equally rich in talent and commitment. Areas of clinical care and research focus by faculty include paediatric liver disease and liver transplantation; inflammatory bowel disease; exocrine pancreatic disease such as cystic fibrosis; intestinal rehabilitation and transplantation; clinical nutrition; foregut motility disorders associated with autism.

Local and national awards during the year include Department of Paediatrics Early Career Research Award (Dr. Aleixo Muise); Subspecialty Teaching Award (Dr. Yaron Avitzur); Richard Rowe Award for Clinical Excellence (Dr. Simon Ling); Canadian Association of Gastroenterology Visiting Research Professorship (Dr. Nicola Jones). Also during the year, Dr. Jones assumed the leadership of the CIHR-funded Canadian Child Health Clinician Scientist Training Program and Dr. Avitzur medical leadership of small bowel transplantation within the University Health Network.

The Division’s Hepatology program led by Dr. Simon Ling has been very active during the year with continued valuable participation and leadership by Drs. Binita Kamath and Vicky Ng in “CHILDREN” (the NIH-funded Childhood Liver Disease Research and Education Network), and by Dr. Ling in multi-centre viral hepatitis and SickKids-led international portal hypertension studies. The program’s outreach nationally now includes paediatric hepatology consultation clinics in Winnipeg. The liver transplant program continues to provide life-saving care within the transplant hepatologists, Drs. Yaron Avitzur and Vicky Ng, participate in innovative research collaborations, including the commencement of the iWITH, a multi-centre study of immune-suppression withdrawal in selected survivors of liver transplantation.

Clinical activity is high in the IBD program, with currently 12-15 children a month being diagnosed with Crohn’s disease or ulcerative colitis. The IBD Centre was established to be co-led by Drs. Aleixo Muise, Anne Griffiths, and John Brumell. Dr. Aleixo Muise co-leads an international consortium in the exciting study of very early onset IBD with funding from the Helmsley Foundation and CIHR, Dr. Anne Griffiths is the Principal Investigator in the newly established Canadian Children BID Network (CIDsCANN): a joint partnership of C.H.I.L.D. and CIHR. The NIH-funded PROTECT study in new onset ulcerative colitis, began recruitment, with Dr. Thomas Walters on the steering committee executive. IBD nursing colleagues run much appreciated teen support groups and oversee transition of care programming.

As exocrine pancreatic experts and researchers within the Cystic Fibrosis Centre, Drs. Peter Durie and Tanja Gonska contribute importantly to cutting-edge translational studies, including examination of pharmacologic means of ameliorating defective CF gene function.

The recognized need to ensure a future for Clinical Nutrition within the Division has most recently been met with the appointment in August 2012 of Dr. Marialena Mouzaki as an academic clinician with a focus on Clinical Nutrition, and the successful recruitment in March 2013 of Dr. Robert Bandsma as a laboratory-based clinician/scientist with a focus on nutritional science. These appointments open up opportunities for collaborations in the STOMP obesity program and in the Centre for Global Health.

Whilst the Division encompasses many sub-specialties, it comes together with the unified goal of maintaining a superb fellowship training program, directed by Dr. Simon Ling. The year 2013 saw a review by the Royal College. Under Dr. Ling’s leadership and with the commitment of all faculty and fellows to excellence, the program received a truly outstanding review. Four fellows, many internationally trained in paediatrics, commenced training each year, with most staying for three years or more.

HONOURS AND AWARDS

STAFF:
Avitzur Y: Subspecialty Teaching Award for Excellence in Clinical Teaching, Department of Paediatrics, University of Toronto, The Hospital for Sick Children, Toronto, 2013.
Ling SC: Richard Rowe Award for Clinical Excellence in Paediatric Medical Care, Department of Paediatrics, The Hospital for Sick Children, Toronto, 2013.
Muise A: Early Career Research Award, Department of Paediatrics, The Hospital for Sick Children, Toronto, 2012.
Walters T: Teaching and Mentorship Award, Division of Gastroenterology, Hepatology and Nutrition, The Hospital for Sick Children, Toronto, 2013.

TRAINEES:
Burghardt K: Young Investigator Award. Awarded in recognition of research that was selected for oral presentation at the International Small Bowel Transplant Symposium, Oxford, UK, Transplant Society, Toronto, 2013.

TRAINEES:
Elkadri A: Canadian Institute of Health Research Training Award, Toronto, July 2012.

Elkadri A: Canadian Association of Gastroenterology/Werner Chilcott Resident Research Training Award, Toronto, July 2012.


Elkadri A: Clinician/Graduate Degree Scholarship - awarded to Royal College of Physicians and Surgeons trainees enrolled in a graduate degree program to recognize excellence in research at the University of Toronto, Toronto, February 2013.

Elkadri A: Awarded to attend the Research Topics in GI Disease Course offered by the Canadian Association of Gastroenterology during Canadian Digestive Diseases Week, Victoria, BC, March 2013.

Elkadri A: Awarded to attend the 2012 Advances in Inflammatory Bowel Diseases Crohn’s and Colitis Foundation’s Clinical & Research Conference - Crohn’s and Colitis Foundation of America Fellow Travel Grant. Fort Lauderdale, USA, December 2012.

Elkadri A: Awarded to attend the Single Topic Symposium “Discovering the Future of Pediatric Inflammatory Bowel Disease Care,” at the NASPGHAN annual meeting and postgraduate course. NASPGHAN Single Topic Symposium Travel Award – North American Society of Pediatric Gastroenterology, Hepatology and Nutrition. Salt Lake City, USA, October 2012.


Elkadri A: Canadian Institute of Health and Research/Canadian Association of Gastroenterology Partnered Fellowship in Inflammatory Bowel Disease Award, Toronto, July 2012.

Elkadri A: Clinician/Graduate Degree Scholarship, salary support award, Department of Paediatrics and University of Toronto, Toronto, February 2013.


BOOK CHAPTERS

GRANTS AND FUNDING
A comparative study of the antiviral efficacy and safety of entecavir (ETV) versus placebo in pediatric subjects with chronic hepatitis B virus (HBV) infection who are HBeAg positive. Ling SC, Bristol-Myers Squibb. $26,287 CAD (per subject). 2010-2015
A pilot study of frailty in children with end-stage liver disease: Moving beyond PELD. Kamath B, Ng V. Transplant and Regenerative Medicine Center, SickKids. Pilot Grant. $28,750 CAD. 2013 Jan 1-2014 Dec 31
A pilot study to assess the role of frailty among candidates for liver transplantation: Moving beyond PELD. Kamath B, Ng V, Cornier K, Patterson C, So S. The Hospital for Sick Children, Pediatric Consultants Creative Professional Activity (CPA). $5,825 CAD. 2011 Jan 1-2012 Dec 31
A randomized controlled trial to evaluate the efficacy and safety of a gluten-free diet in patients with asymptomatic celiac disease and type 1 diabetes, celiac disease and diabetes - Dietary intervention and evaluation trial (CD-DIET). Mahmud F, Assor E, Cutz E, Marcon M. Juvenile Diabetes Research Foundation. $3,000,000 CAD. 2012 May 1-2014 Sept 30
A single-center 12-year experience with Infliximab in the treatment of pediatric inflammatory bowel disease, Griffiths AM. Janssen. $80,000 CAD. 2012-2014

Assessment of school readiness and health-related quality of life in children transplanted under the age of 2 years at The Hospital for Sick Children. Ng V, Rogers A, Gold A, Kamath B. Transplant and Regenerative Medicine Center, SickKids; Ashley’s Angels Foundation Pilot Grant. $13,553 CAD. 2012 Dec 1-2013 Dec 31
Biliary complications after paediatric liver transplantation. Ghanekar A, Kamath B. Transplant and Regenerative Medicine Center, SickKids; Ashley’s Angels Foundation Pilot Grant. $12,553 CAD. 2012 Dec 1-2013 Dec 31
Canadian pediatric clinician scientist program. Jones NL. BC Research Institute for Children and Women’s Health. $450,000 CAD. 2012 Apr 1-2015 Mar 31
Canadian pediatric clinician scientist program. Jones NL. Manitoba Institute of Child Health. $150,000 CAD. 2012 Apr 1-2015 Mar 31

Development of a prognostic score of severe liver disease in children with intestinal failure. Avitzur Y, Burghardt K. Transplant Centre Research Fellowship Grant, The Hospital for Sick Children. $70,000 CAD. 2012 Jul 1-2013 Jun 30


Establishing the global registry for outcomes of varices in children. Ling SC. Hospital for Sick Children Paediatric Consultants Creative Professional Activity Grant. $9,300 CAD. 2013-2014

Analysis of the pharmacokinetics, safety, tolerability and efficacy of entecavir (ETV) in pediatric subjects with chronic hepatitis B virus (HBV) infection who are HBeAg-positive. Ling SC, Heathcote J. National Institutes for Health. $1,390,000 USD. 2010-2015


Immuno-genetic determinants of linear growth in paediatric IBD. Deng LA, Walters TD, Griffiths AM, Crohn’s and Coilsis Foundation of America Paediatric Bone and Skeletal Health Research Award. $300,000 CAD. 2012 Jul 1-2015 Jun 30

Intestinal microbiota in pediatric non-alcoholic fatty liver disease. Mouzaki M, Ling S, Sherman P, Carpenter A, Assa A. Creative Professional Activity Grant, The Hospital for Sick Children. $2,081,000 CAD. 2012 Nov 1-2013 Nov 31

IPS stem cell models of alagille syndrome. Kamath B. Rare Disease Foundation Microgrant. $3,500 CAD. 2011 Dec 1-2012 Dec 31


Impact of early intervention probiotic treatment of pediatric gastroenteritis: Randomized controlled trial. Canadian Institutes of Health Research. $2,935,915 CAD. 2013 Jan 1-2018 Dec 31

Impact of feeding type and nutrient fortification on the gut microbiome of very low birth weight infants. Canadian Institutes of Health Research. $496,254 CAD. 2013 Jan 1-2016 Dec 31

Induced pluripotent stem cell models of alagille syndrome. Kamath B, Ghanekar A. Alagille Syndrome Alliance Foundation, $50,000 USD. 2013 Jan 1-2015 Dec 31


Interrogation of SLC6A14 as a modifier for drug treatment in CF disease. Gonska T. SickKids Foundation; Canadian Institutes of Health Research IHDCYH New Investigator Award. $3,500,000 CAD. 2011 Dec 1-2013 Nov 31


Immuno-genetic determinants of linear growth in paediatric IBD. Deng LA, Walters TD, Griffiths AM, Crohn’s and Coilsis Foundation of America Paediatric Bone and Skeletal Health Research Award. $300,000 CAD. 2012 Jul 1-2015 Jun 30

Intestinal microbiota in pediatric non-alcoholic fatty liver disease. Mouzaki M, Ling S, Sherman P, Carpenter A, Assa A. Creative Professional Activity Grant, The Hospital for Sick Children. $8,081 CAD. 2012 Nov 1-2013 Nov 31

IPS stem cell models of alagille syndrome. Kamath B. Rare Disease Foundation Microgrant. $3,500 CAD. 2011 Dec 1-2012 Dec 31


National early onset inflammatory bowel disease cohort study (NEOPICS). Muise A. Canadian Institutes of Health Research. $450,000 CAD. 2012-2015
### Divisional Staff

**Division Head**
- Dr. Anne Griffiths

**Clinical Fellows**
- Dr. Ashraf Alsuhaifi
- Dr. Andreaanee Benidir
- Dr. Ines Lovendos
- Dr. Jeremy Rosenbaum
- Dr. Hassan Sukkar
- Dr. Kunal Thacker

**Research Fellows**
- Dr. Achiya Amir
- Dr. Amit Assa
- Dr. Karolina Burghardt
- Dr. Ghassan Sukkar
- Dr. Kunal Thacker
- Dr. Catharine Walsh

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- Karen Frost
- Joley Johnstone
- Silvana Oppedano
- Kris Murch
- Constance O’Connor

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- Julia Kelly
- Vikki Scaini
- Alison Stewart

**IBD Nurse**
- Krista Uusoue

**TPN Nurse**
- Debra Harrison

**GI Procedure Nurses**
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- Donna Stevenson
- Wendy Taylor
- Kelly Wimbush

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- Ines Martinicic
- Laura Vreik

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- Chona Cailiege
- Margaret Johnson
- Sherry Joy
- Ashley Lau
- Liatool Shlaur
- Suzanne Shek
- Ann Victory

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Pluripotent stem cell modelling of human bile duct development and disease. Kamath, B., Ghanekar, A. Astellas Investigator-Initiated Grant. $49,700 CAD, 2013 Jan 1-2014 Dec 31


Prediction by ultrasound of the risk of hepatic cirrhosis in cystic fibrosis (‘PUSH’). Ling, S.C., Durie, P., Navarro, O. Cystic Fibrosis Foundation and National Institutes of Health. $292,000 CAD. 2009-2013


Research topics in GI disease. Jones, N.L. Canadian Association of Gastroenterology. $25,000 CAD. 2012 Jan 1-2012 Dec 31

Risk stratification in newly diagnosed children with Crohn disease. Kugathasan, S., Griffiths, A.M. Crohn’s and Collitis Foundation of America. $255,000 USD. 2010-2013

Road map to the cure for very early onset IBD. Klein, Snapper, S., Muise, A.M., Heimskes Foundation. $170,000 CAD. 2012 Nov 30-2013 Jan 31


Start-up operating fund – Research Institute and Department of Pediatrics. Gonska, T. Hospital for Sick Children. $180,000, 2011 Aug 1-2013 Sep 1


Translational studies of the liver disease in autosomal recessive polycystic kidney disease. Rosenblum, N., Kamath, B. Liam’s Light Foundation. $190,000 CAD. 2010 Dec 1-2012 Dec 31

Understanding the genes involved in inflammatory bowel disease. Muise, A.M. Ontario Ministry of Research and Innovation (ER08-05-087) Early Researcher Award. $140,000 CAD. 2009 Mar 16-2013 Dec 31

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**Clinical Fellows**
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- Dr. Kunal Thacker

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- Dr. Karolina Burghardt
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- Silvana Oppedano
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- Alison Stewart

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**TPN Nurse**
- Debra Harrison

**GI Procedure Nurses**
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- Donna Stevenson
- Wendy Taylor
- Kelly Wimbush
The majority of the approximate 100 transplants performed this year were for children with cancer, with others performed for children with benign haematologic disorders, severe immunodeficiency disorders or genetic diseases.
DIVISIONAL OVERVIEW

The Division of Haematology/Oncology provides diagnostic services and specialist care for children <18 years of age with cancer (paediatric oncology) and non-malignant blood disorders (paediatric haematology). The Division is the largest of its kind in Canada and among the largest such programs worldwide, with approximately 375 new cancer cases registered in the paediatric oncology program this past year. The Division is the designated centre for haematopoietic stem cell transplantation for patients <18 years of age in Ontario and the Atlantic provinces; the majority of the approximate 100 transplants performed this year were for children with cancer, with others performed for children with benign haematologic disorders, severe immunodeficiency disorders or genetic diseases. The number of in-patient days for paediatric haematology/oncology/BMT cases this year was approximately 14,800, a slight increase over the prior year. The number of ambulatory care visits was stable at 22,500, and day hospital visits were slightly decreased at 11,250.

Reflecting the size and diversity of its clinical services, the Division is organized into five sections and three programs: the Leukemia/Lymphoma section (Section Head, Dr. Johann Hitzler); the Solid Tumor section (Section Head, Dr. Sylvain Baruchel), and the Cancer Genetics program (Program Head, Dr. David Malkin). Dr. Sarah Alexander serves as the program’s Clinical Director.

The Haematology section has large clinical and research programs in paediatric thrombosis and hemostasis, the paediatric hemoglobinopathies and the inherited and acquired paediatric marrow failure syndromes and myelodysplasias. The Division is an active member of the Children’s Oncology Group (COG), the largest paediatric cancer clinical trials group in North America (SickKids Principal Investigator, Dr. Sarah Alexander), and is committed to the improvement in outcomes and quality of life in children with cancer through participation in prospective clinical trials. The Division is a member of the COG Phase I Consortium (Principal Investigator, Dr. Sylvain Baruchel), and is an active participant in activities of the Histioctyose Society, New Approaches to Neuroblastoma Therapy (NANT), and the Therapeutic Advances in Childhood Leukemia (TACL) clinical trials consortia. Over 300 clinical trials enrolments occurred this year. The Division, in collaboration with the Pediatric Oncology Group of Ontario (POGO), supports a network of paediatric oncology satellite centres in the Greater Toronto and surrounding areas, with over 5,000 visits to satellite centres this year. Satellite centres in sickle cell disease are established in Rouge Valley hospital and the William Osler Health Centre. Major achievements in the past year included the appointment of new faculty members (Drs. Muhammad Ali, Furqan Shaikh and Kevin Weingarten), and implementation of construction of an MIBG facility on 8A, offering an important new treatment modality for children with neuroblastoma.

The Division’s training program for paediatric haematology/oncology, the largest such program in Canada, underwent successful re-accreditation by the Royal College of Physicians and Surgeons of Canada in 2013. The Division’s Training Program Director is Dr. Angela Punnnett. The Education Program in the Division also includes a very large international training program in paediatric haematology/oncology and offers subspecialty training opportunities in areas such as the paediatric leukemias/lymphomas, neuro-oncology, neuroblastoma cancer genetics, blood and marrow transplantation and paediatric thrombosis and hemostasis. One such trainee, Sears Childhood Cancer Fellow Dr. Daniel Mogensen, was awarded the 2013 Brigid Leventhal Award from the American Society for Clinical Oncology as “the fellow who submitted the highest-ranked abstract in pediatrics” in recognition of his neuroblastoma research conducted under the mentorship of Dr. Meredith Irwin.

Research in the Division spans basic science to clinical care with a special focus on translational research. Approximately one-half of the Division’s 30 full-time faculty have appointments as clinician scientists or clinician investigators in the Department of Paediatrics with parallel appointments in the Research Institute. Research in the Division is multidisciplinary, involving health-care professionals with expertise in a variety of areas (e.g., nursing, psychology, social work, pharmacy). The Division is committed to facilitating knowledge exchange through international partnerships with a particular focus on countries lacking the health care resources available in Canada. Two such initiatives are currently underway in collaboration with SickKids International: the Global Sickle Cell Disease Network, under the leadership of Dr. Isaac Odame, and the SickKids Caribbean Paediatric Cancer and Blood Disorders Initiative, under the leadership of Dr. Victor Blanchette.

The administrative team for the Division comprises Dr. Jim Whitlock (Division Head), Judy van Cleeve (Executive Director, Child Health Services) and Denise Ferreira (Manager, Business Operations).

HONOURS AND AWARDS

Egeler M: Runner up for the Subspecialty Teaching Award, The Hospital for Sick Children, Toronto, 2013

Grant R: Alvin Zipursky Teaching Award, The Hospital for Sick Children, 2013


Malkin D: Cole Foundation Visiting Professor, University of Montreal/McGill University, 2013

Malkin D: Transformational Leadership Award, Canadian Cancer Society, 2013

Punnett A: Director, Undergraduate Medical Education, Paediatrics, The Hospital for Sick Children, 2012

Sung L: 8A Recognition Award, The Hospital for Sick Children, Toronto, 2012

Whitlock J: Listed as America’s Top Doctors, Castle Connolly Medical Ltd., 2012
PUBLICATIONS


Fernandez CV, Strahlendorf C, Avard D, Knoppers BM, O’Connell C, Bouffet E, Malikin D, Jabado N, Boycott K, Sorensen PH. Attitudes of Canadian researchers toward the return to participants of incidental and targeted genomic findings obtained in a pediatric research setting. Genetics in Medicine 2013: 15(7): pp 558-564.


Guidelines for diagnosis, clinical work-up and treatment for patients till the age of 18 years. 

Donadieu J. Langerhans cell histiocytosis (LCH): pp 564-569.


**BOOKS AND CHAPTERS**


A multi-centre, open-label, single-arm, and multiple dosing trial on efficacy and safety of monthly recombinant factor XIII (rFXIII) in subjects with congenital factor XIII deficiency - Safety extension trial. Carcao M. NovoNordisk. $12,647.60 CAD/pt. 2010-2013


A phase I study of Tie2 peptide inhibitor in recurrent solid tumour. Baruchel S. COG and AMGEN. $92,000 CAD. 2012-2014


A phase II study of pazopanib in recurrent solid tumour. Baruchel S. COG and GSK. $62,000 CAD. 2012-2014


A randomized study of IVIG vs IVIG with high dose methylprednisolone in rapidly augmenting platelet counts in childhood ITP. Carcao M, Blanchette V. CSL Behring. $296,388 CAD. 2009-2013


A prospective non-interventional study to describe health-related quality of life of youth and young adults with moderate or severe hemophilia A using recombinant factor VIII (Hemate F8). St. Louis J, Young N, Blanchette V. CSL Behring. $296,388 CAD. 2009-2013


Acute megakaryocytic leukemia in Down syndrome. Hitzler J. Canadian Cancer Society Research Institute. $142,000 CAD. 2010-2013


Applying biomarkers to long-term effects in child and adolescent cancer treatment (ABLE Team). Schultz, CIHR ABLE Team Grant. $4,076,000 CAD. 2010-2015

Assessment of cerebral hemodynamic abnormalities in children with Sickle Cell Disease using quantitative non-invasive MRI measures of vascular reactivity and their relationship to stroke risk Manohar M, Shroff M, Williams S. Canadian Institutes of Health Research. $360,000 CAD. Apr 2010 – Mar 2013


B-LONG: An open-label, multicenter evaluation of the safety, pharmacokinetics, and efficacy of recombinant, long-acting coagulation Factor IX Fc fusion (rFIXFc) in the prevention and treatment of bleeding in previously treated subjects with severe hemophilia B. Carcao M. Biogen-Idec. $20,315 CAD. 2011-2012


Child Health Research Institute [Infrastructure for new Research Building]. Rossant J, Makim D. Canada Foundation for Innovation. $91,000,000 CAD. 2008-2013


Clinical trial planning grant in catheter-directed thrombolysis of occlusive DVT. Manco-Johnson M, Kahn S, Sung L. National Institutes of Health. $283,500. 2012-2013


Correcting the defect in blood cell formation from Shwachman-Diamond syndrome induced pluripotent stem cells. Dör Y. Butterfly Guild, Seattle Children’s Hospital - Research Foundation. $30,000 USD. 2012-2013


Cross-cultural validation of the CHO-KLAT (Canadian Hemophilia Outcomes-Kids’ Life Assessment Tool). Blanchette V, Young N, McCusker P. Bayer HealthCare Canada. $260,000 CAD. 2006-2012


Discerning the safety, pharmacokinetics, and efficacy of recombinant, long-acting coagulation Factor IX Fc fusion (rFIXFc) in the prevention and treatment of bleeding in previously treated subjects with severe hemophilia B. Carcao M. Biogen-Idec. $20,315 CAD. 2011-2012

Development and evaluation of an internet-based program to promote self-management and transitional care for teens with hemophilia. Breakey V, Stinson J, Blanchette V. Canadian Hemophilia Society, Care Unit Cure Research Program. $75,000 CAD. 2011-2012

Development and usability testing of an online self-management and transitional care program for youth with cancer. Stinson J, Dettmer E, Dick B, Dupuis F, Gupta A, Lavendiere C, LeMay S, Sung L. Canadian Institutes of Health Research Disease Management Program. $200,000 CAD. 2011-2012

Development and usability of electronic children’s international mucositis evaluation scale (e-ChIMES) for children with cancer. Sung L, Tomlinson D. Garron Family Cancer Centre. $49,905 CAD. 2011-2014


Development of international guidelines for the management of pediatric febrile neutropenia. Sung L. Canadian Institutes of Health Research Meeting, Planning and Dissemination Grant: Cancer Research. $12,500 CAD. 2012.

Discovery and characterization of C19MC a novel oncogenic miRNA locus in malignant brain tumors. Huang A. Canadian Institute of Health Research. $520,000 CAD. 2010-2014

DNA copy number variation in Li-Fraumeni Syndrome. Malkin D. Canadian Institutes for Health Research. $1,084,000 CAD. 2013-2018


Correcting the defect in blood cell formation from Shwachman-Diamond syndrome induced pluripotent stem cells. Dör Y. Butterfly Guild, Seattle Children’s Hospital - Research Foundation. $30,000 USD. 2012-2013


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DNA copy number variation in Li-Fraumeni Syndrome. Malkin D. Canadian Institutes for Health Research. $1,084,000 CAD. 2013-2018

Ex vivo expanded hematopoietic progenitors for AML supportive care. Delaney AM, Sung L, Meshinchi S. St. Baldrick's Foundation. $250,000 CAD. 2011-2013

Examining the relationship between white matter integrity and the speed of neuronal processing in children with brain tumors. Mabbott D, Tabori U, Bouffet E. Canadian Institute of Health Research. $640,915 CAD. 2012-2017


Genetic influences on the pharmacokinetics of Factor VIII. Lillicrap D, Blanchette V, Carcao M, Rrivard G. Baxter-Canadian Hemophilia Epidemiological Research Program (B-CHERP). $75,000 CAD. 2010-2013


hTERT methylation as a diagnostic and predictive tool for various tumors. Tabori U. MARS Innovation Grant. $50,000 CAD. 2012

Immunogenicity, efficacy and safety of treatment with human cI rhFVIII in previously untreated patients with severe haemophilia A. Carcao M, Octapharma. $8,025.00 CAD/pt + $8,700 start-up. 2013-2018


In vivo anti-tumor and anti-metastatic activity and functional imaging of Palifosfamide in preclinical neuroblastoma models. Ziopharm/C17. $125,000 CAD. 2012-2013

In vivo anti-tumor and anti-metastatic activity of administration of Abraxane and low-dose chemotherapy in preclinical neuroblastoma and sarcoma mouse models. Baruchel S, Zhang L, Cege Inc. $107,000 CAD. 2012-2014

Incorporation of FVIII into platelets as a potential therapy in patients with inhibitory antibodies to factor VIII. Kahr W. Canadian Hemophilia Society. $150,000 CAD. Jun 2010-May 2015

Inherited bone marrow failure syndromes: From gene discoveries to pathobiology. Dör Y, Scherer S, Berman J, Cada M, Virtanen S, Keller G, 16 Canadian Inherited Marrow Failure Registry site co-investigators. Canadian Institute for Health Research. $760,000 CAD. 2013-2018

Integrative genomics for health research – Phase II. Scherer S, Maitland D and 8 other co-PIs. Canada Institute of Health Research. $750,150 CAD. 2010-2015


Molecular determinants of LiFraumeni Syndrome-associated cancers. Maitland D. Canadian Institutes for Health Research. $750,150 CAD. 2010-2015

Molecular insights into gray platelet syndrome. Kahr W. Canadian Institutes of Health Research Canada. $821,637 CAD. Jul 2012-Jun 2017


Molecular targeted therapies of childhood choroid plexus carcinoma. Ellison D, Guy K, Maitland D, Gilbertson R. Department of Defense. $1,750,000 US. 2010-2013


Neuroblastoma (MBG) and acute leukemia phase I/II trials programs at The Hospital for Sick Children. Whitlock J, Baruchel S, Irwin M, Hitzler J, Punnett A. Alex's Lemonade Stand Infrastructure Grant. $77,760 CAD. 2011-2013

One retinoblastoma world – A global proposal for saving children with retinoblastoma. Gallie B, Chan H. TUYF Charitable Trust. $1,000,000. 2011-2014

Open-label safety and tolerability of dabigatran etexilate mesilate given for 3 days at the end of standard anticoagulant therapy. Multi-centre, multinational, non-randomised, uncontrolled single arm trial to investigate tolerability and safety of dabigatran etexilate solution in children 1 to <12 years of age. Brandão LR, Boerhinger Ingelheim. $46,915. 2012-2014

p73 modulatory proteins: Roles in apoptosis and chemosensitivity. Irwin MS. National Cancer Institute of Canada/Canadian Cancer Society Research Institute, Canadian Cancer Society. $427,500 CAD. 2010 Jan 1-2013 Dec 31

Paradigm TM 5: An open-label, single-arm, multinational, non-controlled, confirmatory trial investigating safety, efficacy and pharmacokinetics of NNC-0156-0000-0009 (N9-GP) in prophylaxis and treatment of breakthrough bleeding episodes in previously treated children with haemophilia B (≥12 years of age and younger at inclusion), with extension phase. Carcao M. Novo Nordisk. $21,959.00 US/pt + $14,500 start-up. 2012-2013

Pathfinder 5: A multinational, open-label, non-controlled trial on safety, efficacy and pharmacokinetics of NNC 0129-0000-1003 in previously treated paediatric patients with severe haemophilia A. Carcao M. Novo Nordisk. $21,959.00 US/pt + $14,500 start-up. 2013-2016


PET-guided personalized medicine in neuroblastoma - A pilot study of somatostatin-receptor imaging with 68 Ga-DOTA-TATE PET. Baruchel S, Constantini D, Vali R, Charon M. Garron Family Cancer Centre Seed Grant. $50,000 CAD. 2012-2013

Pharmacogenetic analysis of cyclophosphamide metabolism in pediatric acute lymphoblastic leukemia patients. Kim RB, Whitlock JA, Zorzi AP. C17 Research Network: Childhood Cancer Canada Foundation and the Coast to Coast Against Cancer Foundation. $25,830 CAD. Apr 2012-Sep 2013

Pharmacologic reversal of ventricular remodeling in childhood cancer survivors at risk for congestive heart failure (PReVent-CHF), Armenian S, Nathan R et al. The St. Baldrick’s Foundation. $262,088 USD. Jul 11-Jun 2013


Phase II study of high dose chemotherapy with cyclosporin for vision-threatening intraocular retinoblastoma, Chan HSL, Gallie BL. Terry Fox Research Institute. $75,908 CAD. 2010-2013


Pilot study for the standardization of diagnostic techniques of CVL. Mitchell L, Brandão LR, Brystol-Muqub. ~US$8,000/per case. 2013

Post-marketing observational study on children treated with Exjade, Kirby M, Novartis. $20,000. 2010-2012


Recruitment of endogenous neural stem cells to promote repair following acquired brain injury in children. Miller FD, Mabbot DJ, Frankland PW, Morrishead CM, Bouffet E. Garron Family Cancer Centre Matching Funds, The Hospital for Sick Children. $300,000 CAD. 2013-2016

Prospective surveillance of resistance in colonizing bacteria from stool or perirectal swab cultures in pediatric patients receiving levofloxacin for AL or undergoing HSCT. Fisher B, Alexander S, Guar A, Zaoulis T, Sung L. Biomarker, Imaging and Quality of Life Studies Funding Program. $913,202. 2011-2015

Randomized study of first TIME immunotolerance induction in patients with severe type A haemophilia with inhibitor at high risk of failure: Comparison of induction of immune tolerance with FVIII concentrates with or without Von Willebrand factor. Carcao M. City of Hope University Medical Center Utrecht. €250/patient. 2007-present


Silent Infant Transfusion (SIT) trial in patients with sickle cell disease. Kirby M. National Heart, Lung and Blood Institute of NIH. $1,900/patient. 2006-2012

Stratifying and targeting pediatric medulloblastoma through genomics. Malkin D, Taylor M, Marra C. Genome Canada. $9,724,200 CAD. 2011-2014

Studies of alpha granule formation in human megakaryocytes and platelets. Kahr WHA, Canadian Institutes of Health Research Canada. $689,721 CAD. Apr 2010-Mar 2015

Targeting the integrin-linked kinase (ILK) in rhabdomyosarcoma. Malkin D. Canadian Institutes for Health Research. $381,270 CAD. 2011-2014

Targeting thrombomodulin in medulloblastoma. Huang A, Zadeh G. Canadian Institute of Health Research. $762,000 CAD. 2012-2017

TCD Ith Transfusions Changing to Hydroxyurea (TWITCH): A Phase III randomized clinical trial to compare standard therapy (erythrocyte transfusions) with alternative therapy (hydroxyurea) for the maintenance of lowered TCD velocities in pediatric subjects with sickle cell anemia and abnormal pre-treatment TCD velocities. Kirby M, Williams S, Osdame I. National Heart, Lung, and Blood Institute. $23,000,000 CAD. 2009-2014

Terry Fox New Investigator award - Exhaustion of tumor initiating cells by targeting their self-renewal capacity with telomerase inhibition. Tabori U. The Terry Fox Foundation. $450,000 CAD. 2010-2013


The roles of the novel p53 family proteins in cancer and chemosensitivity. Irwin MS. Canada Research Chair; Tier II Renewal (Salary Award). $500,000 CAD. 2008 Jan 1-2013 Dec 31

The Von Willebrand Disease (VWD) international prophylaxis (VIP) study. Carcao M. Rho Inc. $2,500 US/pt. 2009-2013


Understanding body image, dating relationships and sexuality in adolescents with cancer. Stinson J, Gupta A, Marrera B, Greenberg M. Pediatric Oncology Group of Ontario. $14,963.00 CAD. 2012-2014

Up regulation of Epstein-Barr virus activity by plasmodium falciparum: Determinants of host control. Allen U, Weitzman S. Canadian Institutes of Health Research. $700,000 CAD. 2011-2014


Utilization of global systems and informatics approach to define the role of ncRNAs in determining molecular phenotypes of embryonal brain tumours. Huang A, Bader, Brain Canada – Canadian Imperial Bank of Commerce Brain Cancer Training Award. $165,000 CAD. 2013-2016

Validation of the Children’s International Mucositis Evaluation Scale (ChIMES). Sung L, Beyene J, Feldman B, Tomlinson D. Canadian Institutes of Health Research. $313,000 CAD. 2010-2014


Whole exome sequencing of Langerhans Cell Histiocytosis. Rollins B, van Halteren A, Egeler RM. Histiocytosis Association of America Research Funds. $50,000 US. 2012-2013

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Cross-appointed / part-time

Dr. Stephen Comay
Dr. Lee Ann Gallant
Dr. Mark Greenberg
Dr. David Hodgson
Dr. Nicole Inch
Dr. Normand Laperriere
Dr. Barbara-Ann Millar
Dr. Aubrey Maze

Research fellows and associates

Dr. Saima Alvi
Dr. Muhammad Asim
Dr. Amy Lee Chong
Dr. Stephan Leucht

Clinical fellows

Dr. Nawaf Al-Anazi
Dr. Ethsan Al Faraj
Dr. Karima Al-Hinai
Dr. Nawaf Al-Khayat
Dr. Doua Baker
Dr. Tahani Bin Ali
Dr. Najwa Fayea
Dr. Ashraf Fouda
Dr. Hisaki Fujii
Dr. Sakara Hutspardol
Dr. Satyendra Katewa
Dr. John Paul Kilday
Dr. Joerg Krueger
Dr. Riten Kumar
Dr. Daniel Morgenstern
Dr. Sapna Oberoi
Dr. Mattia Rizzi
Dr. Laura Rodriguez
Dr. Christine Sabapathy
Dr. Gabriele Zamperlini
Dr. Antonella Zanette
Dr. Nataliya Zhukova

Subspecialty residents

Dr. Leslieh Abbott
Dr. Jack Brezinski
Dr. Sylvia Cheng
Dr. Aram Denburg
Dr. Faeza Eshack
Dr. Dave Lysecki
Dr. Stacey Mayerston
Dr. Meera Rayer
Dr. Thai Tran
Dr. Anita Villani
Dr. Marita Wiley

Research fellows

Dr. Laura Avila

Administrative staff

Ingrid Agiropoulos
Hanadi Attar-Elbaid
Michelle Bozzo
Enda Brennan
Meagan Cameira
Sandra Carbone-Walker
Denise Ferreira
Michelle Gouveia
Connie Gillis
Tiffany Jiminez
Shanaz Karim
Natasha Lajli
Catherine Lim Shue
Philippa McCaffrey
Eleanor Paulino
Irene Polyzogopoulos
Samantha Ramachandran
Naheeda Said
Ana Sofia Tiago
Arlene Zaldivar
Irene Zuniga
Medical services are provided to more than 2,000 patients, referred from physicians and hospitals locally, nationally and internationally. The number has steadily increased over the last decade, reflecting enhanced awareness by health-care providers as well as better appreciation of the immune.
DIVISIONAL OVERVIEW

Under the leadership of Dr. Grunebaum, the Division of Immunology and Allergy continues to be a world-leading centre for the diagnosis, understanding and management of primary immune deficiencies as well as some of the complex allergic conditions.

The Primary Immunodeficiency (PID) Program in the Division of Immunology and Allergy at SickKids is the largest of its kind in Canada and one of the largest in the world. Medical services are provided to more than 2,000 patients, referred from physicians and hospitals locally, nationally and internationally. The number of referred patients has steadily increased over the last decade, reflecting enhanced awareness by health-care providers as well as better appreciation of the immune system roles among growing number of human ailments, such as uncontrolled inflammation and malignancy (Moran et al., Inflammatory Bowel Disease 2013; Nathani et al., JPHO 2012; O’Gorman Journal of Medical Case Reports 2012). This year the Division expanded its consultation and management services for children and adults with primary immune deficiencies to 10 clinics per month. Some clinics focus on caring for patients with complex immune abnormalities and genetic defects, thereby leading to improved diagnosis and classification of PID (Rolman et al., JACI 2012; Boussiba et al., JCI 2013). Other clinics are dedicated to the short- and long-term management of patients undergoing bone marrow transplantation or gene therapy for severe inherited immune deficiencies (Grunebaum et al., BJH 2013). The Division is also responsible for the Immunology Isolation Unit, where on average 5-10 patients with severe immune defects receive life saving hematopoietic stem cell transplantation every year (Kim et al., JACI 2012). The innovative efforts and experience of The Division of Immunology and Allergy in transplantation for patients with PID is a model for many other centers across the world. Indeed, the Division hosted for the first time a visiting Professor, Dr. Boides, who came from Israel for six months. The continuing improvement in management of PID was celebrated this year at a new venue. This event, organized by the Division's dedicated social worker, Mrs. Wendy Sharma and Brenda Reid CNS, was a huge success among patients, families and team members.

The Division of Immunology and Allergy has been active in improving the understanding and management of patients affected by inherited purine defects and immune abnormalities. These conditions are particularly prevalent among children referred to our institute. We identified some unique pulmonary and radiological features important for the diagnosis and management of infants with adenosine deaminase deficiency (Manson et al., Pediatric Radiology 2012; Grunebaum et al., JACI 2012). Also, through a large international collaborative study, we demonstrated inferior outcome for many infants who received bone marrow transplant from unrelated donors (Hassan et al., Blood 2012), suggesting the need for better management options. In addition, members of the division have contributed significantly to other primary immune deficiencies such as ZAP70 and CD3 deficiencies (Manoz-Ruiz et al., BMC Immunology 2013; Poliani et al., JACI 2013; Rolman UpToDate 2012).

The Hypogammaglobulinemia Program at SickKids, established more than 20 years ago by Dr. Rolman and Brenda Reid CNS, is recognized globally for its innovative approach and long-term follow-up of over 200 patients requiring regular immunoglobulin replacement. This program transformed the therapy of hypo-gammaglobulinemic patients from multiple hospital-based admissions, to truncated visits at the short-stay unit and subsequently to community treatment. The proficiency of our team, coupled with convenient care at a medical centre closer to home, provides patients with the personalized treatment they require. To further improve care for some patients, home therapy programs using primarily subcutaneous infusions are underway. Additionally, members of the division are involved in several studies assessing the safety and efficacy of new brands of immunoglobulins, many of them led internationally by Dr. Rolman.

This year the Division hosted Dr. Notarangelo, a prominent immunologist from Harvard, Boston Children’s Hospital, who also presented a fascinating talk during Paediatric Grand Rounds on evolving concepts in combined T cell immune deficiencies. This talk was also part of the Division’s efforts to increase awareness for Primary Immunodeficiency among SickKids health-care providers.

The Allergy Program in the Division of Immunology and Allergy focuses on the diagnosis and management of children with complex allergic diseases. These conditions include multiple or difficult-to-treat food, drug and latex allergy, anaphylaxis, urticaria and asthma. More than 1,000 patients with complex allergic diseases are seen each year by the Division, while similar numbers of patients are referred to the Division’s community affiliated clinics, including Drs. Asper, Fearny, Hummel and Lavi. Indeed the close interaction with the community is one of the strengths of the Allergy program. The Division also offers inpatient consultation for allergic diseases, such as expertise in adverse reactions to drugs, biological agents, anaesthetics, chemotherapy in medically complex children, including those suffering from cancer or receiving blood and organ transplants. For children with complex medical conditions suffering also from adverse drug reactions, the DART (Drug, Adverse Reaction and Toxicology Clinic) out-patient consultation clinic provides targeted diagnostic and management strategies, while collecting important data about this population. The DART clinic has demonstrated significant clinical impact in this vulnerable population. Some of the experience gained in the management of drug reactions was recently (Atkinson, et al., Allergy, Asthma Clin Immunol 2013).

Food allergy, affecting an increasing number of children, is another major focus of the Division. Dr. Grunebaum has re-ignited the quest to establish an allergy centre, focusing on food allergy, within SickKids. Importantly, with the increasing frequency of influenza epidemics, Dr. Upton updated the guidelines for vaccinating egg-allergic children with the influenza vaccine, and the Allergy team demonstrated that most egg-allergic children can safely receive influenza vaccines, even when they suffer from severe comorbidities (Upton et al., Allergy Asthma Clin Immunol 2012). The Allergy team, with Dr. Upton as the PI and Dr. Hummel as a co-investigator, was awarded a Paediatric Consultants Grant for Creative Professional Activity for a study evaluating a test that may help better understand milk allergy.

Providing education in Immunology and Allergy to trainees in paediatric and adult programs from the University of Toronto, across Canada and beyond continues to be the main focus for the Division. Dr. Grunebaum is the Director of the Paediatric Clinical Immunology and Allergy Residency Program while Dr. Rolman directs the high-calibre trainees arriving for the internationally acclaimed immunology fellowship program. Dr. Rolman also supervises...
pleuri-potent stem cells of PNP deficient patients. Cells, generated from skin fibroblasts and induced such treatment could also benefit neuronal-like Grunebaum’s lab is currently investigating whether abnormalities associated with PNP deficiency (Grunebaum et al., JACI 2012), which is crucial for further understanding but not UNC-93B (Weller et al., Blood 2012). Dr. Chaim Roifman remains at the forefront in the diagnosis of PID (Al-Zahrani et al., JACI 2013; Dalal UpToDate 2012). Dr. Roifman, a founder and the scientific director of the Canadian Immunodeficiency Society (CIS), continues to help the CIS maintain its position as a Canadian and world leader in the management of primary immune deficiencies. He also moderated many of the quarterly Jeffrey Modell Canadian Immunodeficiency Network Video Conferences hosted by the CIS, which included more than 100 participants.

Dr. Adelle Atkinson is in her eighth year as the Director of Post Graduate Medical Education in the Department of Paediatrics. She continues to excel as an outstanding educator, and the training program continues to attract the brightest stars. In recognition of her achievements, she was nominated for the PARO Residency Program Excellence Award in 2012/13 which recognizes Residency Program Directors who consistently provide an exceptionally positive and rewarding experience for the residents, while producing physicians who are expertly trained to deal with the challenges of their upcoming career. Dr. Atkinson continues to give invited presentations at international conferences in the area of postgraduate medical education and faculty development including topics such as residency selection, professionalism, clinical teaching and feedback. The Department of Paediatrics Post Graduate Training Program also received an excellent review at the accreditation held in April 2013. In the last year Dr. Atkinson has also led a Department of Paediatrics initiative to attract and retain paediatric trainees who will be our future clinician scientists. In addition to the extensive educational commitments, Dr. Atkinson runs a novel clinic studying drug allergies in medically complex patients, providing an important clinical service to this tertiary care population. Dr. Julia Upton, the most recent staff member to join the Division of Immunology and Allergy, is focusing on the management of patients with complex primary immune deficiencies (O’Gorman et al., Journal of Medical Case Reports 2012) as well as food allergy. Indeed, Dr. Upton recently received a grant to evaluate testing with baked milk to predict safe ingestion of baked milk in un-baked-milk allergic children. Dr. Upton is also extensively involved in the education of medical students, as well as trainees in Paediatrics and Allergy/Immunology.

STAFF PROFILES

Dr. Grunebaum’s research continues to focus on better understanding of the mechanisms and treatment for inherited purine defects, which are among the most common causes for severe immune deficiencies in children. Following the identification of a severe lung abnormality unique to patients with adenosine deaminase (ADA) deficiency (Grunebaum et al., JACI 2012), Dr. Grunebaum’s lab is using animal and cell models to elucidate mechanisms for these abnormalities. Moreover, with the support of the Fred Rosen/Jeffrey Modell/NIH research grant, Dr. Grunebaum’s team showed that early delivery of normal purine nucleoside phosphorylase (PNP) protein into the brain of PNP-deficient mice prevents the development of neurological abnormalities associated with PNP deficiency (Mansouri et al., Neurobiology of Dis 2012). Dr. Grunebaum’s lab is currently investigating whether such treatment could also benefit neuronal-like cells, generated from skin fibroblasts and induced pleuri-potent stem cells of PNP deficient patients. Under the guidance of Dr. Chaim Roifman, The Jeffrey Modell Research Laboratory for the Diagnosis of PID (Canadian Center for PID) continues to thrive. Dr. Roifman’s research team explored the effects of zap70 in the immune system and its presentation in patients. Recently Dr. Roifman described the need for treatment of this disorder as a medical emergency (Kim et al., 2012) and the variability of the clinical phenotype as a result of reduced numbers of AIRE mTECs, impaired terminal differentiation of mTECs, depletion of medullary dendritic cells and reduced numbers of FOXP3 Treg cells (Poliani et al., JACI 2013). In several international collaborative studies Dr. Roifman has participated in the discovery of mutations in the IL-10R gene as a cause for very-early-onset ulcerative colitis (Moran et al., Inflamm Bowel Dis 2012) and the reduction in B cells in IRAK4, MyD88 and TIRAP deficiencies but not UNC-93B (Weller et al., Blood 2012). Dr. Chaim Roifman continues to advise the IUIS committee for primary immunodeficiency (previously WHO) as a leader in the field of PID (Bousifha et al., J Clin Immunol 2013). His achievements as a mentor are further illustrated in the invitation to write chapters on T cell receptor signaling and Immunity in the newborn in the prestigious UpToDate series (Roifman, UpToDate, 2012). As a leader in immunoglobulin replacement therapy, he acts as the lead investigator in multiple international clinical trials, and he continues to provide support to many past trainees of the Division in the diagnosis and management of PID (Al-Zahrani et al., JACI 2013; Dalal UpToDate 2012). Dr. Roifman, a founder and the scientific director of the Canadian Immunodeficiency Society (CIS), continues to help the CIS maintain its position as a Canadian and world leader in the management of primary immune deficiencies.

Dr. Roifman described the need for treatment of this disorder as a medical emergency (Kim et al., 2012) and the variability of the clinical phenotype as a result of reduced numbers of AIRE mTECs, impaired terminal differentiation of mTECs, depletion of medullary dendritic cells and reduced numbers of FOXP3 Treg cells (Poliani et al., JACI 2013). In several international collaborative studies Dr. Roifman has participated in the discovery of mutations in the IL-10R gene as a cause for very-early-onset ulcerative colitis (Moran et al., Inflamm Bowel Dis 2012) and the reduction in B cells in IRAK4, MyD88 and TIRAP deficiencies but not UNC-93B (Weller et al., Blood 2012). Dr. Chaim Roifman continues to advise the IUIS committee for primary immunodeficiency (previously WHO) as a leader in the field of PID (Bousifha et al., J Clin Immunol 2013). His achievements as a mentor are further illustrated in the invitation to write chapters on T cell receptor signaling and Immunity in the newborn in the prestigious UpToDate series (Roifman, UpToDate, 2012). As a leader in immunoglobulin replacement therapy, he acts as the lead investigator in multiple international clinical trials, and he continues to provide support to many past trainees of the Division in the diagnosis and management of PID (Al-Zahrani et al., JACI 2013; Dalal UpToDate 2012). Dr. Roifman, a founder and the scientific director of the Canadian Immunodeficiency Society (CIS), continues to help the CIS maintain its position as a Canadian and world leader in the management of primary immune deficiencies. He also moderated many of the quarterly Jeffrey Modell Canadian Immunodeficiency Network Video Conferences hosted by the CIS, which included more than 100 participants.

Dr. Adelle Atkinson is in her eighth year as the Director of Post Graduate Medical Education in the Department of Paediatrics. She continues to excel as an outstanding educator, and the training program continues to attract the brightest stars. In recognition of her achievements, she was nominated for the PARO Residency Program Excellence Award in 2012/13 which recognizes Residency Program Directors who consistently provide an exceptionally positive and rewarding experience for the residents, while producing physicians who are expertly trained to deal with the challenges of their upcoming career. Dr. Atkinson continues to give invited presentations at international conferences in the area of postgraduate medical education and faculty development including topics such as residency selection, professionalism, clinical teaching and feedback. The Department of Paediatrics Post Graduate Training Program also received an excellent review at the accreditation held in April 2013. In the last year Dr. Atkinson has also led a Department of Paediatrics initiative to attract and retain paediatric trainees who will be our future clinician scientists. In addition to the extensive educational commitments, Dr. Atkinson runs a novel clinic studying drug allergies in medically complex patients, providing an important clinical service to this tertiary care population. Dr. Julia Upton, the most recent staff member to join the Division of Immunology and Allergy, is focusing on the management of patients with complex primary immune deficiencies (O’Gorman et al., Journal of Medical Case Reports 2012) as well as food allergy. Indeed, Dr. Upton recently received a grant to evaluate testing with baked milk to predict safe ingestion of baked milk in un-baked-milk allergic children. Dr. Upton is also extensively involved in the education of medical students, as well as trainees in Paediatrics and Allergy/Immunology.

Dr. Roifman has pioneered a seminal Canadian Neonatal Screening initiative for the early diagnosis of severe combined immunodeficiency, a program that will clearly save lives of many infants. After a two-year process spearheaded by Dr. Roifman and the Newborn Screening team at CHEO, the newborn screening for SCID Program in Ontario was approved by the Ministry of Health in January 2013. It will go live for all babies born in Ontario in the late summer or fall of 2013. Confirmation of screen-positive babies will be conducted in Dr. Roifman’s laboratory. Once the test has been confirmed, the patients will be invited for full evaluation in the IDEA (Immunodeficiency Early Assessment) clinic in the Division of Immunology and Allergy. Most patients and their families will be further assisted in the process of preparing for bone marrow transplantation by the Immunology team at Sickkids. With such life-altering advancements in the care and quality of life of patients, Dr. Roifman continues to advise the IUIS committee for primary immunodeficiency (previously WHO) as a leader in the field of PID (Bousifha et al., J Clin Immunol 2013). His achievements as a mentor are further illustrated in the invitation to write chapters on T cell receptor signaling and Immunity in the newborn in the prestigious UpToDate series (Roifman, UpToDate, 2012). As a leader in immunoglobulin replacement therapy, he acts as the lead investigator in multiple international clinical trials, and he continues to provide support to many past trainees of the Division in the diagnosis and management of PID (Al-Zahrani et al., JACI 2013; Dalal UpToDate 2012). Dr. Roifman, a founder and the scientific director of the Canadian Immunodeficiency Society (CIS), continues to help the CIS maintain its position as a Canadian and world leader in the management of primary immune deficiencies. He also moderated many of the quarterly Jeffrey Modell Canadian Immunodeficiency Network Video Conferences hosted by the CIS, which included more than 100 participants.

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Brenda Reid, Clinical Nurse Specialist, has been instrumental in providing leadership to nurses across the country in the management of primary immune deficient patients. Through the CI Society, she formed a network of nurses across the country and has developed a nursing section for their website. She is currently developing education materials and protocols for New Born screen positive babies with SCID. Additionally, Brenda has contributed enormously to the research and education generated by our Division.

HONOURS AND AWARDS

PUBLICATIONS


Roifman CM. T cell receptor signaling. UpToDate 2012: 21 (1): epub.


BOOK CHAPTERS

GRANTS AND FUNDING
An open-label, single arm, historically controlled multi-center phase III study to evaluate the safety, efficacy and pharmacokinetics. Grunebaum E. GreenCross. $150,000 CAD. 2012-2014
CI Society Talecris treatment and Bone Marrow Transplant Centre for primary immunodeficiency. Roifman CM. Canadian Immunodeficiency Society. $25,000 CAD. 2009-2012
Determinants of the microbiome in IBD by the Harvard/Broad Institute - Toronto IBD Consortium, Snapper S, Notarangelo, Ghea, Muise, etc. Crohn’s and Colitis Foundation America with support from the Helmsley Foundations. $500,000 CAD. 2012-2014

DIVISION HEAD
Dr. Eyal Grunebaum

FULL-TIME STAFF PHYSICIANS
Dr. Adelle Atkinson
Dr. Chaim Roifman
Dr. Julia Upton

CLINICAL ASSISTANT
Dr. Vy Kim

PART-TIME STAFF PHYSICIANS
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Dr. Stephen Feanny
Dr. David Hummel
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Dr. Reem Mohammed
Dr. Nideshda Ramirez*

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Dr. Alison Haynes*
Dr. Amy French
Dr. Caroline McLaughlin
Dr. Rae Koffman

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Brenda Reid, CNS

SENIOR SCIENTIST EMERITUS
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RESEARCH ASSOCIATE
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Mendonca, Sandra
Smith, Carrie

*New staff members
The Division continues to have a leadership role in structuring the approach to the management of major emerging and resurgent infectious disease threats. In this regard, the Division has been actively involved in influenza vaccination as well as pandemic preparedness efforts.
The Division of Infectious Diseases continues to be a leader in the academic practice of Infectious Diseases, nationally and internationally. The Division has active inpatient as well as ambulatory consultant services that include teams that focus on general infectious diseases and infectious diseases in immunocompromised infants, children and youth. We are a resource for issues that relate to infectious disease outbreaks, including new and emerging infections, paediatric infection control and the specialized areas of HIV, congenital infections, the ever-increasing problem of multi-drug resistant tuberculosis and the management of the infectious complications of organ transplantation. The Division is recognized as a world-leader in the management of infectious in transplant patients.

Division members have leading roles in national and international epidemiological, clinical, research advisory and related committees (e.g., the Infectious Diseases Society of America, the Canadian Paediatric Society, the American Society for Transplantation, the International Pediatric Transplant Association, the Canadian AIDS Research Group and the Government of the Bahamas). Our research initiatives initiatives include multicentred paediatric HIV studies that relate to maternal-to-child transmission and studies on the specialized areas of HIV, congenital infections, the ever-increasing problem of multi-drug resistant tuberculosis and the management of the infectious complications of organ transplantation.

Over the past year, the Division has been actively involved in the development of a travel medicine clinic at SickKids. The SickKids Family Travel Clinic provides one-on-one travel health advice, consultation and immunizations for adults and children, including young children with existing medical conditions that require a highly specialized approach to the prevention and management of travel-related infections.

We have one of the largest and most well-established paediatric infectious diseases training programmes internationally. Representatives from our Division continue to play a key role in activities of the Royal College of Physicians and Surgeons of Canada, and in many areas of undergraduate, graduate, post-graduate and continuing medical education activities. Faculty members continue to hold editorships, visiting professorships and related academic honours nationally and internationally.

### HONOURS AND AWARDS

Allen UD: Winner of AST, Established Investigator Research Award (Clinical Science), American Society of Transplantation annual meeting, San Diego California, March 2013.

Allen UD: Vice-chancellor Award; University of the West Indies, Toronto, January 2013.


Science M: Winner of CTV/Merck Postdoctoral Fellowship Award, CIHR Canadian HIV Trials Network, July 2012.

### PUBLICATIONS


Allen UD and the Infectious Diseases and Immunization Committee, Canadian Paediatric Society. Minimizing infection risks after paediatric organ transplants: Advice for practitioners. Paediatric Child Health 2013: 18(3); pp 143-8.


Hui PS and the Canadian Paediatric Society, Infectious Diseases and Immunization Committee (Dr. Allen is a member). Otitis externa. Paediatric Child Health 2013: 18(2); pp 96-98.


MacDonald NE, Finlay JC, (Dr. Allen is a member of the Committee). Working with vaccine-hesitant parents. Canadian Paediatric Society, Paediatric Child Health 2013: 18(5); pp 265-7.

MacDonald NE, O’Brien SF, Delage G and the Canadian Paediatric Society, Infectious Diseases and Immunization Committee (Dr. Allen is a member). Transfusion and risk of infection in Canada: Update 2012. Paediatric Child Health 17(10); pp e102-e111.


Moore D and the Canadian Paediatric Society, Infectious Diseases and Immunization Committee (Dr. Allen is a member). Influenza vaccine recommendations for children and youth for the 2012/2013 season. Paediatric Child Health 2012: 17(8); pp 444.

Morris SK, Allen UD, Gupta S, Richardson S. Breakthrough filamentous fungal infections in pediatric hematopoetic stem cell transplant and oncology patients receiving caspofungin. Canadian Journal of Infectious Disease and Medical Microbiology 2012: 23 (4); pp 179-182.


Waters V, Ratjen F. Standard versus biofilm anti-microbial susceptibility testing to guide antibiotic therapy in cystic fibrosis. Cochrane Database of Systematic Reviews. 2012 Nov 14;11:CD009528.


BOOKS AND CHAPTERS


Association of dietary patterns and biochemical vitamin D status with the severity of influenza in children. Furlong K, O’Connor DL, Tran D. Canadian Institutes of Health Research (CIHR): Frederick Barling and Charles Best Canada Graduate Scholarships - Master’s Award. $17,500 CAD. Jan 2012-Jan 2013


Clostridium Difficile infection in infants in the Neonatal Intensive Care Unit and potential implications for Infection Control. Science M, Richardson S. Pediatric Consultants Creative Professional Activity (CPA) Grant. $10,000 CAD. 2013-2014

CMA grant program improving communication through structured radiology reports: An evaluation of a structured report development and implementation strategy. Tran L, Mann E, Wadhwa A. CIHR Collaborative Research and Risk Management Grant, The Canadian Medical Protective Association. $49,320 CAD. Sep 2011-Sep 2012


Vision Canada. $1,000,000 CAD. Jun 12-Feb 2015


Pilot study of the efficacy of Tobramycin Inhalation Powder (TIP) in cystic fibrosis patients infected with Stenotrophomonas maltophilia. Waters V. Creative Professional Activity grant (Department of Pediatrics, SickKids) $10,000 CAD. 2013-2014

Pilot study of the in vitro and in vivo efficacy of Tobramycin Inhalation Powder (TIP) in cystic fibrosis patients infected with Burkholderia cepacia complex. Waters V. CF Canada Summer Studentship Award-Anina Ratjen. $5,000 CAD. 2013

Pilot study of the in vitro and in vivo efficacy of Tobramycin Inhalation Powder (TIP) in cystic fibrosis patients infected with Burkholderia cepacia complex. Waters V. Novartis Pharmaceuticals Canada Inc. $65,000 CAD. 2013-2014

Primary EBV infection in the immunosuppressed setting of organ transplantation; Determinants of virus-host interaction. Allen U, Beyene J, Read S. Canadian Institutes of Health Research (CIHR). $509,125 CAD. Apr 2010-Sep 2014


Randomized double blind controlled trial of the use of a biofilm antimicrobial susceptibility assay to guide antibiotic therapy in chronic Pseudomonas aeruginosa infected cystic fibrosis patients (Hospital for Sick Children, St Michael’s Hospital, McMaster University, BC Children’s and St Paul’s Hospital, Vancouver). Waters V. Innovotech Inc. and National Research Council Industrial Research Assistance Program (NRC-IRAP). $313,603 CAD. 2009-2013


The role of clonal Pseudomonas aeruginosa in cystic fibrosis patients in Canada. Waters V. Team Grant, Cystic Fibrosis Canada. $170,000 CAD. 2012-2014

Use of IGRA’s in immunocompromised patients: A pilot study. Kitai I. Pediatric Consultants, Department of Pediatrics, The Hospital for Sick Children. $9,600 CAD. Jul 2010-Jul 2012
The three level III NICUs at SickKids, Mount Sinai and Sunnybrook continue to be extremely busy. Family-integrated care has been introduced at all three sites and has been met with considerable enthusiasm by parents.
DIVISIONAL OVERVIEW

The Division of Neonatology welcomes Dr. Dany Weisz as a Staff Neonatologist at Sunnybrook Health Sciences Centre. We wish Dr. Connie Williams every success upon her move from Mount Sinai Hospital to McMaster Children’s Hospital.

The three level III NICUs at The Hospital for Sick Children, Mount Sinai Hospital and Sunnybrook Health Sciences Centre continue to be extremely busy. Family-integrated care has been introduced at all three sites and has been met with considerable enthusiasm by parents. The opening of the Rogers-Hixon Ontario Human Milk Bank, sited at Mt Sinai Hospital under the direction of Dr. Sharon Weisz, is a major advance in our ability to provide optimum care to our NICU patient populations.

The Division’s Neonatal-Perinatal Fellowship Training Programme continues to train the largest number of subspecialty trainees in Neonatology of any centre in Canada, under the leadership of the Programme Director, Dr. Emer Finan. Based on the materials submitted and previous reviews, the training program was exempted from direct review by the Royal College Accreditation Committee. The annual Neonatal Research Day was, for the first time, a national event being linked to the national OSCE examinations, with activity being busy.

Family-integrated care has been introduced at all three sites and has been met with considerable enthusiasm by parents. The opening of the Rogers-Hixon Ontario Human Milk Bank, sited at Mt Sinai Hospital under the direction of Dr. Sharon Weisz, is a major advance in our ability to provide optimum care to our NICU patient populations.

The Division continues to be well supported by major funding agencies for its various foci at the three sites, including lung biology, epidemiology, outcomes-based research and clinical trials.

HONOURS AND AWARDS


McNamara P: Winner of SickKids Clinician Scientist Training Program Doctoral Award, Trainee Dr. Amish Jain (Co-supervisor Jankov, RP), Toronto, Ontario, January 2013.

McNamara P: Winner of Queen Elizabeth II/HSF Ontario Graduate Scholarship Award, Trainee Dr. Amish Jain (Co-supervisor R Jankov), Toronto, Ontario, July 2012.

PUBLICATIONS


GRANTS AND FUNDING


Neonatal protein and energy metabolism. Pencharz P, Ball RO, Tomlinson C. Canadian Institutes of Health Research. $739,355 CAD. 2012 Apr 1-2017 March 31

| Pencharz P, Ball RO, Tomlinson C. Canadian Institutes of Health Research. $739,355 CAD. 2012 Apr 1-2017 March 31 |

BOOK CHAPTERS


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(University of Toronto)

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Dr. Jennifer Young
(Temporary Privileges)
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Dr. Dilip Mehta
St. Michael’s Hospital
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Sunnybrook Health Sciences Centre
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Dr. Michael Dunn
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Jewel Randolph
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Violeta Dukic
Diana Soares
The research profile of the Division continues to strengthen, as demonstrated by the number of successful grant applications, the high quality of the journals in which the work is published, and the number of invitations to speak at leading national and international conferences.
In 2012-2013, the number of patients in the Division of Nephrology continued to grow and the complexity of the care increased. The Nephrology Fellowship Training program provides a unique combination of comprehensive clinical training and exposure to state-of-the-art scientific inquiry, and it attracts trainees from across the world. The research profile of the Division continues to strengthen, as demonstrated by the number of successful grant applications, the high quality of the journals in which the work is published, and the number of invitations to speak at leading national and international conferences. The Division is uniquely poised to lead in clinical, epidemiological, and translational research, and in basic scientific discovery. In 2013, we welcomed Dr. Mina Matsuda-Abedini, who came from Vancouver.

HONOURS AND AWARDS
Harvey EA: POWER Teaching Award (Academic Year 2012-2013), Post Graduate Medical Education (PGME), Department of Paediatrics, University of Toronto, 2013
Robinson LA: Elected to Council, Society for Pediatric Research (Nephrology), 2013
Robinson LA: Elected to the American Pediatric Society (APS), 2013
Robinson LA: Fellow, Pediatric Leadership Development Program, Association of Medical School Pediatric Department Chairs (AMSPDC), 2013
Robinson LA: President-Elect, Canadian Association of Paediatric Nephrologists (CAPN), 2013

PUBLICATIONS
Control of kidney cell determination and morphogenesis by BMPs and beta-catenin. Rosenblum ND. Canadian Institutes of Health Research. $767,080 CAD. Jan 2008-Sep 2013

Control of renal branching morphogenesis by hedgehog-Gli3 signaling. Rosenblum ND. The Kidney Foundation of Canada. $100,000 CAD. Jan 2012-Jan 2014

Conversion of stable renal transplant patients from immediate-release tacrolimus (prograf) to extended release tacrolimus (adagraft). Principal Investigator: Hébert D. Co-Investigator: Robinson LA, Langlois V, Pollock-BarZiv S. Astellas Pharma Canada, Inc. $146,000 CAD. Jan 2009-Present

Developmental nephrology (Tier I). Rosenblum ND. Canada Research Chairs Program. $1,400,000 CAD. Jan 2012-Jan 2019

Ischemia reperfusion injury therapeutic agonistic anti Robo 1 antibody. Robinson LA. MaRS Innovation Proof of Principle Program. $100,000 CAD. Mar 2012-Mar 2013


Pediatric sleep disorders in children receiving dialysis. Amin R, Harvey EA, Narang I, Aimoko K. Pediatric Consultants Grant, SickKids. $9,520 CAD. May 2012-May 2013

Primary EBV infection in the immunosuppressed setting of organ transplantation: Determinants of the outcomes of virus-host interaction. Allen UD, Beyene J, Dipchand AI, Grunebaum E, Hébert D, Husain S, Mazzulli T, Ng VL, Read SE, Robinson JL, Tellier R, Weitzman SS. Canadian Institutes of Health Research. $509,125 CAD. Apr 2010-Oct 2014


Regulation of leukocyte-endothelial interactions. Robinson LA. Natural Sciences and Engineering Research Council of Canada. $170,000 CAD. Jun 2012-Jun 2017

DIVISIONAL STAFF


The nephroprotective potential of eculizumab using COL4A3 knockout (nephrosclerotic) mice in a proof-of-concept study. Licht C. Alexion Pharmaceuticals, Inc. $65,000 CAD. Jan 2011-Dec 2013

The role of single nucleotide polymorphisms of iron regulatory genes in chronic kidney disease and cancer treatment induced anemia susceptibility and response to therapy. DeAngelis C, Parekh RS, McLaughlin Centre (Accelerator Grant). $40,000 CAD. May 2012-Apr 2013

The role of Slt/Robo Signaling in renal inflammation. Canada Research Chair (Tier II). Robinson LA. Canada Research Chairs Program. $500,000 CAD. Jul 2010-Jun 2015

Translational studies of the liver disease in autosomal recessive polycystic kidney disease. Rosenblum ND, Kamath B. Liam’s Light Foundation. $190,000 CAD. May 2011-Jun 2013

The role of single nucleotide polymorphisms of iron regulatory genes in chronic kidney disease and cancer treatment induced anemia susceptibility and response to therapy. DeAngelis C, Parekh RS, McLaughlin Centre (Accelerator Grant). $40,000 CAD. May 2012-Apr 2013

The role of Slt/Robo Signaling in renal inflammation. Canada Research Chair (Tier II). Robinson LA. Canada Research Chairs Program. $500,000 CAD. Jul 2010-Jun 2015

Translational studies of the liver disease in autosomal recessive polycystic kidney disease. Rosenblum ND, Kamath B. Liam’s Light Foundation. $190,000 CAD. May 2011-Jun 2013

DIVISION HEAD
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FULL-TIME
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Dr. Norman Rosenblum
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Dr. Tino Piscione
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PART-TIME
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Dr. Lindsay Teskey
Dr. Mina Matsuda-Abedini
Dr. Rachel Pearl
Dr. Seetha Radhakrishnan

ADJUNCT
Dr. Leo Levin

HONORARY
Dr. Gerald Arbus

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Dr. Khamisa Al-Mokali
Dr. Lieuko Nguyen
Dr. Mamdoh Alsehli
Dr. Marcus Weitz
Dr. Rebecca Spicer
Dr. Sami Al-Baher
Dr. Shireen Bakhsh
Dr. Sibylle Tschumi
Dr. Wesley Hayes
The major foci of Neurology have been epilepsy, stroke, headache, neurometabolic disease, neuromuscular disease, neurogenetics, sleep disorders, movement disorders, demyelinating diseases, functional neuroimaging and neurointensive care. This year the Division added a significant strength in neonatal neurology.
The major foci of the clinical and academic activities of the Division of Neurology have traditionally been epilepsy, stroke, headache, neurometabolic disease, neuromuscular disease, neurogenetics, sleep disorders, movement disorders, demyelinating diseases, functional neuroimaging and neurointensive care. While maintaining these strengths, the Division of Neurology has added a significant strength in neonatal neurology with the arrival of our new division head, Dr. Steven Miller, in September 2012 and Dr. Emily Tam (July 2012), one of our former trainees. Drs. Miller and Tam have brought remarkable expertise in neonatal neurology to SickKids that will be enhanced further with the anticipated arrival of Dr. Vani Chau in July, 2013. The Division’s strength in neuromuscular disease and research will further be enhanced come September, 2013 with the arrival of Dr. James Dowling, a clinician scientist from the University of Michigan.

Several faculty have been honoured over the past year including: Dr. Daune MacGregor, recipient of the Queen Elizabeth II Diamond Jubilee Medal and of the SickKids Medical Staff Association’s Citizenship Award; Dr. Berge Minassian was awarded the Michael Bahen Chair in Epilepsy Research (University of Toronto). Among Critically-Ill Children”. April 2013.

The highlight of our academic year is the Division’s annual Prichard Day. Commemorating Dr. John Stobo Prichard, former division head, the day highlights our trainees’ research endeavours. Dr. Prichard was very involved in education and in his honour our trainees present their research work on this day, ending with a keynote lecture by a world-renowned expert. We thank the Prichard Family for their continued support of our trainees and this very special day.

The clinical and basic research foci of the Division of Neurology is epilepsy (both clinical and basic research), magnetoencephalography, stroke, cognitive neuroscience, burden of disease and quality of life, muscular dystrophy, multiple sclerosis, fatty acid oxidation disorders, molecular and cellular neurobiology, and neonatal neurology.

**HONOURS AND AWARDS**


Cortez M: Research Subcommittee Chair, Research Training Program, Division of Neurology.

Cortez M: Chairman, Canadian Board of Registered EEG Technologists (CBRET) Inc.


MacGregor D: Winner of the Citizenship Award, The Hospital for Sick Children Medical Staff Association, April 2013.

Minassian B: Awarded the Michael Bahen Chair in Epilepsy Research, University of Toronto, July, 2012.

Minassian B: Winner, Ontario Research and Innovation Optical Network (ORION) Leadership Award in E-Infrastructure (in recognition of outstanding leadership in research and innovation in Ontario). April, 2013.


Moharrir M: Received Junior Faculty Award for Clinical Excellence in Paediatric Medical Care, Department of Pediatrics, The Hospital for Sick Children, 2012.


Tein I: Winner of the William A. Hawke Award, Clinical Excellence in Teaching, Division of Neurology, The Hospital for Sick Children, University of Toronto, Ontario, June 2013.


Yeh A: CanMEDS Faculty Award, Division of Neurology, The Hospital for Sick Children. June 2013.

**PUBLICATIONS**


Vinalli J, Miller SP Synnes AR, Grunau RE. Parent behaviors moderate the relationship between neonatal pain and internalizing behaviors at 18 months corrected age in children born very prema-


BOOK CHAPTERS


Canadian Neuromuscular Disease Registry. Katzberg H, McAdams L, Kongut L. TREAT-NMD and Marigold Foundation. $11,000 CAD. 2012-2013.

Center for Investigation of Neuroplasticity in Neurodevelopment. Snead OC. Canada Foundation for Innovation. $9,535,612 CAD. Jan 1 2007-Dec 31 2012


Characterizing neuropsychological aspects of patients affected with Bardet-Biedl syndrome. Heon E, Kerr EN. Rare Disease Foundation – Microgrant. $3,750 CAD. Oct 2012-Oct 2013


Clinical and radiological investigation of cerebellar atrophy in childhood. Al-Maawali A, Yoon G. Rare Diseases Foundation Microgrant. $3500 CAD. 2012-2013

Clinical genetic testing for autosomal recessive hereditary spastic paraplegia. Ray PN, Yoon G, Baskin B. NIH Office of Rare Diseases Research Collaboration Education and Test Translation Program. $197,000 USD. 2010-2015


Clinical Research Fellow in Epilepsy. Bercovici E, Andrade D. UCB Pharma. T GL 1141099. $50,000 CAD. 2012 Jul-2013 Jun


Creating a novel mentorship program for junior faculty at a pediatric academic health sciences center. The role of a modified developmental evaluation (MDE) model. Weiss SK, Parker K, Martinianakis, T, Schneider R, Leslie K. HSC Pediatric Consultants Education Research Grant. $4,800 CAD. 2010 Sep 1-2014 Sep 30

Curing adult polyglucosan body disease in mouse. Minnassian BA. The Adult Polyglucosan Body Disease Research Foundation. $113,000 USD. 2012 Jul-2014 Jun


Dysregulation of fatty acid oxidation by defective SMN1 gene: implications for therapy. Tein I, Lamhornwah AM, Hawkins C, Kava M. Rare Diseases Foundation Grant. $3,500 CAD. 2012 May-2013 Apr

Early childhood behavior: Relations to early brain structure/function and maternal mood. Oberlander T, Brant RF, Chau V, Grunau RE, Lim KI, Miller SP, Misri S, Rurak DW, Wiebe SA. Canadian Institutes of Health Research. $1,139,616 CAD. 2012 Sep 1-2017 Aug 31

Effects of creatine supplementation on muscle pathophysiology in children with dermatomyositis. Stephens S, Feldman B, Tein I, Wells G, Schulte A. Rare Diseases Foundation Grant. $3,500 CAD. 2012 May-2013 Apr

Efficacy of the ketogenic diet. Donner EJ. Ontario Institute of Cancer Research. $1,139,616 CAD. 2012-2017


Ergometric training in mitochondrial myopathies. Tein I. United Mitochondrial Diseases Foundation. $75,000 CAD. 2010 Jul-2013 Mar


Environmental enrichment, epigenetics, and infantile spasms. Snead OC. Ontario Brain Institute. $100,000 CAD. 2011 Oct-2013 Jun

Epilepsy genetics: Seizing the advances. A plenary session of the 2012 Canadian League Against Epilepsy Meeting. Minassian BA. Canadian Institutes of Health Research. $17,175 CAD. 2012 Jul-Jun 2013


Ergometric training in mitochondrial myopathies. Tein I. Knights of Columbus Fund for Mitochondrial Diseases. $1,000 CAD. 2013 Feb-2014 Jan

Ergometric training in mitochondrial myopathies. Tein I. Knights of Columbus Fund for Mitochondrial Disorders. $1,000 CAD. 2012 Jan-2012 Dec


Genes, reading and dyslexia. Gruen J, Lovett MW, Wolf M, Pennington B, Willcutt E, Boada R. Manton Foundation to Yale University. $5,000,000 USD. 2009-2014

Genetics of reading disabilities. Barr CL, Lovett MW, Kerr E. Canadian Institutes for Health Research. $1,026,192 CAD. 2008-2013

Genomics of pharmaco-resistant epilepsies. Cossette P, Minassian B, Michaud J, Andrade D, Rouleau G, Scherer S. Genome Canada. $10,000,000 CAD. 2012-2018

GLU-T1 deficiency and response to ketogenic diet. Matmutoglu S, Kobayashi J, Donner E. Canadian Institutes for Health Research. $45,000 CAD. 2012-2014


Identifying juvenile myoclonic epilepsy genes and the epileptic phenotype. Snead OC. Canadian Institutes of Health Research. $181,202 CAD. 2011 Apr-2016 Mar


Long-term outcomes of pediatric epilepsy surgery (sub project in Integrated Discovery System for Epilepsy - New Approaches to Intractable Seizures). Smith ML, Ontario Brain Institute. $69,000 CAD. 2011-2013

Infantile spasms in Down syndrome: Correction of the epileptic phenotype. Snead OC. Canadian Institutes of Health Research. $181,202 CAD. 2011 Apr-2016 Mar


Long-term outcomes of pediatric epilepsy surgery (sub project in Integrated Discovery System for Epilepsy - New Approaches to Intractable Seizures). Smith ML, Ontario Brain Institute. $69,000 CAD. 2011-2013

New approaches to intractable epilepsy - The Epilepsy Discovery Project: Improving Working Memory in Children with Active Epilepsy (Subproject of Group grant). Kerr EN. Ontario Brain Institute. $50,000 CAD. Mar 2013-Mar 2018


Nicotinic acetylcholine receptor PET imaging in patients with myasthenia gravis. Katzberg H, Metzer U, Brill V. Myasthenia Gravis Foundation of America. $50,000 USD. 2013 Jan-2013

Nodular heterotopias as a biomarker for pharmacoresistant schizophrenia. Bassett A, Kringa T, Andrade D. NARSAD Young Investigator (USA). $59,648 USD. 2011 Jan-2013 Oct


Quantitative neuroimaging markers of executive dysfunction in children with frontal lobe epilepsy. Wijdaja E. GERRAF. $140,000 CAD. Sep 2011-Aug 2013

RCT of Melatonin to improve sleep in children who have both epilepsy and neurodevelopmental disorders. Weiss S. SickKids Foundation, Complementary and Alternative Health Care Grant. $121,000 CAD. 2010 May-2013 Oct


Sleepy, not lazy! Taking a closer look at adolescents’ sleep and health. Stremler R, Weiss SK, Carney C. Café Scientifique (public lecture) Canadian Institutes of Health Research. $3,000 CAD. Apr 17, 2013


DIVISIONAL STAFF

The Children’s Stroke Project, deVeber G. Auxillium Foundation. $1,800,000 CAD. 2009 Jul-2014 Jul

The effect of sleep on consolidation of memory in children with epilepsy. Weiss SK, Sadaka Y, Bradbury L, Sud S. Hospital for Sick Children, Dept. of Pediatrics, PERCS. $2,000 CAD. 2012 May-2012 Aug

Therapeutic hypothermia after pediatric cardiac arrest (THAPCA). Moler F, Hutson JS, Guerguerian A-M, Hahn CD. National Institutes of Health (NCT00880087, NCT00878644). $21,000,000 CAD. 2009 Sep 1-2016 Sep 30


Towards the correction of the Rett-like phenotype of MeCP2-deficient mice. Sneed OC. Canadian Institutes of Health Research. $150,000 CAD. 2010 Oct 1-2014 Sep 30


Validating the role of actigraphy in assessing sleep patterns and sleep disorders in children with epilepsy. Weiss SK, Sadaka Y. HSC Research Institute, Centre for Brain & Behaviour: Chase an Idea in Pediatric Neuroscience. $29,000 CAD. 2011 Sep-2013 Sep

Validation of monitoring changes in brain synchrony to anticipate seizures and implement feedback stimulation to stop seizure occurrence. Perez-Velazquez JL. Ontario Brain Institute. $155,700 CAD. 2011-2013

Validation of monitoring changes in brain synchrony to anticipate seizures and implement feedback stimulation to stop seizure occurrence. Perez-Velazquez JL. Ontario Brain Institute. $250,000 CAD. 2013-2018


Vitamin D clinical trial. Yeh, EA, Barwell B, Makhan N, Veith R, Marrie RA. Dairy Farmers of Canada. $80,000 CAD. 2012 Jan-2013 Apr


DIVISION HEAD
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Dr. Cecili Hahn
Dr. Daune MacGregor
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Dr. Elizabeth Kerr
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Dr. Ayako Ochi
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Dr. Elizabeth Pang
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Naila Makhani
Yair Sadaka
We began a pilot study of patient-centred information management, by asking parents what they needed. We also rolled out a daily continuous improvement program to engage the front-line professional team on how to tackle operational challenges both big and small.
DIVISIONAL OVERVIEW

The 2012-2013 academic year for Paediatric Emergency Medicine was a year of moving up and moving in! We completed the final renovations of our existing clinical space with the grand opening of our urgent care zone, a five-room area where over 20 per cent of our patients receive treatment. The ED continued to see more patients and improve on our performance even in the face of those increasing volume pressures. Along with the day-to-day clinical efforts, the academic enterprise continued its upward climb with larger grant funding supporting a range of scientific discovery across effective treatments for common conditions, basic science, point-of-care ultrasound, and the study of how medical learners best learn.

The story for clinical operations continued a narrative of bigger, better, faster – our collective efforts around efficiency garnered over 1.8 million dollars in additional funding from the Province to support efforts to streamline care and deliver on service excellence. Calendar year 2012 saw SickKids move up the ranks for efficiency across all Ontario hospitals to #11 out of 73 institutions. In December, we saw the single highest total patient volume month ever with over 7,000 visits (an average of over 220 patients per day in our ED!) We began a pilot study of patient-centred information management by asking parents to tell us what they needed and how we could help them during care. We also rolled out a daily continuous improvement program with structured daily rounding and weekly inter-disciplinary meetings to engage the front-line professional team on how to tackle operational challenges both big and small.

Academic success was visible on many fronts. Divisional faculty were recognized for educational and research excellence, including Dr. Yaron Finkelstein who won the 2013 American College of Medical Toxicology Service Award for Outstanding Contribution in Medical Toxicology Research as well as the Junior Faculty Research Award from the Department of Paediatrics. The Department of Paediatrics also recognized Dr. Jason Fischer with a POWER Teacher Award, and Dr. Suzan Schneeweiss with the Continuing Education Award. At the University level, Dr. Bill Mountstephen, former Division Head who retired in January 2013, received the Haslam Award for Excellence in Undergraduate Teaching. Overall, Divisional faculty published more than 30 scientific papers and contributed to five different books defining best practice in our field. Grant funding increased to over 4.5 million dollars including funding for several large multi-centre efforts in the Pediatric Emergency Research Canada (PERC) network.

HONOURS AND AWARDS

INTERNAL

Beno S: James C. Fallis Teaching Award, PEM Staff Physician Presentation, The Hospital for Sick Children Division of Paediatric Emergency Medicine, Toronto, ON. June 2013.

Beno S: Collaboration, Leadership and Advocacy Award, The Hospital for Sick Children, Division of Paediatric Emergency Medicine, Toronto, ON. June 2013.

Beno S: Communication and Leadership Award, The Hospital for Sick Children, Division of Paediatric Emergency Medicine, Toronto, ON. June 2013.

Finkelstein Y: Winner of the 2013 Award for Scholarship/Evidence-based practice, Division of Emergency Medicine, The Hospital for Sick Children, Toronto. 2013.

Fischer J: Winner of James C. Fallis Teaching Award for Best Paediatric Emergency Medicine Staff Physician Presentation, Division of Paediatric Emergency Medicine, The Hospital for Sick Children. 2013.

Fischer J: Winner of Clinical Teaching Recognition Award, Division of Paediatric Emergency Medicine, The Hospital for Sick Children. 2013.


Ratnapalan S: Recognition of James C. Fallis Teaching Award, Paediatric Emergency Medicine, The Hospital for Sick Children. 2012-2013.

Scolnik D: Winner of Clinical Teaching Award – Staff Physician Full-Time, Division of Paediatric Emergency Medicine, The Hospital for Sick Children. 2013.

Scolnik D: Winner of James C. Fallis Teaching Award for Best Paediatric Emergency Medicine Staff Physician Presentation, Division of Paediatric Emergency Medicine, The Hospital for Sick Children. 2013.


EXTERNAL

Finkelstein Y: Winner of the 2013 American College of Medical Toxicology Service Award for Outstanding Contribution in Medical Toxicology Research. 2013.

Finkelstein Y: Winner of the 2013 Junior Faculty Research Award, Department of Paediatrics, University of Toronto. 2013.

Fischer J: Winner of POWER Teacher Award, Department of Paediatrics, The Hospital for Sick Children, University of Toronto. 2013.

Mountstephen S: The RHA Haslam Award for Excellence in Undergraduate Teaching, Toronto, ON. June 2013.

Schneeweiss S: Continuing Education Award, Department of Paediatrics, The Hospital for Sick Children, 2013.

PUBLICATIONS


GRANTS AND FUNDING

**INTERNAL**


The effective care project. Principi T, Porter SC. Division of Emergency Medicine, The Hospital for Sick Children. 2012-

The effectiveness of the emergency response team. Principi T, Eltoom Y, Boutis K, Thull-Freedman J. Division of Emergency Medicine, The Hospital for Sick Children. $5,750 CAD. Jan 2013 - Dec 2013

Which pediatric trauma patients do not require chest radiographs? Schuh S, Weerdenburg K, Wales R Alsup J. Division of Emergency Medicine, The Hospital for Sick Children. $4,800 CAD. Dec 2013 - Jun 2014

**EXTERNAL**


Canadian injury prevention and safety promotion conference. $2,250 for attendance to November 2013 Conference, Montreal, Quebec. Dec 2012


Cellular toxicity of anaesthetics in children with mitochondrial disease. Finkelstein Y, Hutson J, Boutis K, Maynes J. British Columbia Children’s Hospital Foundation (BCCHF) and Rare Disease Foundation Award. $3,500 CAD. Jan 2012 - Dec 2013


Femur fractures in young children: Are there fracture patterns more specific to abuse? Boutis K, Shouldice M, Beno S, Sonji Z. Public Health Agency Canada (PHAC) CHIRPP Research Grant. $5000 CAD. Apr 2012 - Apr 2013


DIVISION HEAD
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FULL-TIME
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Dr. Jason Fischer
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Dr. Anna Kempinska
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Dr. Lubla Koman
Dr. Amina Lalani
Dr. Bruce Minnes
Dr. Trent Mizzi
Dr. William Mountsanoth
Dr. Olivia Ostrow
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Dr. Swarhih Nathapalan
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Dr. Suzanne Schuh
Dr. Dennis Scotnick

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Dr. Kevin Weingarten

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Dr. Ahmed Althiwan
Dr. Anmar Al-Azizahm
Dr. Ron Berant
Dr. Adrianne Davis
Dr. Marie-Pier Desjardins
Dr. Rosi Jampcom
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Dr. Sharad Mohite
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Dr. Tanja Solano
Dr. Isabelle Steiner
Dr. Kirsten Weendenburg

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Angie Frisk
Sara Gillespie
Rita Inotakis
Sandra Miller
Majda Savaglio
Pauline Smith
Annabel Sousa
Judith Speck
Maggie Stevanovic
Catherine Wong
Dragan Kijicic (Academic Project Coordinator)

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CROSS APPOINTEES
Dr. Susanna Benserolle
Dr. Hartmut Grassmann
Dr. Hilary Whyte
Dr. Brent Williams
Much attention has been paid to education to ensure that the inpatient experience remains the most highly ranked clinical rotation for both the junior and senior paediatric residents at SickKids.
The Division of Paediatric Medicine (comprising Inpatient Hospital Paediatrics, Complex Care, Outpatient Paediatrics, Community Paediatrics, Child Maltreatment Paediatrics, Dermatology and Paediatric Advanced Care) continues to play an integral role in the core activities of the Department of Paediatrics. Despite increases in inpatient volume and an ongoing gradual increase in acuity and complexity, the statistics for time spent by admitted patients in the ED waiting for a bed on the 7th floor have improved by 60 per cent in 2012/13: the best improvement by any division at SickKids. This increased efficiency has been achieved without sacrificing quality, as evidenced by continued excellent results in the Picker patient satisfaction survey. Trey Coffey and the entire I-PASS team was honored with a Leading Practice Award from Accreditation Canada in 2013 for their innovative work in improving inpatient handoffs. The QI group has continued to focus on access, family-centred rounds, medication reconciliation, and improvements in the discharge process.

Carolyn Beck, the Paediatric Medicine Inpatient Director, won both the junior faculty Departmental Award for Clinical Excellence as well as the divisional Clinical Excellence Award for academic excellence. Trey Coffey was appointed as Medical Officer for Patient Safety at SickKids and Associate Director of the University of Toronto Centre for Quality Improvement and Patient Safety.

The Complex Care Program continues to provide leadership nationally and internationally with regards to models of care for children requiring complex care. Partnerships with multiple organizations within the Toronto Central Local Health Integration Network through the Integrated Complex Care Model as well as satellite complex care clinics in Orillia, Barrie and Credit Valley (Mississauga) are thriving and a new site has opened at North York General Hospital. Academic productivity, publications and grant funding continue to increase and educational opportunities are being developed. The new Janis Rotman Innovation in Homecare research fellowship program with two fellows in 2013 and a third in 2014 is closely aligned with the program and will build on the community/home aspect. The Norman Saunders Complex Care Initiative endowment fund continues to support a robust annual grant competition which has funded many innovative projects in complex care.

A close partnership with the St Michael’s Hospital Department of Paediatrics continues to grow. Michael Sgro, the current Department Chief, represents the Inner City Child Health Group at the Divisional Directors group and many of the St. Mike’s faculty are involved in the clinical, educational and research activities of our Division.

The Division’s role in education has continued its excellence at all levels of training; medical students, core residents, fellows and CME. Much attention has been paid to education, and will continue to be required, to ensure that the inpatient experience remains the most highly ranked clinical rotation for both the junior and senior paediatric residents at SickKids. Mark Feldman, our Community Paediatrics director has been appointed as departmental lead for CME. Bob Hilliard was awarded the Canadian Paediatric Society’s prestigious Michel Weber Education Award for career educational impact on learners in child and youth health. Individual faculty continue to win a significant number of the departmental teaching awards. Adam Rapoport won the PeRLS teaching award and Jeremy Friedman won the POWER teaching award. Patricia Parkin won the Faculty Mentorship award and Hosanna Au was runner-up for the RHA Haslam preclerkship teaching award. The Bob Hilliard Divisional Education Award was awarded to Miriam Weinstein. Astrid Guttmann was a finalist for the University of Toronto Faculty of Medicine Graduate Teaching Awards.

The Divisional role in education has continued its excellence at all levels of training; medical students, core residents, fellows and CME. Much attention has been paid to education, and will continue to be required, to ensure that the inpatient experience remains the most highly ranked clinical rotation for both the junior and senior paediatric residents at SickKids. Mark Feldman, our Community Paediatrics director has been appointed as departmental lead for CME. Bob Hilliard was awarded the Canadian Paediatric Society’s prestigious Michel Weber Education Award for career educational impact on learners in child and youth health. Individual faculty continue to win a significant number of the departmental teaching awards. Adam Rapoport won the PeRLS teaching award and Jeremy Friedman won the POWER teaching award. Patricia Parkin won the Faculty Mentorship award and Hosanna Au was runner-up for the RHA Haslam preclerkship teaching award. The Bob Hilliard Divisional Education Award was awarded to Miriam Weinstein. Astrid Guttmann was a finalist for the University of Toronto Faculty of Medicine Graduate Teaching Awards.

The Paediatric Medicine Fellowship Program has grown in size, scope and stature with 23 fellows distributed amongst the various fellowship tracks for the 2012/13 year. Graduates of the program have taken up faculty positions in General Paediatrics across the country and internationally. Two former fellows were awarded Canadian Institutes for Health Research Applied Research Chairs in Child and Youth Health Services and Policy Research: Astrid Guttmann (Evidence-Informed Health Services Delivery for Canadian Children and Youth) and Allison Macpherson (Bridging the Gaps Between Evidence, Policy, and Injury Prevention). Patricia Li who is now on faculty at McGill received a career award and an establishment and project grant from the FQRS.

Research in the Division has grown in leaps and bounds. The focus is primarily through the two arms of the Divisional research group (PORT); community-based paediatric outcomes (e.g. Vitamin D, obesity, iron deficiency) and hospitalist research (e.g. bronchiolitis, ITP, complex pneumonia, IV fluids, complex care). TARGet Kids!, an initiative of the PORT group, is breaking new ground in community-based research and has been highly successful in rapidly building a network of primary care researchers and achieving grant funding and publications. In addition, we have faculty doing outstanding research in areas which include health services research, child health policy, global health, and paediatric dermatology. Funding through major grants is in the millions of dollars through external granting agencies like CIHR, PSI, Thrasher Foundation, Bill and Melinda Gates Foundation etc.
In addition to all the individual awards and accolades, what remains very clear is the tremendous high morale and camaraderie amongst Divisional faculty. This is a tremendously engaged and passionate group with a great commitment to the vision and mission of the hospital and the department.

HONOURS AND AWARDS

Au H: Runner-up for the RHA Haslam Preclerkship Teaching Award, Department of Paediatrics, University of Toronto, The Hospital for Sick Children, Toronto – June 2013.

Beck C: Winner of Junior Faculty Award for Clinical Excellence, Department of Paediatrics, The Hospital for Sick Children, Toronto - 2013.

Beck C: Winner of Award for Clinical Excellence, Division of Paediatric Medicine, The Hospital for Sick Children, Toronto - 2013.


Coffey M: Runner-up for Outstanding Clinical Contribution Award for Quality and Safety, specifically in medication reconciliation, family centred rounds and hand-offs. Department of Paediatrics, The Hospital for Sick Children, Toronto – 2013.

Coffey M: Appointed Medical Officer for Patient Safety for SickKids and Associate Director of the University of Toronto Centre for Quality Improvement and Patient Safety, The Hospital for Sick Children/ University of Toronto, Toronto – 2012.

Friedman J: Winner of POWER Teacher Award for Outstanding contributions to Postgraduate Teaching, Department of Paediatrics, University of Toronto, The Hospital for Sick Children, Toronto - 2013.

Guttmann A: Finalist for the University of Toronto Faculty of Medicine Graduate Teaching Awards, University of Toronto, 2013.

Guttmann A: Winner of the Bill Feldman Divisional Research Award, Division of Paediatric Medicine, The Hospital for Sick Children, Toronto - 2013.

Hilliard R: Canadian Paediatric Society’s prestigious Michel Weber Education Award for career educational impact on learners in child and youth health, Canadian Paediatric Society, Edmonton, Alberta – June 2013.

Maguire J: Awarded the CPS Young Investigator Award, in recognition of his clinical research accomplishments, Canadian Paediatric Society, Edmonton, Alberta – June 2013.

Parkin P: Winner of Faculty Mentorship Award, Department of Pediatrics, University of Toronto, The Hospital for Sick Children, Paediatric Medicine Celebration of Academic Excellence, Toronto - 2013.


Rapoport A: Winner of the PerLS Teaching Award, Department of Paediatrics, University of Toronto, The Hospital for Sick Children, Toronto - 2013.

Shouldice M: Runner-Up for the Faculty Mentorship Award, Department of Paediatrics, The Hospital for Sick Children, University of Toronto, Toronto – 2013.


PUBLICATIONS


BOOKS AND CHAPTERS


Knowledge management strategies for maternal, newborn and child health. Zlotkin S, Barwick M, Roth D. Canadian International Development Agency (CIDA). $1,070,000 CAD. 2012 Jul 1-2016 Jul 31

**PEDI'S: Pursuing Excellent Discharge Service.** Coffey T, Beck CE, Mack L, Langrish K (Project Oversight Team) with Friedman JN, Viveiros D (Project Sponsors). MOH Most Responsible Physician program and Pay for Results funds. $110,000 CAD. 2012 Apr 1-2013 Mar 31

Pediatric outcomes research. Parkin PC, Macarthur C. Hospital for Sick Children Foundation. $750,000 CAD. 2008 Feb-2013 Jan 31


**Local temperature as a marker for disease activity and progression in patients with morphea.** Pope E, Laxer R, Garcia Romero M. Rare Disease Foundation. $3,500 CDN. 2012 Jul 1-2013 Jun 30

Local temperature as a marker for disease activity and progression in patients with morphea. Pope E, Laxer R, Garcia Romero M. Canadian Dermatology Foundation. $10,000 CDN. 2012 Sep 1-2014 Aug 31


**Optimizing the diagnostic and service delivery system for autism spectrum disorder.** Anagnostou E, Moore C, Penner M, King G, Shouldice M. Pediatric Consultants Creative Professional Activities Grant, Department of Pediatrics, The Hospital for Sick Children. $6032 CAD. 2013 Jan 1-2015 Jul 31

Local temperature as a marker for disease activity and progression in patients with morphea. Pope E, Laxer R, Garcia Romero M. Rare Disease Foundation. $3,500 CDN. 2012 Jul 1-2013 Jun 30

Local temperature as a marker for disease activity and progression in patients with morphea. Pope E, Laxer R, Garcia Romero M. Canadian Dermatology Foundation. $10,000 CDN. 2012 Sep 1-2014 Aug 31


PEDI'S: Pursuing Excellent Discharge Service. Coffey T, Beck CE, Mack L, Langrish K (Project Oversight Team) with Friedman JN, Viveiros D (Project Sponsors). MOH Most Responsible Physician program and Pay for Results funds. $110,000 CAD. 2012 Apr 1-2013 Mar 31

Pediatric outcomes research. Parkin PC, Macarthur C. Hospital for Sick Children Foundation. $750,000 CAD. 2008 Feb-2013 Jan 31


Intravenous fluid-related symptomatic acute hyponatremia in Canadian children. Beck CE, Bohn D, Choong K, Hartfield D, Holland J, Lacroix J, Puligandla P, Friedman JN. Hospital for Sick Children Paediatric Consultants CPA Grant. $10,000 CAD. 2012 Feb 1-2013 Jan 1


The medical home of children and youth in Canada. Guttmann A, Cohen E, Brownell M, Banwick C. Canadian Institutes for Health Research and the Canadian Child and Youth Health Coalition. $154,000 CAD. 2010 Sep 15-2013 Mar 31


Youth with chronic conditions transitioning to adult care. Wodchis W, Guttmann A, Cohen E, Moore C, Health Systems Performance Research Network, Ministry of Health and Long-Term Care. $4,645,190 CAD. 2013 Apr 1-2016 Mar 31
## Divisional Staff

### Divisional Head
- Dr. Jeremy Friedman

### Full-Time
- Dr. Hosanna Au (SCAN)
- Dr. Carolyn Brock
- Stacey Bernstein
- Dr. Catherine Birken
- Dr. Zia Bismilla
- Dr. Trey Coffey
- Dr. Eyal Cohen
- Dr. Emma Cory (SCAN)
- Dr. Astrid Guttmann
- Irene Lara-Corales (Derm)
- Dr. Sanjay Mahant
- Dr. Charlotte Moore
- Hepburn
- Dr. Patricia Parkin
- Dr. Elena Pope (Derm)
- Dr. Adam Rapport (PACT)
- Dr. Daniel Roth
- Dr. Michelle Shoulidence (SCAN)
- Dr. Michael Weinstein
- Dr. Randi Zlotnik Shaul (Bioethics)

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- Kawsari Abdullah
- Dr. Jefferey Weisbrot
- Dr. John D. Murray
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- Dr. Leo Levin
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- Dr. Prabo Dwight
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- Dr. Marisela Limon
- Dr. Arpad Veres
- Dr. Elena Pope (Derm)
- Dr. Akhter Hamid
- Dr. Julie Johnston
- Dr. Tareq El Marzuk

### Cross-Appointees
- Dr. Chengning Wang
- Dr. Natasha Saunders
- Dr. Mahmoud Sakran
- Dr. Rania Gharabawy
- Dr. Gustavo Rubio Gomez (Derm)

### Research Fellows
- Kawsar Abdulahi
- Cory Borkhoff
- Karen LeGrow

### Adjoint
- Dr. Robert Faber
- Dr. Michelle Fairer
- Dr. Hyder Fazal
- Dr. Stephen Richard
- Dr. Feanny
- Dr. William Feldman
- Dr. Diane Randles
- Dr. Raphael Feldman
- Dr. Jay Freedman
- Dr. Claudio Fregonas
- Dr. Gerald Friedman
- Dr. Marvin H. Gans
- Dr. Vartan Garabedian
- Dr. Mary Gold
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### Administrative Staff
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- Heatheler Haywood
- Jasmine Hyton
- Jennifer Kingston
- Violeta Latinamer
- Josie Marcantoni
- Amanda Mensah
- Daffodil Morrison
- Ramanee Sran
- Donna Whitely
In the past year, we have been able to offer another Sleep Disorders Clinic. Also, the Sleep Lab has provided an emphasis on quality patient care through quality assurance and education among the respiratory therapists and sleep technologists.
The Division of Respiratory Medicine is committed to providing excellence in patient care, education, and research.

The Division welcomed one new physician in May 2013; Dr. Suhaile Al-Saleh. Dr. Suhaile Al-Saleh is no stranger to SickKids; he trained extensively here in the areas of Paediatric Respiratory Medicine, Paediatric Research and Paediatric Sleep Medicine. His clinical and research focus is on Paediatric Sleep Medicine.

Patient and clinical endeavours this past year are numerous. Dr. Indra Narang, Director of the Sleep Lab, along with the support of Zelia Da Silva, Clinical Director of Respiratory Services, has expanded the Paediatric Sleep Lab significantly, doubling the patient load from 16 to 28 patients per week in less than six months. The plan is to have the sleep lab open seven days a week.

With the addition of Dr. Suhaile Al-Saleh to the team, we have been able to offer another Sleep Disorders Clinic, up from one to two clinics per week. This past year the Sleep Lab has provided an emphasis on quality patient care through quality assurance and education among the respiratory therapists and sleep technologists. Mr. Colin Massicotte was recently promoted to acting team lead for the SickKids Paediatric Sleep Lab, providing leadership needed for the expanding lab and their staff.

Other milestones in our division include the formalization of the transition program for the home ventilation patient population to Holland Bloorview by Dr. Reshma Amin. Our lung transplant program continues to perform infant lung transplantation and provides pre- and post-transplantation care for children with end-stage lung disease. It is the only centre in the country that performs them on this patient population.

EDUCATION

The Division of Respiratory Medicine has developed and participated in numerous educational activities within SickKids over the past year. Dr. Indra Narang plays a leading role in the education and awareness of sleep disorders in children and we were proud to host the second bi-annual SickKids Paediatric Sleep Symposium, an internationally recognized event, on March 1-2, 2013. Subsequently, a Narcolepsy Family Educational evening was held on March 02, 2013 for the narcolepsy patient population in Ontario. Dr. Indra Narang was the course director for both of these successful events.

Another milestone in the Division’s education portfolio was a dedicated subspecialty day at the SickKids Paediatric Update conference on April 17th, 2013 which Dr. Melinda Solomon chaired. Dr. Hartmut Grasemann, Sharon Dell, Indra Narang and Reshma Amin were all speakers at this international recognized event.

Dr. Sharon Dell continues to be the Program Director for the Clinical Epidemiology & Health Care Research program within the Faculty of Medicine at the University of Toronto, and received the Eugenie Stewart from the Institute of Health Policy, Management and Evaluation Health for her contributions in MSH/PHD supervision.

Our Paediatric Respiratory Medicine Fellowship Program, led by Dr. Melinda Solomon, has expanded significantly this past year. We currently have the largest group of trainees we have had since the program’s inception in 2001. Our program continues to be accredited by the Royal College of Physicians and Surgeons of Canada, and is still the largest training program for paediatric respiratory medicine in Canada. As a testament to Dr. Solomon’s dedication to our training program, she recently won the Harry Bain Award for Excellence in Clinical Teaching. And we are happy to announce Dr. Reshma Amin now leads the elective undergraduate medical education in our Division.

RESEARCH

Dr. Sharon Dell, Dr. Teresa To and Dr. Padrma Subbarao participated in a Café Scientifique Knowledge Translation Session funded by the Canadian Institutes of Health Research that was open to the public.

Currently, Dr. Narang is leading a large clinical trial evaluating cardiovascular and metabolic function in obese children following treatment of obstructive sleep apnea with continuous positive airway pressure. Furthermore, Dr. Narang is in collaboration with many colleagues across Canada and the USA in research studies evaluating sleep disorders in children, including the validation of a portable sleep monitor to facilitate the early diagnosis and management of children with sleep disorders. She has received external funding to evaluate the role of opioids on the control of breathing and its impact on the development of sleep apnea.

Dr. Padrma Subbarao continues as Deputy Director of the Canadian Healthy Infant Longitudinal Development (CHILD) Study, the largest birth cohort in Canadian history. The role of the study is to elucidate the factors involved in the development of asthma and allergies in early childhood; it is supported by CIHR and AllerGen. Dr. Subbarao is leading this project as a co-Principal Investigator with Dr. Malcolm Sears from McMaster University. She has also been successful in attracting additional private funding for the infant pulmonary function cohort in this study that will provide the largest study using lung function measurements in this age group to date. In addition, Dr. Subbarao has continued to work on pioneering new methods of lung function assessment such as multiple breath washout technology under her leadership SickKids has become a leader in infant pulmonary function testing. Dr. Subbarao has also successfully received funding for multiple research studies, as well as salary support from the CIHR, the Young Investigator Award.

Dr. Indra Narang was awarded the Breathe New Life Award from the Ontario Thoracic Society, for the highest ranking in National Grant Review competition for her submission on the development of novel clinical tests to diagnose and monitor asthma in preschool children.

Dr. Sweezy, in collaboration with Dr. Feige Kaplan at McGill, continues to work on cellular and molecular aspects of the roles of novel and known glucocorticoid responsive genes in lung development. Dr. Sweezy is funded by the Canadian CF Foundation to study the effects of sex hormones on airway inflammation in CF.

Dr. Reshma Amin brings expertise in both clinical research related to CF lung disease as well as clinical expertise in sleep-related breathing disorders. She focuses her clinical and research activities on technology dependent children and continues studies to look at new outcome measures in cystic fibrosis.
Dr. Ratjen’s main areas of research are multi-centre trials and development of new outcome measures to assess CF lung disease. This includes a recent collaborative study with a researcher at the Royal Brompton Hospital in London to study CFTR potentiator therapy in CF patients with normal lung function. Dr. Ratjen is leading an emerging team grant funded by CIHR bringing together basic scientists, including stem cell researchers with clinical scientists. This has resulted in a seminal work published in Nature Biotechnology demonstrating that skin stem cells can be reprogrammed into airway epithelium and serve as a potential renewable source assay to study CFTR directed therapy.

Dr. Hartmut Grasemann continues to pursue his major research interest, which is a better understanding of the role of nitric oxide (NO) in lung diseases. Other work done under his supervision in the Division of Respiratory Medicine, using comprehensive exhaled NO analyses, revealed abnormalities in airway NO homeostasis in patients with sickle cell disease and in lung transplant recipients.

AWARDS

Many of our staff members in The Division of Respiratory Medicine were recognized for their efforts, passion and dedication in their field of medicine.

Dr. Felix Ratjen was awarded the Queen Elizabeth II Diamond Jubilee Medal for service to Cystic Fibrosis Patients. Dr. Sharon Dell received two prestigious awards - the Eugenie Stewart from the Institute of Health Policy, Management and Evaluation Health for her contributions in MSH/PhD supervision, and the Klaus Wirsig Humanitarian Award from SickKids for her tireless dedication to patients and families. She is also an advocate for asthma patients and an avid supporter of World Asthma Day, as witnessed by her visit to Queen’s Park and her media interviews.

Dr. Padmaja Subbarao was awarded the Breathe New Life Award from the Ontario Thoracic Society, It is an award for the highest ranked National Grant Review competition in 2012, for the development of novel clinical tests to diagnose and monitor asthma in preschool children.

For a more complete description of our clinical activities, educational events and research interests, please visit our website at www.sickkids.ca/ respiratorymedicine/ as well as the CF Centre website at www.sickkids.ca/ centres/cystic-fibrosis-centre.

HONOURS AND AWARDS

Dell S: Claus Wirsig Humanitarian Award, SickKids Foundation, Toronto, Ontario, Canada, 2013.


Solomon M: POWER Teacher Award, Department of Paediatrics, University of Toronto, Ontario, Canada, 2011.

Solomon M: The Hospital for Sick Children, University of Toronto, Ontario, Canada, Harry Bain Award, 2012-2013.


PUBLICATIONS


Amin R, Noone PG, Ratjen F. Chemical pneumonitis versus surgical intervention for persistent and recurrent pneumothoraces in cystic fibrosis. Cochrane Database of Systematic Reviews 2012: 12: CD007481.


Foty R, Nelligan K, To T, Stieb D, Dell SO. Children with asthma are less likely to walk to school. Pediatric Allergy, Immunology and Pulmonology 2013: 26 (2): pp 81-87.


Tam J, Nash EF, Ratjen F, Tullis E, Stephenson A. Nebulized and oral thiol derivatives for pulmonary disease in cystic fibrosis. Cochrane Database of Systematic Reviews 2013: 7: CD007168.


GRANTS AND FUNDING

Moraes T, Dean’s Fund New Staff Competition, University of Toronto. $10,000 CAD. Mar 01 2009-April 30 2014

Exome sequencing in primary ciliary dyskinesia. Dell S, Hall D, Kim R. McLaughlin Centre, University of Toronto, Accelerator Grant in Genomic Medicine #MC-2012-08. $30,000 CAD. Jul 01 2012-Jun 30 2013

Waking up to childhood narcolepsy. An educational event for children with narcolepsy and their families, Narang I. SickKids Foundation. $3,750 CAD. Mar 01 2013

Glucocorticoid receptor and glucocorticoid-responsive genes in developing lung, Sweezy N, Kaplan F. Ontario Thoracic Society. $48,972 CAD. Apr 01 2011-Mar 31 2013


Lung Clearance Index (LCI) as a marker of early lung disease in preschool children. Ratjen F. National Institutes of Health: National Heart Lung and Blood Institute. $1,738,992 US. Sep 01 2012-Aug 31 2017
Divisional Staff

**Division Head**
- Dr. Felix Ratjen

**Full-Time**
- Dr. Reshma Amin
- Dr. Sharon Dell
- Dr. Hartmut Grasemann
- Dr. Theo Moraes
- Dr. Indra Narang
- Dr. Melinda Solomon
- Dr. Padmaja Subbarao
- Dr. Neil Sweezey
- Dr. Suhail Al-Saleh

**Part-Time**
- Dr. Peter Bikangaga
- Dr. Joanna Massam
- Dr. Charlotte Miller

**Clinical Fellows**
- Dr. Ahmad Almosawi
- Dr. Salman Al-Khalifa
- Dr. Mansour Al-Qwaiee
- Dr. Hani Al-Saleh
- Dr. Zoe Nugent

**Subspecialty Residents**
- Dr. Sundeep Bola
- Dr. Jackie Chiang
- Dr. Tamizan Kherani
- Dr. Sarah Kwon
- Dr. Neha Sharma

**Administrative Staff**
- May Brydges (*mat leave until January 2013*)
- Natasha Lalji
- Jeff Patton
- Beverley Nutt
- Victoria Snell

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**Modulation by sex hormones of inflammation and susceptibility to Pseudomonas aeruginosa in cystic fibrosis airways.** Sweezey N. Cystic Fibrosis Canada (formerly Canadian Cystic Fibrosis Foundation, CCFF) $90,000 CAD. Apr 01 2011-Mar 31 2014

**Modulation of pulmonary L-arginine metabolism by endogenous NOS inhibitors in cystic fibrosis.** Grasemann H. Cystic Fibrosis Canada. $170,000 CAD. Apr 01 2011-Mar 31 2013


**Pathogenesis of serious infections with influenza: Role and mechanisms of microvascular leak.** Moraes T. Physicians’ Services Incorporated Foundation. $170,000 CAD. Jun 01 2012-May 31 2013

**Randomized, double-blind, placebo-controlled parallel-group trial to confirm the efficacy after 12 weeks and the safety of tiotropim 5 μg administered once daily via the Respimat® device in patients with cystic fibrosis.** Ratjen F. Boehringer-Ingelheim. $ 5,023 CAD. Apr 01 2011-Mar 31 2015

**Sleep disorders in paediatric dialysis.** Amin R, Harvey E, Narang I, Al-Mokali K. Pediatric Consultants Creative Professional Activity Grant, The Hospital for Sick Children. $9,520 CAD. May 01 2012-Apr 30 2013

**T cell responses to RSV (Respiratory Syncytial Virus).** Moraes T. Canadian Institutes of Health Research and The Hospital for Sick Children Research Institute, $300,000 CAD. Apr 01 2011-Mar 31 2014

**The Canadian Health Infant Longitudinal Development (CHILD) Study.** Grasemann H. Canadian Institutes of Health Research. $12,000,000 CAD. Dec 01 2007-Mar 31 2013

**The development of a tool to assess caregiver knowledge and skills needed to safely care for children receiving invasive long-term mechanical ventilation at home.** Amin R, Rose L, Nonoyama M, Parshuram C, Syed F, Roy M, Lim A. Norm Saunders Complex Care Initiative. The Hospital for Sick Children. $30,000 CAD. Nov 01 2012-Oct 31 2013

**The evaluation of childhood narcolepsy.** Narang I. Wake Up Narcolepsy. $5,800 CAD. Nov 4 2012-Nov 3 2014

**The impact of developmental deficiency of Lgl1 on long term respiratory risk.** Kaplan F, Sweezey N. Canadian Institutes of Health Research. $776,484.00 CAD. Apr 01 2011-Feb 29 2016

**Validation of an ambulatory sleep monitoring device for diagnosis of OSA.** Narang I, Massicotte C, Zweerink S, Bola S. The Hospital for Sick Children, $9,170 CAD. Apr 17 2012-Apr 16 2013
Our program offers a comprehensive range of services for the evaluation and treatment of children with a vast range of paediatric rheumatic and inflammatory diseases.
The Division of Rheumatology provides comprehensive care for children with rheumatic diseases. The ambulatory clinics have approximately 5,500 patient visits a year at SickKids. In addition to the general rheumatology clinics, there are unique multidisciplinary subspecialty clinics for children with autoinflammatory diseases, dermatomyositis, inflammatory brain disease, morphea, systemic JIA, systematic and neonatal lupus erythematosus, spondylitis, and vasculitis. Many children have benefited from treatments in the medical day care unit, where patients receive joint injections and therapeutic infusions or undergo investigations that would normally require inpatient admission.

Our program offers a comprehensive range of services for the evaluation and treatment of children with a vast range of paediatric rheumatic and inflammatory diseases. Rheumatology provides clinical care and undertakes research studies in systemic inflammatory disorders and inflammatory diseases of the bones and joints.

The Division of Rheumatology has one of the largest paediatric rheumatology fellowship training programs in North America and is fully accredited by the Royal College of Physicians and Surgeons of Canada. In April 2013 the Division of Rheumatology underwent accreditation. The program passed and received full and unconditional approval from the Royal College.

HONOURS AND AWARDS

Benseler S: Young Investigator Award 2013, Canadian Rheumatology Association, 2013.

Feldman B: The Inaugural Chair Holder, the Ho Family Chair in Autoimmune Diseases, 2013

Schneider R: First Runner-Up for the first annual Faculty Mentorship Award for excellence in faculty mentorship, SickKids, 2013.


PUBLICATIONS


The success of the transplant programs can be attributed to strong contributions by interdisciplinary team members from occupational and physiotherapy, nutrition, social work and pharmacy.
CENTRE MEMBERSHIP
The Transplant and Regenerative Medicine Centre is comprised of a diverse membership that supports the transplant programs and regenerative medicine research. The Clinical Teams include members of the Departments of Nephrology, Gastroenterology, Hepatology & Nutrition, Cardiology, Respiratory Medicine, Psychiatry, Psychology, General Surgery and Infectious Diseases. The success of the transplant programs can be attributed to strong contributions by interdisciplinary team members from occupational and physiotherapy, nutrition, social work and pharmacy. Regenerative Medicine membership includes scientists and researchers who primarily work in the Developmental and Stem Cell Biology research program. The program and its members seek to translate fundamental discoveries into diagnostic and therapeutic strategies.

TRMC OVERVIEW
The Transplant and Regenerative Medicine Centre (TRMC) remains one of the busiest transplant centres in North America with patient survival rates in the top 10 per cent of transplant programs worldwide. The Centre provides the best in complex and specialized care through scientific and clinical research, sharing knowledge and expertise, and advocating for children requiring transplant care. In early 2012 the Centre changed its name from the Transplant Centre to the Transplant and Regenerative Medicine Centre. Over the past year progress has been made to integrate transplantation and regenerative medicine.

The steering committee developed a new vision statement for the Centre that more accurately reflects short- and long-term goals: “Today, enhancing transplantation. Tomorrow, repairing tissues and organs with stem cells and regenerative medicine.” To foster collaboration and exchange of ideas a Research Forum was held on May 9, 2013. Centre members presented project ideas for 1-2 research awards of up to $125,000/year for two years provided by the centre to support innovative research that will impact patient care within the next five years.

RESEARCH HIGHLIGHTS
The TRMC is internationally recognized as one of the most research intensive transplant centres in North America. Centre research continues to be supported by major funding agencies; over $3 million in external grant funding was received this year. In April 2013, the Federal Government announced its support for transplantation research through a national initiative, the Canadian National Transplant Research Program (CNTRP). The program brings together 105 investigators across nine provinces and over $10 million in funds to support transplantation research. Under the direction of Dr. Seema Mital and co-lead Dr. Upton Allen, SickKids is leading the paediatric arm of the program that will manage a $1.5 million budget to demonstrate that by analyzing urine samples, they will reduce the number of biopsies and improve the health and long-term kidney function of children with a kidney transplant.

SickKids Liver Transplant Program is the only non-US funded site as part of a highly innovative National Institutes of Health (NIH) funded study “Immunosuppression Withdrawal for Stable Paediatric Liver Transplant Recipients” (iWITH) study. Patient recruitment has begun for this multi-site (12 sites) clinical trial. The iWITH study aims to assess the safety, feasibility, and immunological mechanisms for patients who can safely discontinue their daily immunosuppression medication.

CLINICAL HIGHLIGHTS
SickKids TRMC continues to be a leader in groundbreaking clinical care; achievements over the past year highlight the centre’s dedication to patient care and innovative treatments, SickKids’ Transplant and Regenerative Medicine Centre partnered with UHN and TQLN to propose a Paediatric Vascular Allograft Transplant Program (limb and face transplantation) to the Ministry of Health and Long Term Care (MOHLTC); the first of its kind in North America. Centre members are leading this interdepartmental collaborative initiative at a city-wide level to also provide this therapy for adults.

In 2011 the Lung Transplant Program completed the world’s first ABO incompatible lung transplant (non blood match) in an infant. This past year the program completed its second ABO incompatible lung transplant in an infant. This transplant method allows patients to receive life-saving transplants regardless of their blood type; transplants that may have not occurred if not for the groundbreaking research conducted at SickKids.
To educate SickKids staff and community practitioners Pre- and Post-Transplant Immunization Protocols were developed by a TRMC working group in partnership with Infectious Diseases. These state-of-the-art protocols were launched in September 2012 and are available electronically to community practitioners who care for transplant patients. The protocols have also been presented at academic forums. This tool is an example of how the TRMC is reaching beyond our four walls to educate our community partners who care for transplant patients. The protocols have also been presented to community practitioners who care for transplant patients. The protocols have also been presented to community practitioners who care for transplant patients. September 2012 and are available electronically.

ADVOCACY HIGHLIGHTS

In addition to research, care and education, the TRMC works with community partners to advocate for our patients. This past year was the second year for the highly successful High School Outreach Initiative (HSOI). Led by Dr. Vicky Ng, this unique teen-focused initiative partners the three Toronto transplant hospitals (SickKids, UHN and St. Michael’s Hospital) and Trillium Gift of Life Network with the ultimate aim to educate Toronto youth about the importance of organ donation and transplantation. During the 2012/2013 academic year, over 30 health-care professionals from three Toronto transplant hospitals (SickKids, UHN and St. Michael’s Hospital) participated and over 12,000 students have been heard the important message about organ donation and transplantation.

HONOURS AND AWARDS


Allen U: Recipient of the Vice Chancellor’s Award presented by the University of the West Indies. Toronto, Ontario. May 2013.


Konidis S: (Supervisor: V. Ng) Winner of the Canadian Society of Transplantation (CST) Travel Award. Lake Louise, Alberta, Canada. March 2013.


PUBLICATIONS


DIVISIONAL STAFF

DIVISIONAL STAFF

GRANTS AND FUNDING


Induced pluripotent stem cell models of Alagille syndrome. Kamath B, Ghanekar A, Alagille Syndrome Alliance. $50,000 CAD.


Ischemia reperfusion injury therapeutic Agonistic II Robo 1 antibody. Robison L, MaRS Innovation 2012 Proof of Principle Program. $100,000 CAD. 2012-2013


Personalized medicine in the care of the child with heart disease: Discovery to application. Mital S, CIHR Planning Grant. $23,500. 2012 Nov 1-2013 Nov 1

A pilot study of frailty in children with end-stage liver disease: Moving beyond PELD. Ng VL, Kamath B, Cormier K, Patterson C, So S, Astellas Research Award. $25,000 CAD. 2013-2014


Pluripotent stem cell modeling of human bile duct development and disease. Kamath B, Ghanekar A, Astellas Investigator Initiated Grant. $49,700 CAD. 2013-2014

Regulation of leukocyte-endothelial interactions. Robinson L, Natural Sciences and Engineering Research Council of Canada. $170,000 CAD. 2012-2017


Short bowel syndrome and glucagon-like peptide-2 therapy: Actions and mechanisms studied in neonatal piglets. Turner JM, Wales PW, Brubaker R, Pencharz PB, Ball RD, Nation PN, Signalt D, Vine D, CIHR/IRSC. Operating Grant. $540,000 CAD. Apr 2013-Apr 2017

Thrombosis in pediatric heart transplant recipients and risk factors for outcomes. Dipchand A, Manholt C, CSL Behring. $5,000 CAD. 2012-2013

MEDICAL DIRECTOR
Dr. David Grant

EXECUTIVE DIRECTOR
Judy Van Cleef

TRANSPLANT FELLOWS
Dr. Lieuko Nguyen, Renal Transplant
Dr. Sandra Asner, Infectious Disease
Dr. Karolina Burghardt, Liver and Small Bowel Transplant
Dr. Ching Kit Chin, Heart Transplant

ADMINISTRATIVE STAFF
Christine Garner, Administrative Coordinator
Kathryn Breckbill, Project Coordinator
Christopher Battiston, Data Analyst
TEACHING/EDUCATION AWARDS

Dr. Bill Mounstephen
R.H.A. Haslam Preclerkship Teaching Award - to the faculty member who has demonstrated excellence in preclerkship teaching

Dr. Michael Peer
The Lionel Weinstein Clerkship Teaching Award - to the faculty member who has demonstrated excellence in clerkship teaching

Dr. Sharon Naymark
The Undergraduate Community Teaching Award - in recognition of excellence in the teaching of medical students within community-based hospitals and offices

Dr. Melinda Solomon
Harry Bain Award - to a full-time member of the Department of Paediatrics who has demonstrated excellence in teaching as nominated by core paediatric residents

Dr. Joey Bonifacio
Marvin Gerstein Award - to a part-time member of the Department of Paediatrics who has demonstrated excellence in teaching as nominated by core paediatric residents

Dr. Douglas Campbell
Postgraduate Community Teaching Award - in recognition of excellence in the teaching of paediatric residents within community-based hospitals and offices

Dr. Adam Rapoport
PERls Award (Paediatric Educational Resident Lecture Series Award) - to the faculty member who has demonstrated commitment to excellence in teaching at the Paediatric academic sessions

Dr. Yaron Avitzur
Subspecialty Teaching Award - to the faculty member who has demonstrated commitment to excellence in teaching the subspecialty residents and clinical fellows

Dr. Suzan Schneeweiss
Continuing Medical Education Award - to the faculty member who has demonstrated excellence in course coordination or teaching in a Department of Paediatrics/University of Toronto Continuing Education sponsored event

POWER AWARDS

For outstanding contributions for Postgraduate Teaching

Dr. Peter Cox
Dr. Jason Fischer
Dr. Jeremy Friedman
Dr. Elizabeth Harvey
Dr. Amish Jain
Dr. Michael Peer

FACULTY DEVELOPMENT

Dr. Patricia Parkin
Faculty Mentorship Award

CLINICAL AWARDS

Dr. Simon Ling
Richard Rowe Award for Clinical Excellence in Paediatric Medical Care - to the physician in the Department of Paediatrics who has demonstrated excellence in the delivery of clinical care in the broadest sense over a significant period of time

Dr. Carolyn Beck
Junior Faculty Award - for Clinical Excellence in Paediatric Medical Care - to a physician within the first 5-10 years of appointment to an Academic Health Sciences Centre, who has demonstrated excellence in the delivery of clinical care

Dr. Sharon Unger
Outstanding Clinical Contribution Award
CLINICAL AWARDS
Dr. Sarah Lord
The Saunders Prize - to a senior resident who has demonstrated excellence in clinical paediatrics.

RESEARCH AWARDS

CORE PAEDIATRICS
Winner: Tara Mullowney
Runner Up: Jessica Malach

JUNIOR TRAINEE – BASIC SCIENCE
Winner: Sandeep Dhillon

SENIOR TRAINEE - BASIC SCIENCE
Winner: Simon Eng
Runners up: Amit Assa, Brent Williams

SENIOR TRAINEE - CLINICAL SCIENCE
Winner: Shannon Knights
2nd place: Peter Gowdie
3rd place: Peter Church, Maian Roifman

PAEDIATRIC ADMINISTRATIVE AWARD
Sherry Joy – In recognition of an administrative support staff member in the Department of Paediatrics who has demonstrated outstanding performance and excellence in all aspects of their role. This individual possesses outstanding communication and interpersonal skills and is motivated to perform above and beyond their daily responsibilities. This award was first awarded in 2007.

RESIDENT AND FELLOW AWARDS AND ACHIEVEMENTS

TEACHING/EDUCATION AWARDS
Dr. Mohamed Eltorki (PGY3)
Dr. Michael Khoury (PGY3)
Dr. Evelyn Rosenblum (PGY4)
Christopher Ondaatje Award - to a senior resident for excellence in clinical teaching as nominated by core paediatric residents.

Dr. Melanie Ostreicher
CanMEDS Award – Core Resident

Dr. Marta Wilejto
Dr. Peter Gowdie
CanMEDS Award – Subspecialty Trainee

RESEARCH AWARDS

Dr. Orlando Carter Sneed III
Physician Research Award for Career - Excellence to recognize sustained excellence by a physician who has generated a body of work with relevance beyond a specific field of study. The awardee will be 15 or more years beyond the initial date of appointment as a faculty member in an Academic Health Sciences Centre. This award was first awarded in 2005.

Dr. Yaron Finkelstein
Junior Faculty Research Award - To recognize outstanding achievements and progress in research by a physician during the first six years after his/her initial academic appointment and whose primary appointment is in the Department of Paediatrics, University of Toronto. This award was first awarded in 2005.
ORAL PRESENTATIONS

Chan, Tiffany, Haematology/Oncology
TSP-1 alters metastatic phenotypes and chemo-radiosensitivity in medulloblastoma. T Chan, C Hawkins, D Picard, A Huang, S Pfister, E Bouffet

Kassierer, Moshe, Neonatology
Metoclopramide does not increase gastric muscle contractility in newborns. M Kassierer, J Pan, J Belik

Kearney, Sarah, Adolescent Medicine

Khoury, Michael, Core Paediatrics
Universal screening of obesity and cardiovascular risk factors in adolescents: Does it identify high risk families? M Khoury, C Manhiot, D Gibson, N Chahal, K Stearne, S Dobbin, B Mcrindle

Kim, Raymond, Clinical and Metabolic Genetics
Clinical utility of molecular genetic analysis in the diagnosis of primary ciliary dyskinesia. R Kim, K Nykamp, K Nelligan, N Jiraj, S Deghan, M Milki, D Hall, S Dell

Luca, Paola, Endocrinology
Evaluation of the SickKids team obesity management program. P Luca, E Dettmer, P Grewai, B Mcrindle, C Birken, J Hamilton

POSTER PRESENTATIONS

Abbott, Lesleigh, Haematology/Oncology
Intravenous versus intramuscular PEG-Asparaginase: which causes more allergic reactions in children being treated for acute lymphoblastic leukemia? LS Abbott, M Zakova, F Shaikh, N Shewaramani, A Punnelt, LL Dupuis

Al-Maawali, Almundher, Clinical and Metabolic Genetics
Prospective study of functional outcomes in children with cerebellar atrophy. A AlMaawali, S Blaser, YY Zhao, Q Yoon

Alphonse, Martin, Rheumatology
Kawasaki Disease (KD), an inflammasome mediated disease-Role of danger signals in modulating KD. MP Alphonse, T Duong, S Tam, RSM Yeung

Al Remeithi, Sareea, Endocrinology
Finasteride is effective in treating children with hidradenitis suppurativa: A case series in the pediatric population. S Al Remeithi, J Hamilton

Alterkait, Ahmed, Emergency Medicine
Testing the effectiveness of an internet mediated, video based, educational networking instrument in preparing trainees for simulation-based teaching of fundamental technical skills: A randomized control study. A Alterkait, J Cheung, J Pirie, B Kapnalias, A Dubrowski

Andrade, Andrea, Neurology
Malignant middle cerebral artery infarction in children. A Andrade

Assa, Amit, Gastroenterology/Hepatology/Nutrition
Vitamin D prevents bacterial pathogen-induced intestinal epithelial barrier dysfunction in vitro. A Assa, L Yong, J Pinnell, H Chanchua He, K Johnson-Henry, PM Sherman

Baciu, Christina, Haematology/Oncology
ZMAT3, a signature gene for sporadic osteosarcoma? C Baciu, R Porat, M Pienkowska, N Alon, J Wasserman, D Malkin

Bahm, Allison, Endocrinology
Banihani, Rudaina, Developmental Paediatrics
Cognitive and neurobehavioural profile and its relation with genotype mutation in boys with Duchenne muscular dystrophy. R Banihani, S Smile, A Snider, L McAdam

Barsalou, Julie, Rheumatology

Bigi, Sandra, Neurology
2010 McDonald criteria in a pediatric cohort: Is positivity at onset associated with a more aggressive MS course? S Bigi, RA Marrie, L Verhey, EA Yeh, B Banwell

Borik, Sharon, Cardiology
Percutaneous pulmonary valve implantation: 5 years of follow up. S Borik, A Crean, EM Horlick, M Osten, K Murphy, K Bassil, P Shah, A Crean, EM Horlick

Bulatovic-Stajkovic, Sladjana, Neonatology
Impact of antenatal corticosteroids on respiratory morbidity of late-preterm infants. S Bulatovic-Stajkovic, K Murphy, K Bassil, P Shah

Burghardt, Karolina, Gastroenterology/
Hepatology/Nutrition
Relavance of intestinal transplant criteria in the new era of specialized care for intestinal failure. KM Burghardt, PW Wales, N de Silva, D Grant, Y Avitzur

Chakravarty, Aparna, Infectious Diseases
Intrathoracic tuberculosis in adolescents, Toronto, Canada. A Chakravarty, J Pando Kelly, W Pongsamarat, R Lam, F Jamieson, I Kital

Chan, Tiffany, Haematology/Oncology
TSP-1 alters metastatic phenotypes and chemo-radiosensitivity in medulloblastoma. T Chan, C Hawkins, D Picard, A Huang

Chaudhry, Shahnaz, Clinical Pharmacology and Toxicology
An education based intervention study for reducing CNS depression among neonates exposed to codeine through breast milk. SA Chaudhry, LE Kelly, M Rieder, G T’Jong, M Monreelt, A Lausman, C Ross, H Berger, B Carleton, MR Haydon, P Madadi, G Koren

Cheng, Sylvia, Haematology/Oncology
Early deaths in pediatric acute leukemia: A population-based study. S Cheng, J Pole, L Sung

Church, Peter, Gastroenterology/
Hepatology/Nutrition
Infliximab treatment for paediatric Crohn’s disease: Long-term outcomes at a single centre. P Church, J Guan, K Frost, A Muise, T Walters, A Griffiths

Davis, Adrienne, Emergency Medicine
The big score and pre-hospital resuscitation as predictors of mortality in pediatric trauma. A Davis, P Wales, D Stephens, S Schuh

Deshpande, Poorna, Neonatology
Effect of phenobarbitone on amplitude integrated electro-encephalography (aEEG) in newborn infants undergoing therapeutic hypothermia for hypoxic ischemic encephalopathy. P Deshpande, A Jain, M Keyzers, P McNamara

Desjardins, Marie-Pier, Emergency Medicine
Parents’ perceptions and understanding of educational emergency point-of-care ultrasound examinations performed in the paediatric Emergency Department: A survey. MP Desjardins, C Kwan, T Solano, JW Fischer

Dhillon, Sandeep, Gastroenterology/
Hepatology/Nutrition

Dos Santos, Joana, Nephrology
Development of a systematic approach for the management of antenatal hydronephrosis in children. J Dos Santos, V Figueroa, H Zhang, W Farhat, R Parekh, T Piscione, N Rosenbloom

El Gouhary, E, Haematology/Oncology
Diaphragm electrical activity (EAdi) in preterm infants treated with nasal continuous positive airway pressure (CPAP) versus High Flow Nasal Cannula. E El Gouhary, N Nasef, P Schurr, M Reilly, J Beck, M Dunn, E Ng

Elmekkawi Mohamed, Amir, Neonatology
Outcomes of upper extremity versus lower extremity placed percutaneously inserted central catheters in a medical-surgical neonatal intensive care unit. A Elmekkawi Mohamed, H Mauili, W Mak, KS Lee

Eng, Simon, Rheumatology
Using computational learning to distinguish clinically and biologically homogeneous patient subgroups in juvenile idiopathic arthritis. SWM Eng, Q Morris, RSM Yeung on behalf of the ReMaCh OUT Consortium.

Fayea, Najwa, Haematology/Oncology

Feigenberg-Inbar, Michal,
Clinical and Metabolic Genetics
Defining novel molecular etiologies for Russell Silver (RSS) syndrome-like patients. M Feigenberg-Inbar, C Sanaa, D Grafodatskaya, BHY Chung, C Ceyrynbaum, W Roberts, R Weksberg

Fuller, Anne, Core Paediatrics
Food insecurity, nutrition and body mass in early childhood: A Target Kids! Study. AE Fuller, CS Birken, PC Parkin, JL Maguire, Y Chen, S Carsley, M Khoiratovich

Elkhateeb, Omar, Neonatology
Standard vs. extensive delivery room resuscitation in extremely premature infants at the limits of viability: A comparison of outcomes. O Elkhateeb, K Sankaran, P Shah, KS Lee

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Using computational learning to distinguish clinically and biologically homogeneous patient subgroups in juvenile idiopathic arthritis. SWM Eng, Q Morris, RSM Yeung on behalf of the ReMaCh OUT Consortium.
Gowdie, Peter, Rheumatology
Patterns of neurocognitive function in children with CNS vasculitis: Effects of age and disease subtype. P Gowdie, M Twilt, P Tyrrell, R Westmacott, T Cellucci, S Sheikh, N Blanchette, S Benseler

Hakak, Hamid, Neonatology
Oxygen saturation profile measured over 6 hours in healthy term and late preterm neonates after 12 hours of age. HM Hakak, AA Mohamed, J Shah, E Kelly, J Young, PS Shah

Harrington, Jennifer, Endocrinology
The effect of glucocorticoids on bone indices in children with rheumatic and oncological conditions. J Harrington, M Gynpas, E Sochett

Hasija, Rachana, Rheumatology

Hayes, Wesley, Nephrology
Eculizumab hepatotoxicity: when to change therapy? Hayes Wesley, Nephrology

Heale, Liane and Zahanova, Stacy, Core Paediatrics
Pot’s puffy tumour in a pediatric patient. L Heale, S Zahanova, Z Bismilla

Isayama, Tetsuya, Neonatology
Avoidance of maternal cigarette smoking on very preterm infants in Canada. T Isayama, XY Ye, M Dunn, O Da Silva, R Alvaro, PS Shah, SK Lee

Johnstone, Julie, Paediatric Medicine

Jones, Kevin, Neurology
Vigabatrin versus prenilsone in the first line treatment of infantile spasms. K Jones, C Go, J Boyd, OC Sneed III

Jougeheh Doust, Soghra, Clinical and Metabolic Genetics

Karp, Natalya, Clinical and Metabolic Genetics
Pulmonary venoocclusive and restrictive disease in a female with Myhre syndrome due to the common SMAD4 mutation: proposal of a pathogenic mechanism. N Karp, P Kannu, E Cruz, V Cormier-Daire, L Depuis, Y Wang, A Hinek

Kassierer, Moshe, Neonatology
Metoclopramide does not increase gastric muscle contractility in newborns. MY Kassierer, J Pan, J Belik

Katz-Lavigne, Mikael, Paediatric Medicine
Priority setting in pediatric preventive care research. M Katz-Lavigne, A Laupacis, C Birken, J Maguire, S Strauss

Kearney, Sarah, Adolescent Medicine

Keir, Amy, Neonatology
Effect of co-infusion of dextrose-containing fluids and packed red blood cells on markers of red cell integrity. A Keir, A Hansen, J Callum, R Jankov, J Ackel

Khan, Sarah, Infectious Diseases
Evaluation of current methods for the diagnosis of catheter-related blood stream infections at The Hospital for Sick Children, S Khan, M Science, S Richardson

Khoury, Michael, Core Paediatrics
Universal screening of obesity and cardiovascular risk factors in adolescents: Does it identify high risk families? M Khoury, C Manlhiot, D Gibson, N Chahal, K Stearne, S Dobin, MW Mcrindle

Kim, Raymond, Clinical and Metabolic Genetics
Clinical utility of molecular genetic analysis in the diagnosis of primary ciliary dyskinesia. RH Kim, K Nykamp, K Nelligan, N Jivraj, SD Marshadhi, M Miki, D Hall, S Dell

Kitney, Lauren, Core Paediatrics
Balance in residency: Understanding how residents conceptualize balance. L Kitney, A Atkinson, K Leslie

Kirtsman, Maksim, Neonatology
The association of nil-per-os days and the development of necrotizing enterocolitis in infants born between 23 and 28 weeks of gestation. M Kirtsman, W Yoon, Z Cieslak, O Dah, SK Lee, PS Shah

Knights, Shannon, Developmental Paediatrics
The impact of an interactive computer multi-player exergame cycling program on physical fitness and health related quality of life in youth with GMFCS level III cerebral palsy. S Knights, N Graham, L Swiss, B Findlay, Z Ye, H Hernandez, D Fehlings

Koelink, Eric, Emergency Medicine
From the Emergency Department to a community office-primary care physician follow up of buckle fractures of the distal radius. E Koelink, K Boutis

Korah, Nadine, Paediatric Medicine
Quality improvement project to reduce the incidence of peripheral intravenous infusions at The Hospital for Sick Children. N Korah, L Mack, K Langrish, E Cohen, T Coffey

Kordy, Faisal, Infectious Diseases
The utility of gastric aspirate in diagnosing tuberculosis in children. F Kordy, I Kitai, F Jamieson, SE Richardson

Kumar, Maya, Adolescent Medicine
Is housing strategy associated with sexual health among Toronto street-involved youth? MM Kumar, R Nisenbaum, K Nykamp, K Nelligan, N Jivraj, SD Marshadhi, M Miki, D Hall, S Dell

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The role of imaging in detecting relapse in patients with neuroblastoma: Can post-therapy surveillance programs be simplified to decrease radiation exposure? B Li, C Owens, K Ashraf, F Shaikh, D Mills, S Baruchel, K Thomas, MS Irwin

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Luca, Nadia, Rheumatology
Cost-effectiveness analysis of early biologic treatment in polyarticular juvenile idiopathic arthritis. NJ Luca, H Burnett, W Ungar, T Beukelman, BM Feldman, G Schwartz, A Bayoumi

Luca, Paola, Endocrinology
Evaluation of the SickKids Team Obesity Management Program. PD Luca, E Dettmer, P Grewal, BW McCrindle, CS Birken, JK Hamilton

Malach, Jessica, Core Paediatrics
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Marjerrison, Stacey, Haematology/Oncology
Outcome of children treated for relapsed acute myeloid leukemia in Central America. S Marjerrison, F Artillion, L Fu, R Martinez, R Vasquez, M Bonilla, SC Strantzas, R Gladstone, MB Tropak, C Manihiot, J Li, AN Redington

Mishra, Navin, Neurology
Clinical delineation of pantothenate kinase associated neurodegeneration. N Mishra, K Joshi, S Mathmatougli, W Logan, T Soman

Mistry, Niraj, Paediatric Medicine
Parental perceptions of the pharyngitis clinical prediction rule: a qualitative study. N Mistry, J Maguire, C Simpkins, S Porter, S Straus

Merglren, Arnaud, Paediatric Medicine
Predictors of subsequent anti-reflux procedure after gastrostomy tube in children with neurologic impairment. A Merglen, K Nelson, A Ragone, B Connolly, E Cohen, S Mahant

Merino, Diana, Haematology/Oncology
Identification of molecularly and clinically distinct subgroups of choroid plexus carcinomas using an integrative high-throughput approach. DM Merino, A Shielen, M Plenkowska, U Tabori, R Gilbertson, D Malik

Merlocco, Anthony, Core Paediatrics
Transcutaneous nerve stimulation as a novel method of remote preconditioning: Validation in an animal model and first human observations. A Merlocco, KL Redington, T Disenhous, SC Strantzas, R Gladstone, C Wei, MB Tropak, C Manihiot, J Li, AN Redington

Moalem, Sharon, Clinical and Metabolic Genetics
A truncating mutation in SOD18 dramatically impairs renal function in the Hypotrichosis-Lymphedema-Telangiectasia Syndrome. S Moalem, P Brouillard, D Kuypers, E Legius, E Harvey, M Francois, M Vithakula, D Chitayat

Morgenstern, Daniel, Haematology/Oncology
Novel kinase inhibitors for neuroblastoma therapy: Inhibitors of TAK1, WEE1 and PI3 kinase. DA Morgenstern, M Podkowa, L Cheng, MS Irwin

Motala, Zainab, Haematology/Oncology
The role of estrogen receptor signaling in rhadobromyosarcoma. Z Motala, K Chen, D Malik

Mukerji, Amit, Neonatology
Use of non-invasive high frequency oscillatory ventilation in the neonatal intensive care unit: A retrospective review. A Mukerji, B Singh, S EI Helou, C Fusch, M Dunn, J Belik, V Shah

Mullowney, Tara, Core Paediatrics
Chest x-ray findings distinguish POCD from other causes of term neonatal respiratory distress. T Mullowney, S Dell, D Manson, V Shah

Nelson, Katherine, Paediatric Medicine

Neuman, Gal, Clinical Pharmacology and Toxicology

Noone, Damien, Nephrology
Validation of the new histopathological classification of anca glomerulonephritis and its association with renal outcomes in a paediatric population. D Noone, M Twilt, W Hayes, S Benseler, P Thorner, R Parekh, R Laxer, D Hebert

Olaf, Mohammed, Rheumatology
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Payne, Eric, Neurology
Detecting seizures among comatose critically ill children: interim results from a prospective multicentre trial. ET Payne, K McBain, J Hutchison, C Parschuram, C Sneed, R Sharma, YT Zhao, H Fridova, M Wilkinson, M Dennis, NS Abend, WB Gallentine, KB Nash, CD Hahn

Pugh, Edward, Neonatology
Classifying neonatal spells using real-time temporal analysis of physiological data streams - verification tests and preliminary algorithm refinement. JE Pugh, A Thonnandram, C McGregor, M Eklund, I Narang, E Ng, J Belik, A James

Rachlis, Alisa, Rheumatology
Validation of BASDAI and BASFI in children with Spondyloarthritis. AC Rachlis, M Batishhish, B Wong, M Anderson, BM Feldman, RM Laxer, J Marczuy, M Raumea, K Whitney-Mahoney, SML Tse

Roifman, Maian, Clinical and Metabolic Genetics
Genome-wide placental DNA methylation analysis of severely growth-discordant monozygotic monochorionic twins reveals novel IUGR candidate genes. M Roifman, S Choufani, S Drewlo, S Keating, J Kingdom, R Weksberg

Rolnitsky, Asaph, Neonatology

Rumsey, Dax, Rheumatology
Ischemic reaction secondary to corticosteroid injection. D Rumsey, M Temple, G Borschel, S Tse

Sakhuja, Pankaj, Neonatology
Sceptic- Survey of challenges encountered in placement of endotracheal tubes in Canadian NICUs. P Sakhuja, M Finelli, J Hawes, W Whyte, E Finan

Schwartz, Kevin, Infectious Diseases
Complicated clostridiun difficile infection is uncommon in children. KL Schwartz, I Darwish, SE Richardson, MR Mulvey, N Thampi
Shamrakov, Leanne, Core Paediatrics
Taking it to the streets: Toronto street-involved youth and barriers to access of health services. L Shamrakov, SA Klar, L Fang, R Nisenbaum, M Wekeses, T Barozzino

Shah, Jyotsna, Neonatology

Simone, Laura, Core Paediatrics
Which pediatric blunt trauma patients do not require pelvic radiographs? M Haasz, L Simone, P Wales, S Beno, D Stephens, S Schuh

Sin-Chan, Patrick, Haematology/Oncology
Tumour metabolism as a therapeutic target in a highly malignant childhood brain tumour. P Sin-Chan, T Spence, A Narendran, J Chan, A Huang

Spence, Tara, Haematology/Oncology

Torchia, Jonathon, Haematology/Oncology

Tran, Thai Hoa, Haematology/Oncology

Tsouka, Alexandra, Endocrinology
Type 1 diabetes and Celiac disease: Associated comorbidities and complications. A Tsouka, M Marcon, E Aszer, FH Mahmud

Vincour, Jeffrey, Cardiology
Transesophageal electrophysiology study, but not fetal echo findings, can guide post-natal management of pre-natal SVT. JM Vincour, R Clegg, GJ Gross, E Jaeggi

Weerdenburg, Kirstin, Emergency Medicine
Parental knowledge of concussion. K Weerdenburg, E Koo, K Boutis, S Schneeweiss

Weidman, Danielle, Core Paediatrics
Dose-level response rates of MTOR inhibition with Rapamycin in tuberous sclerosis complex (TSC) related subependymal giant cell astrocytoma (SEGA). D Weidman, E Bouffet, M Taylor, U Bartels

Wilejto, Marta, Haematology/Oncology
Developing a learner-centred CanMEDS curriculum for subspeciality training programs: Experience from pediatric hematology/oncology. M Wilejto, C De Souza, A Punnell

Williams, Brent, Haematology/Oncology
Irradiated NK-92 targets AML leukemic stem cells in vivo and gene modified CD16+NK-92 mediates antibody dependent cell mediated cytotoxicity (ADCC) against CD123+targets in vitro and in vivo. BA Williams, XH Wang, S Maghera, JV Leyton, RM Reilly, A Heating

Weisz, Dan, Neonatology
Non-invasive cardiac output monitoring (NICOM) in preterm infants post patent ductus arteriosus ligation: A comparison with echocardiography. DE Weisz, A Jain, PJ McNamara, A EL-Khuffash

Zborovski, Stephen, Core Paediatrics
Quality improvement programs: What is being measured across Ontario in academic pediatric centres and high pediatric volume community hospitals. S Zborovski, A Guttmann

Zhukova, Nataliya, Haematology/Oncology

Zubairi, Mohammad, Developmental Paediatrics
Building a simulation to teach culturally competent communication skills to healthcare professionals caring for children with cerebral palsy. MS Zubairi, S Lindsay, A Kawamura
CHIEF RESIDENTS – PGY4
Dr. Evelyn Rozenblyum
Dr. Laila Nurmohamed

ASSOCIATE CHIEF RESIDENTS – PGY4S
Dr. Khaled Ali
Dr. Justine Cohen-Silver
Dr. Kamal Eltogy
Dr. Shayan Somani
Dr. Kate Verbeeten

THIRD YEAR RESIDENTS – PGY3
Dr. Yasser Al Nasser
Dr. Kate Amiel
Dr. Sanjukta Basak
Dr. Lauren Chad
Dr. Jennifer Das
Dr. Mohamed Eltorki
Dr. Anne Fuller
Dr. Jessica Gantz

SECOND YEAR RESIDENTS – PGY2
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Dr. Mariel Heller
Dr. Rebecca Levy
Dr. Arnold Jacob
Dr. Michael Khoury
Dr. Lauren Kitney
Dr. Sarah Lord
Dr. Anthony Merlocco
Dr. Tara Mullahney
Dr. Alexandra Pennal
Dr. Kate Runkle
Dr. Amy Shafey
Dr. Leanne Shambrakov
Dr. Laura Simone
Dr. Michelle Simonelli
Dr. Joseph Wiley

PAEDIATRIC HOUSE STAFF

FIRST YEAR RESIDENTS – PGY1
Dr. Erica Burry
Dr. Jovian Collins
Dr. Mallory Downie
Dr. Madeline Drake
Dr. Liane Heale
Dr. Andrew Helmers
Dr. Samantha Irwin (Neuro)
Dr. Elizabeth Kouzmitcheva (Neuro)
Dr. Bryan Li
Dr. Lillian Lim
Dr. Ursula Madej
Dr. Amber Makino
Dr. Jessica Malach
Dr. Kamini Raghuram
Dr. Fatima Razik
Dr. Holden Sheffield
Dr. Ryan Smith
Dr. Shazeen Suleman
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Dr. Soumitra Tole
Dr. Daniela Weidman
Dr. Stacey Zahanova

Dr. Jenna Doig
Dr. Andrea Evans
Dr. Jennifer Galle
Dr. Michael Hill
Dr. Andrea Human
Dr. Joanna Humphreys
Dr. Carolyn Lai (neuro)
Dr. Anya McLaren
Dr. Rachel Markin
Dr. Kevan Mehta
Dr. Luis Murguia
Dr. Maryam Nabavi (neuro)
Dr. Melanie Ostreicher
Dr. Jonathan Rayment
Dr. Daniel Rosenfield
Dr. Julia Sharp
Dr. Jennifer Smith
Dr. Margaret Wolfe-Wylie
Dr. Elizabeth Yeboah
Dr. Stephen Zborowski
Dr. Kim Zhou
Grand Rounds should represent the very best of an academic clinical department. This year was no different for the Department of Paediatrics. These weekly sessions are dedicated to presenting state-of-the-art knowledge in topics relevant to child health from multiple perspectives.

The Grand Rounds Committee for the academic year 2012-2013 was chaired by Ron Laxer and included Eyal Cohen, Elizabeth Donner, Marvin Gans, Jamie Hutchison, Laila Nourimand, Evelyn Rozenblyum, Rayfel Schneider, Lillian Sung and Neil Sweezy. The committee seeks input from members of the department, as well as the hospital at large, to develop an exciting series of presentations for the academic year (see list below). The summer Grand Rounds series coordinated by the chief residents allows senior trainees and subspecialty fellows to provide updates within specific specialties and sub-specialties. This year the Committee developed an electronic evaluation system which provides feedback not only to the speakers but also the Grand Rounds Committee for future planning. We wish to thank Sharon Ferrari for her assistance in the development of this important tool.

The sessions entitled “Daneman and Friends” continue to be a highlight of the program. For these Rounds, our Department Chair invites several staff to address a specific theme. As in past years, the Chief Residents’ Rounds, entitled “Cases from the Ward” remain a highlight where three to four senior paediatric residents present unique cases that they have come across.

Professors’ Rounds are delivered by individuals who have been promoted to full professor in the Department of Paediatrics in the previous year. This past year Professors’ Rounds were covered by Drs. Jeremy Friedman, Irena Nulman, Rayfel Schneider and Rae Yeung. Named lectureships continue to be an important component of the Grand Rounds program. This past year, Dr. Michael Moftiatt, Executive Director of Research and Applied Learning for the Winnipeg Regional Health Authority and Professor of Paediatrics at the University of Manitoba, delivered the Harry Bain Lecture. The Robert H. A. Haslam Lecture was given by Dr. Rayfel Schneider from SickKids and Dr. Rob Pieters from the Netherlands gave the Daniel Burton Leukemia Lecture. The Andrew Sass-Kortsak Award Lecture awards a senior trainee in the Research Institute. This year’s winner, Dr. Jing Wang, discussed her work on how brain development affects brain repair. Professor Inderjeet Dokal from the Queen Mary University of London gave the Laski Lecture describing his work on telomereopathies. The Barsky Mitochondrial Lecturer was Dr. Patrick Chinnery from Newcastle. Dr. Aviva Goldberg from Winnipeg presented the Christine Harrison Lecture on Bioethics. Dr. Reg Sauve from the University of Calgary gave the Barry Smith Lecture discussing outcomes of neonatal care. Dr. Anthony Levinson from McMaster gave Grand Rounds as part of this year’s Medical Education Day discussing evidence-based e-learning.

We were honored to be able to host Dr. Harvey Fineberg, President of the Institute of Medicine, who spoke on “Why Prevention is a Hard Sell.” His presentation was masterful with the use of only about a dozen slides, each of which had very little text but very clear and strong messages.

We were fortunate to be able to host many visitors to Grand Rounds including (in addition to those above) Chris Landrigan from Boston Children’s Hospital, Pamela Hinds from Children’s National Medical Center in Washington DC, Matthew Gillman from Harvard, Rachel Berger from the Children’s Hospital of Pittsburgh, Maureen Black from the University of Maryland, Peter Donald from Capetown, South Africa, Fernando Martinez from the University of Arizona, Luigi Notrangelo from Boston Children’s Hospital, Jim Dunn from McMaster, and Marc Ladan from Memorial Sloan Kettering in New York.

Once again, the Department of Paediatrics Grand Rounds Committee acknowledges the tremendous help and support of a number of individuals who do the vast majority of the behind-the-scenes work.
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<tr>
<td>Sep 19</td>
<td>Dr. Michael Moffatt  Executive Director, Research and Applied Learning Division, Winnipeg Regional Health Authority Bain Lecture: “Taking the Academic Health Science Centre to The Coal Race - Specialist Outreach Visits to Remote Northern Communities: What’s the Value?”</td>
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<td>Oct 3</td>
<td>Dr. Pamela Hinds  Director, Department of Nursing Research and Quality Outcomes; Associate Director, Clinical and Community Research Center, Children’s National Medical Center, Washington D.C.  “The Child’s Voice: Should we trust it?”</td>
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<td>Oct 10</td>
<td>Dr. Patrick Chinmay  Welcome Sr Fellow in Clinical Science, Professor of Neurogenetics and Honorary Consultant, Medical School, Newcastle on Tyne, UK  Barsky Mitochondrial Lecture: “Is it a mitochondrial disease – and what can we do about it?”</td>
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<td>Oct 17</td>
<td>Dr. Charles Tator  Staff Neurosurgeon, UTH  Dr. Greg Wells, Scientist, Physiology and Experimental Medicine, SickKids  “Concussions in childhood and adolescence: New information about the Diagnosis and Consequences of Concussion.”</td>
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<td>Nov 14</td>
<td>Dr. Matthew Gillman  Director, Obesity Prevention Program; Professor, Dept of Population Health; Harvard Medical School, Boston, MA  “It’s Not Just Tetralogy of Fallot”</td>
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<td>Nov 21</td>
<td>Dr. Ronel Cohn  Head, Clinical Genetics and Metabolites, SickKids  “Maintaining skeletal muscle mass: Lessons learned from hypotonia and hibernation”</td>
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<td>Nov 28</td>
<td>Dr. Denis Daneman, Dr. Astrid Guttman and Dr. Ajajuddin Siddiqi  Department of Paediatrics, SickKids; ICES and Dalhousie School of Public Health  “What determines the health of a nation’s children?”</td>
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<td>Dec 5</td>
<td>Dr. Rachel Berger  Child Protection Team, Pittsburgh Child Advocacy Center, Children’s Hospital of Pittsburgh of UPMC; Director, Child Abuse Research, Safar Center for Reuscitation Research, Associate Professor of Pediatrics, University of Pittsburgh School of Medicine  “Evidance-Based Research in Child Physical Abuse and Why You Need to Know About It”</td>
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<td>Dec 12</td>
<td>Dr. Phil Sherman  Q/ Hepatology/Nutrition  “Update on the Gut Microbiome – Implications for Child Health and Disease”</td>
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<tr>
<td>Dec 20</td>
<td>Dept Peds Fellows/Residents – Holiday Rounds  No Rounds</td>
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<td>Jan 2</td>
<td>No Rounds</td>
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<td>Jan 9</td>
<td>Dr. Umi G. Narayan, MBBS, Msc, FRCS(C)  Associate Professor of Surgery, Divisions of Orthopaedic Surgery &amp; Child Health Evaluative Sciences, SickKids, University of Toronto  “Whose Life is it Anyway? Measuring meaningful outcomes for children with severe disabilities.”</td>
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<tr>
<td>Jan 16</td>
<td>Dr. Michael Saltor  Program Head, Neurosciences and Mental Health, SickKids  “Understanding Pain Mechanisms: What’s on the Horizon”</td>
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<tr>
<td>Jan 23</td>
<td>Dr. Jeremy Friedman – Professor Rounds  Division Head, Paediatric Medicine.  Associate Chair, Dept Paediatrics  “From Turfertaf to Toronto: My accidental career in hospital paediatrics”</td>
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<tr>
<td>Jan 30</td>
<td>Drs. Evelyn Rozenblumy, Joeline Cohen-Silver, Khald Ail  Dept Peds Residents  Chief Residents: “Paediatric Cases from the Ward”</td>
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<td>Feb 6</td>
<td>Dr. Rae Young – Professor Rounds  Rheumatology, SickKids  “Dissecting the perfect storm – Novel insights from immuneneuroligics and implications for the management of Kawasaki Disease”</td>
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<td>Feb 13</td>
<td>Dr. Maureen Black  Professor, School of Medicine, University of Maryland Epidemiology and Public Health  “Building Healthy Growth Patterns From The Start”</td>
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<td>Feb 20</td>
<td>Daneman and Friends: Dr. Steve Miller, Moderator  Dr. Emily Tam, Dr. John Skld, Dr. Ann Yeh  Participants: Division of Neurology, SickKids  “The Developing Brain: Vulnerable or Resilient?”</td>
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<td>Feb 27</td>
<td>Professor Peter Donald  Emeritus Professor, Dept Pediatrics And Child Health, Faculty of Health Sciences, Stellenbosch University, South Africa  “Multidrug-resistant and extremely drug-resistant tuberculosis meningitis developing while on antitu- berculosis therapy, Diagnosis and Management”</td>
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<td>Mar 6</td>
<td>Dr. Reg Sauve  Professor of Pediatrics and Community Health Sciences at the University of Calgary  Barry Smith Lecture: “Ongoing Outcome Results to Improve Care”</td>
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<td>Mar 13</td>
<td>March Break – No Rounds</td>
</tr>
<tr>
<td>Mar 20</td>
<td>Dr. Harvey Fineberg  President, Institute of Medicine, National Academies, Washington DC  “Why Prevention is a Hard Sell”</td>
</tr>
<tr>
<td>Mar 27</td>
<td>Dr. Anthony Levinson  Department of Psychiatry, McMaster University, Hamilton  Medical Education Day: Evidence-based e-Learning: Theory and Practice of Web-based Education and Training”</td>
</tr>
<tr>
<td>Apr 3</td>
<td>Dr. Greg Wilson, Pathology; Dr. Theo Mars, Respiratory Medicine; Dr. Richard Heggie, DPLM  SickKids  Clinical Pathology Conference</td>
</tr>
</tbody>
</table>
The Department of Paediatrics believes that education underpins excellent clinical practice. This report serves to recognize the dedication of our education leaders, our teachers and our educators. It celebrates their achievements and outlines promising new directions for research, innovation, teaching and development in medical education.

This past year was a stellar year for Education in our Department. The Royal College of Physicians and Surgeons of Canada gave full accreditation to all our training programs.

From April 7-12th 2013, the University of Toronto and its affiliated hospitals hosted the once-every-six-year on-site accreditation review of Postgraduate Medical Education Residency Programs by the Royal College of Physicians and Surgeons of Canada and the College of Family Physicians of Canada. The process involves continuous quality improvement of accreditation. The accreditation assesses adherence to two types of standards: “A” standards relate to institutional requirements, while “B” standards apply specifically to the residency programs, including the teaching and evaluation of CanMeds competencies (Medical Expert as well as Communicator, Collaborator, Health Advocate, Manager, Professional, Scholar) in each program.

Each training program director (TPD) completed a Pre-Survey Questionnaire well in advance of the site visit. This survey together with a survey of the residents by the Canadian Association of Interns and Residents (CAIR) forms the basis for the Royal College deciding on which programs to include in the next accreditation. On-site reviews were mandatory for the large core programs (Core Paediatrics, in our case), newly accredited programs never surveyed previously (Adolescent Medicine, Gastroenterology, Haematology/ Oncology, Infectious Diseases, Medical Genetics, Neurology and Rheumatology). The following programs were given a pass without a site visit: Cardiology, Clinical Pharmacology and Toxicology, Developmental Paediatrics, Endocrinology, Neonatal-Perinatal Medicine, Emergency Medicine, Respiratory Medicine. Nephrology had no Royal College trainees at the present time so was not reviewed this year. All programs undergoing review received FULL ACCREDITATION and will be reviewed at the next regular 6-year cycle by the Royal College. This means that no serious issues were discovered within any of the programs.

The Department of Paediatrics was singled out for its uniform resourceing and support of these training programs as well as the uniform excellence of the programs. The review process is a vigorous, in-depth analysis of strengths and weaknesses by accreditors from other academic centres.

The Medical Education enterprise includes an Office of Faculty Development, Undergraduate, Postgraduate and Continuing Education portfolios and an office of Medical Education Scholarship. The Department supports faculty in a number of ways to enhance their career development as teachers and clinician educators. Details of all the activities of all the education portfolios and the educational accomplishments of faculty and trainees are provided in the body of the report.

Rayfel Schneider, Professor of Paediatrics
Associate Chair, Medical Education
Assistant Professor of Paediatrics
Staff Rheumatologist, SickKids

Some programs were randomly selected for an accreditation site visit.
Organizational Chart

Educational activities in the Department of Paediatrics are led by Dr. Rayfel Schneider, the Associate Chair (Education) and the Medical Education Advisory Committee (MEAC) (see org. chart below). The MEAC works to enhance excellence in teaching and education and increase the recognition of the educational achievement of trainees and faculty. The MEAC participates in career development activities for faculty. It also serves to establish mentorship opportunities for faculty engaged in educational activities, to foster collaborations and networks with other groups interested in education and to provide advice and guidance to the Chair with regard to educational priorities.

Educational Administrative Staff:
Mary Antonopoulos, Undergraduate Education
Joanna Barnes, Undergraduate Education
Susan Jenkins, Administrative Supervisor
Sandra Layno, Postgraduate Education
Jennifer Bowden, Postgraduate Education
Nicole Winters, Continuing Medical Education
Ramona Zacharias, Faculty Development/ Education Scholarship

Education Researchers
Adam Dubowski, PhD, Education Researcher, Learning Institute
Tina Martimianakis, PhD, Education Researcher, Department of Paediatrics
Maria Mylopoulos, PhD, Education Researcher, Learning Institute (returned from mat leave August 2012)

Faculty pursuing formal training in education 2012-2013:
Angela Punnett (Masters in Education)
Susanna Talarico (Masters in Education)
Nicola Keyhan (Education Scholars Program)

Faculty who completed formal training in education 2012-2013:
Daniel Gorman (Education Scholars Program)
Briseida Mema (Education Scholars Program)
Jennifer Russell (Education Scholars Program)
Shirley Tse (Education Scholars Program)

Trainees pursuing formal training in education 2012-2013:
Catherine Walsh (PhD in Education)

Trainees who completed formal training in education 2012-2013:
Clare Hutchinson
TRAINING & LEADERSHIP

UNDERGRADUATE EDUCATION

Director: Dr. Angela Punnett
Members of the Undergraduate Education Committee: Hosanna Au, Nitt Bernhard, Zia Brimilla, Sohal Cheema, Mark Feldman, Emer Finan, Claire Hutchinson, Sheila Jacobson, Kate Qwazida, Miriam Kaufman, Angela Punnett, Seetha Radakrishnan, Sarah Schwartz, Shanna Silver, Susanna Talarico, Jennifer Young
U of T medical students: Jessica Lynch, Jaisy Yang, Caroline Diorio & Supama Sharma
Chief Pediatric Residents: Lala Numaahmed & Evelyn Rozenriyan

HIGHLIGHTS FROM 2012-2013

Our former Director of Undergraduate Medical Education, Stacey Bernstein, has moved over to lead the Clerkship Program for the University of Toronto. It’s good to have friends in high places!

We hosted our third annual Pediatric Undergraduate Program Directors of Canada (PUPDOC) meeting in the fall with representation from all Canadian medical schools. With completion of the Canadian National Undergraduate Curriculum (CANUC-Paeds), we embarked on identifying open-access resources to support the curriculum. We have also started planning for the first Canadian-hosted Council on Medical Student Education in Pediatrics (COMSEP) meeting in Ottawa in April, 2014. We would love to have you join us!

The Clerkship OSCEs continued in March and August and we appreciate your time and contribution as invigilators to this important evaulative component of the curriculum. We held our annual clerkship retreat with representation from our 12 community hospital site supervisors from THP-CVH, THP-MH, WOHC, NTGH, TEGH, SMH, SJHC, SGH-Birchmount, SGH-General, YCH, HRH, RVH. Pediatricians continues to offer a wide selection of electives and selectives (TRT placements) that are uniformly well received by our students. Our faculty and residents/fellows played a major role in the Clerkship Portfolio course as senior and junior scholars for this longitudinal curriculum.

It was my first time back in Convocation Hall since my own graduation and it was incredible to celebrate with our students as they move on to the next part of their careers. We would like to congratulate the following winners for their Awards in Paediatrics:

Leah Abitol (Dr. Roy Simpson Scholarship in Paediatrics)
Carolyn Freedman (Dr. Yumin Li Access to Excellence in Paediatrics Award)
Giuseppe Latina (Dr. Yumin Li Access to Excellence in Paediatrics Research Award)
Jessica Lynch (Dr. Carl Witus Prize in Paediatrics)

A final word to our teachers-you are the heart of this education program and truly inspire our students during their time with us. Thank you for all that you do.

PRECLERKSHIP

We have a number of core and special paediatric experiences for students in their first two years of training. In first year, students have the opportunity to join our Paediatric Longitudinal Experience (PedLE) spending four half days with faculty to get a feel for Paediatrics. New in the past year with introduced PedLE-R, the brain child of Shayen Somani and an opportunity for our residents to act as mentors and early clinical supervisors for the students. This program was highly rated by students and residents alike and will be expanded for the next academic year. In second year, our Arts and Science of Clinical Medicine (ASCM 2) course continues to be one of the most highly rated clinical courses in preclerkship. Our general paediatrics training falls primarily during 3 weeks of the 2nd year MIMMD course at U of T, with many of you contributing to lectures and seminars. Paediatric subspecialties are paired with the relevant weeks in adult medicine throughout the course. We continue to host our summer research and clinical programs downtown- PERCS (11 students) and SPRESS (9 students). We had some incredible presentations of the various projects at the end of the summer.

CLERKSHIP

Our 6-week core clerkship program involves an incredible number of teachers and is overseen by a dedicated undergraduate committee. The Mississauga campus is preparing to take students for clerkship in the coming academic year and has successfully expanded spots at the THP-CVH site and piloted spots at the THP-MH this year.

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HIGHLIGHTS FROM 2012-2013

There are 16 Royal College subspecialty programs in the Department of Paediatrics: Adolescent Medicine, Cardiology, Clinical Genetics, Developmental Paediatrics, Emergency Medicine, Endocrinology, Gastroenterology/Hepatology/Nutrition, Haematology/Oncology, Immunology/Allergy, Infectious Diseases, Neonatology, Nephrology, Neurology, Respiratory Medicine, and Rheumatology. The Program Directors meet on a regular basis to discuss their programs and consider ways to better support fellowship training. There are also clinical fellowships in Academic Paediatric Medicine, Community Paediatrics, Suspected Child Abuse Network (SCAN) and Dermatology.

Much of the committee’s work in 2012-2013 focused on preparing for the upcoming Royal College program accreditation, which took place in April 2013. A major initiative was the development of a series of CanMEDS training sessions for the Program Directors. In preparation for these sessions, a survey was conducted of all the Program Directors to identify the various strengths and gaps in teaching and evaluating the 7 CanMEDS competencies. The results of this survey highlighted that many programs have developed innovative ways of teaching and evaluating CanMEDS roles. Once these methods were identified, a curriculum was developed to allow the various programs to share and benefit from each other’s ideas.

On January 1, 2012, the Physician Credentials Registry of Canada was introduced. Under this new regulation, every international trainee’s credentials must be verified by the PCRC prior to CPSO licensing. This presented a challenge to new appointments by way of increased cost to the trainee and longer processing times for paperwork. This year the subspecialty education committee focused on preparing for and adapting to the change with minimal disruption to the international training program.

This year, all of our Royal College-accredited programs participated in the national subspecialty paediatrics match, attracting candidates from across the country. In addition, the subspecialty programs continued to attract excellent applicants from around the world. A total of 26 trainees were matched to our subspecialty programs and there were 8 university programs that matched candidates to Core Paediatrics. All of the Department of Paediatrics residents successfully matched to programs.

HIGHLIGHTS FROM 2012-2013

Postgraduate teaching in Paediatrics is decentralized with more than 10 sites involved. The Core Residency Program as well as the subspecialty train not only individuals in the Royal College stream, but also Visa trainees, and other international trainees who take their skills and expertise home after their training here.

The core program continues to be the largest training program in Canada with unparalleled graduate numbers, including international medical graduates. The program is rich in diversity.

The success of the core training program is largely due to faculty engagement in the process. A very active Residency Program Committee oversees the administration and running of the training program, and various subcommittees exist to ensure that each part of the program (resident selection, international resident selection, academic curriculum, evaluation, research, mentoring, wellness, advocacy etc.) are delivered in an evidence-based fashion with scholarship as a natural part of the process.

The curriculum of the program is in constant evolution responding to resident feedback, Ministry of Health priorities and the changing landscape of our community. This year enjoys a significant amount of Distributed Medical Education which the residents have embraced.

Resident scholarship continues to be of a high standard with all residents being engaged in scholarly activities including clinical research, education, patient safety, quality assurance and patient advocacy. This last academic year saw the beginning or our Resident Scholarship Committee. Under the leadership of Dr. Hans Hitzler and Dr. Binita Kamath, this committee will begin forming this upcoming academic year and will provide leadership, guidance and oversight of scholarship in Residency.

Some of our projects are initiated and led by our trainees and others by our teachers and educators. Some of the scholarly activities explore aspects of our programming and aim to improve our curriculum and teaching. Some exciting initiatives include: looking at how residents perceive work/life balance, tracking activities on call to look at improving patient care and the hidden curriculum.
A primary focus for the program continues to be on teaching and evaluating the CanMEDS roles. There is a robust CanMEDS curriculum within the academic day, which covers a wide variety of topics and a CanMEDS OSCE offered each spring with almost 100 trainees taking part in this evaluative. Real time feedback during the OSCE was introduced over the last two years with tremendous success.

Advocacy continues to be a focus of the program. There are currently 4 major advocacy projects underway under the leadership of the resident group. In addition to the Gosford Park Public School, our residents are very involved with the Rosedale Heights Secondary School. Both schools have at risk children and youth, and have found this collaboration beneficial. Other advocacy projects include clothing drives and newsletters for inpatients as examples. Residents have been involved at the ground level in implementing these projects in a scholarly way.

In April 2013 the program underwent a very successful RCPSC accreditation and was commended on the strength of the teaching program, the enormous breadth and depth of the clinical expertise of faculty who are fully engaged in the training of residents. In addition, the program was described as providing excellent mentoring for residents and had no weaknesses.

The postgraduate program is gearing up for another round of PGY-1 CaRMS, again expecting an increase in applicants. The MD/PHD program stream through CaRMS strives to attract candidates who are interested in a research career and will involve intensive research support throughout the training program. This year the program successfully matched their first MD/PhD candidate, and the program will begin to evolve.

In the spring of 2013 we underwent our fourth annual specialty match. The residents from our own Core Paediatric Program who entered the match did extremely well with a 100% match rate. Outstanding candidates from other universities across Canada also matched to the University of Toronto.

CONTINUING EDUCATION

Director: Dr. Suzan Schneeweiss

Members of the Continuing Education Committee: Amina Lalani, Andrew James, Elizabeth Uleryk, Eyal Grunebaum, Golda Mzo Marison, Melinda Solomon, Michael Weinstein, Marty Goldbach, Saul Green, Shelly Weiss, Suzan Schneeweiss

<table>
<thead>
<tr>
<th>NO. OF CONFERENCES ORGANIZED 2012-2013</th>
<th>NO. OF DIVISIONS PARTICIPATING IN CONFERENCE ORGANIZATION</th>
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<tbody>
<tr>
<td>23</td>
<td>12</td>
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</table>

HIGHLIGHTS FROM 2012-2013

The overall goals of Department of Paediatrics Continuing Education are to provide high quality continuing education courses and conference utilizing best practice educational strategies and tools; promote excellence in continuing education with annual Department of Paediatrics Continuing Education Award; enhance CE programs with the utilization of new technologies; develop a collaborative network in CE to promote scholarship in CE and best practice in continuing education; collaborate with the Royal College of Physicians and Surgeons of Canada as a Regional Continuing Professional Development Educator to enhance Fellows’ understanding about recent changes to the maintenance of certification program and support life-long learning.

Faculty members of the Department of Paediatrics have been very active in continuing education activities for the 2012-2013 academic year. The Department of Paediatrics continues to have a strong commitment to excellence in continuing education with ongoing courses, conferences and faculty development activities. City Wide Paediatric rounds, organized by Drs. Mark Feldman and Michael Peer from the Division of Paediatric Medicine, continues to be a very popular event attracting 120 community-based paediatricians and takes place 4 times annually. The Annual Paediatric Update (course director: Dr. Suzan Schneeweiss) was held April 17-20, 2013 and is the largest conference by the Department of Paediatrics attracting a local, national and international audience with over 250 participants. There was outstanding faculty contribution with 59 members of our faculty presenting at this event. This year, a Respirology Subespecially Day, under the direction of Dr. Melinda Solomon was presented.

The postgraduate program is gearing up for another round of PGY-1 CaRMS, again expecting an increase in applicants. The MD/PHD program stream through CaRMS strives to attract candidates who are interested in a research career and will involve intensive research support throughout the training program. This year the program successfully matched their first MD/PhD candidate, and the program will begin to evolve.

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Finally, many of our divisions have been engaged in a variety of continuing education events:

<table>
<thead>
<tr>
<th>DIVISION</th>
<th>COURSE DIRECTORS</th>
<th>EVENT</th>
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<tbody>
<tr>
<td>Haematology and Oncology</td>
<td>Dr. Angela Punnett</td>
<td>Annual Paediatric Chemotherapeutics Update, July 11, 2012</td>
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<tr>
<td>Neurology – Centre for Brain</td>
<td>Dr. Carter Sniad</td>
<td>2nd Biennial Brain Injury in Children Conference, July 9-11, 2013</td>
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<td>and Behaviour</td>
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<tr>
<td>Cardiology</td>
<td>Drs. Edgar Jaeggi and Fraser Golding</td>
<td>Assessment of the Fetal Heart During Routine Ultrasound Examination, September 12, 2013</td>
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<tr>
<td>Haematology and Oncology</td>
<td>Dr. Angela Punnett</td>
<td>5th Annual Chemotherapy Update, October 3, 2012</td>
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<tr>
<td>Emergency Medicine</td>
<td>Dr. Jason Fischer</td>
<td>Paediatric Emergency Ultrasound Course, October 11, 2012</td>
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<tr>
<td>Emergency Medicine</td>
<td>Dr. Suzan Schneeweiss</td>
<td>Advanced Paediatric Life Support, October 10-11, 2012, March 1, 2013, April 16-17, 2013</td>
</tr>
<tr>
<td>Haematology and Oncology</td>
<td>Drs. Victor Blanchette and Melanie Kibbi-Aiken</td>
<td>Paediatric Haematology Update, October 19-20, 2012</td>
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<tr>
<td>Genome Heart Network</td>
<td>Dr. Seema Mitai and Jennifer Russel, Dr. Robert Hamilton, Dr. Timothy Bradley, Dr. Andrew Redding</td>
<td>Personalized Medicine in the Care of the Child with Heart Disease: Discovery to Application: October 27-28, 2012</td>
</tr>
<tr>
<td>Dermatology</td>
<td>Dr. Miriam Weinstein</td>
<td>Paediatric Dermatology Update, November 9, 2012</td>
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<tr>
<td>Paediatric Oncology Group of</td>
<td>Dr. David Maltin</td>
<td>POGO 201 Multi-Disciplinary Symposium on Childhood Cancer: Lost in Transition: Adolescents and Young Adult Survivors of Cancer – November 16-17, 2012</td>
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<tr>
<td>Ontario</td>
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<tr>
<td>Paediatric Medicine</td>
<td>Dr. Mark Feldman</td>
<td>Community-Based Child Health Research Symposium, November 14, 2012</td>
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<tr>
<td>Emergency Medicine</td>
<td>Dr. Jason Fischer</td>
<td>Paediatric Ultrasound Longitudinal Course, December 2012 – December 2014</td>
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<tr>
<td>Paediatric Medicine</td>
<td>Dr. Stacey Bernath</td>
<td>The Clerkship and Pre-Clerkship Retreat, February 25, 2013</td>
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<tr>
<td>Respiratory Medicine</td>
<td>Dr. Indra Narang</td>
<td>SickKids Paediatric Sleep Symposium, March 1-2, 2013</td>
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<tr>
<td>Respiratory Medicine</td>
<td>Dr. Suzan Schneeweiss</td>
<td>Annual Paediatric Update, April 17-20, 2013</td>
</tr>
<tr>
<td>Respiratory Medicine</td>
<td>Dr. Kusel Perlman</td>
<td>Enabling the Disabled: Groundbreaking Physical and Psychosocial Innovations</td>
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<tr>
<td>Clinical and Metabolic Genetics</td>
<td>Dr. David Chittat</td>
<td>20th Annual Symposium on New Developments in Prenatal Diagnosis and Medical Genetics, May 15, 2013</td>
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<td>at The Hospital for Sick Children and Mount Sinai Hospital</td>
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<tr>
<td>Haematology and Oncology</td>
<td>Dr. Mark Greenberg</td>
<td>POGO Satellites Education Day, May 31, 2013</td>
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<tr>
<td>Haematology and Oncology</td>
<td>Dr. Rayfel Schneider</td>
<td>Annual SickKids Paediatric Research Day, May 22, 2013</td>
</tr>
<tr>
<td>Haematology and Oncology</td>
<td>Dr. Rayfel Schneider</td>
<td>Annual SickKids Paediatric Research Day, May 22, 2013</td>
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</table>

**HIGHLIGHTS FROM 2012-2013**

On October 16, 2012, the Faculty Development Committee organized an extremely successful Paediatric Academic Career Day. All junior faculty within their first five years of appointment to the Department of Paediatrics were invited and the curriculum included presentations by Drs. Denis Daneman, Rayfel Schneider, Meredith Irwin, Jeremy Friedman, Melvin Freedman, Shelly Weiss and Mr. Ben Vozzo. Topics centered around such areas as promotion, research and education, mentorship and human resources/financial issues. This event will be repeated in Spring 2014.

Medical Education Day was held on Wednesday, March 27, 2013. Dr. Anthony Levinson, John R. Evans Chair in Health Sciences Educational Research and Instructional Development Assistant and Professor of Psychiatry and Behavioural Neurosciences at McMaster University was the guest speaker. The topic for Grand Rounds was “Evidence-based e-Learning: Theory and Practice of Web-Based Education and Training”. Following Grand Rounds there was a 90-minute workshop led by Dr. Levinson on the topic of “Curate vs. Create: Practical Approaches to Web-Based Teaching and Learning”. New this year was a panel of education leaders who discussed various opportunities and resources available in education scholarship. The presenters represented the following organizations: The Wilson Centre, SickKids Learning Institute, The Centre for Faculty Development and the Division of Education Scholarship.

The Department of Paediatrics’ mentorship program for junior faculty is ongoing. All faculty, upon their appointment to the Paediatrics, are invited to meet with Dr. Weiss, the Director of Faculty Development. In this meeting, many issues regarding orientation and academic career development as well as mentorship are discussed. Each junior faculty is given the opportunity to be matched with a mentor outside of his or her division with a similar job profile.

The Department of Paediatrics Faculty Mentorship Award was introduced in 2013 to recognize a faculty member for his or her outstanding approach to mentoring. Letters of nomination were submitted to the Faculty Development Committee and a subcommittee was appointed to review all candidates and adjudicate. Dr. Patricia Parkin of Paediatric Medicine Division was the inaugural recipient of the award. Dr. Rayfel Schneider was the first runner up for the award.

The TIPS (Teaching in Paediatric Settings) Program, first introduced in the 2011-2012 academic year and chaired by Drs. Sanjay Mehta and Shelly Weiss continued for 2012-2013. 8 workshops were held over the lunch hour between October and June, with topics including debriefing, interactive teaching, curriculum development and the use of evidence-based medicine in teaching encounters.

**FACULTY DEVELOPMENT**

**Director:** Dr. Shelly Weiss

Members of the Faculty Development Committee: Anne Djochan, Catherine Birken, Rayfel Schneider, Tina Martinianakis, Mark Friedberg, Dena Soosin, Doug Campbell, Suzan Schneeweiss, Nirit Bernhard

<table>
<thead>
<tr>
<th>NO. OF TEACHING IN PAEDIATRIC SETTINGS (TIPS) COURSES AND AVERAGE ATTENDANCE</th>
<th>FACULTY ORIENTATION DAY: NO. OF ATTENDEES</th>
<th>MEDICAL EDUCATION DAY: NO. OF ATTENDEES</th>
</tr>
</thead>
<tbody>
<tr>
<td>8 sessions (6)</td>
<td>35</td>
<td>45</td>
</tr>
</tbody>
</table>
SCHOLARSHIP/RESEARCH

Director: Dr. Tina Martimianakis
Members of the Educational Scholarship Enhancement Committee: Anu Wadhwa, Adam Dubrowski, Maria Mylopoulos, Nikki Woods, Angela Punnett, Shelly Weiss, Ramona Zacharias, Tina Martimianakis (Chair)

HIGHLIGHTS FROM 2012-2013

Administration and Coordination
The office of Medical Education Scholarship oversees activities associated with enhancing the capacity of faculty, residents and fellows to engage in educational scholarship broadly defined to include: research in education, program development, educational innovation and scholarly teaching. It also showcases the Department’s education achievement and works to identify opportunities for future growth. In addition, the office oversees the adjudication of educational granting opportunities supported through the Paediatric Consultants Fund.

Funding
Building on our longstanding support of education research, this past year we adjudicated for the first time applications for a newly developed and launched funding opportunity that supports educational innovation and development. This grant provides up to $5000.00 funding to 1 year projects led by members of the Department of Paediatrics, UofT (faculty and trainees) that have the capacity to contribute meaningfully to the educational mission of our programs. The competitions for the Educational Research Grant and the Educational Development and Innovation Grant are offered twice annually, once in September and once in March and a total of 4 applications to the Innovation and Development stream were successful. A committee of peers adjudicates the grants and provides applicants with feedback on their submission following the announcement of the competition results.

Medical Education Elective
This year the office also developed the first Educational Elective for Paediatric Fellows. Dr. Mohammad Zubairi, PGY4/PGY 5 (as of July 13, 2013) and Developmental Paediatrics Fellow, undertook a medical education elective under the co-supervision of Tina Martimianakis and Maria Mylopoulos. The elective introduced Mohammad to a range of learning theories, and provided opportunity for him to use these theories in the development of an evaluation tool for the SPReSS Program.

SPReSS Program
Dr. Tina Martimianakis and the Educational Scholarship Enhancement Committee (Anu Wadhwa, Angela Punnett, Shelly Weiss, Maria Mylopoulos and Nikki Woods) with the administrative support of coordinator Joanna Barnes oversaw the scholarly development of the SPReSS Program. The same structure as last year was maintained and a scholarly theoretical approach to the program’s curriculum was applied. The committee also developed a sustainable program evaluation approach. The curriculum consisted of research and clinical placements, as well as a formal seminar series on advocacy, with session leaders specifically chosen to provide a didactic on a particular dimension of social paediatrics. Students had the opportunity to explore the relationship of social paediatrics to global health. New to this year’s planning were the reflective assignments students were expected to complete in addition to their presentations, describing a situation that challenged their thinking or caused them to re-evaluate previously held attitudes or perceptions. The reflections were assessed with a rubric, and the program was evaluated through thematic analysis of the reflections and an exit survey of faculty and students. Dr. Susanna Talarico took leadership of the reflections and an exit survey of faculty and students. Dr. Susanna Talarico took leadership of the program as a practicum for completing a course for her Masters in Education.

Results from exit surveys indicated that students found the program both challenging and rewarding, particularly the integration of a clinical and research experience. Faculty found students to be engaged and reflective, making connections between assigned readings, and their clinical and research experiences.
Our educational research and scholarship is disseminated regularly in leading clinical and educational journals. This past academic year our faculty and residents authored 31 peer reviewed publications and 1 book chapter.

**PEER REVIEWED PUBLICATIONS**


BOOK CHAPTERS

In the past academic year, our faculty, residents and fellows also had significant grant capture with 48 awards totaling $1,402,423.24 (multi-year funds have been adjusted to reflect monies allotted for one academic year in the calculation of this total) to pursue research in education.

**PAEDIATRIC CONSULTANTS (PC) EDUCATION RESEARCH GRANTS, SICKKIDS**

In the 2012-2013 academic year 10 Paediatric Consultants Education Grants were awarded to faculty members pursuing research which promises to increase understanding of educational phenomenon and contribute to theory building on such topics as research methods, attitudes and perceptions to teaching, career decision making and technologically enhanced learning. The projects awarded also hold potential to enhance our local educational practices.

**PC: EDUCATION RESEARCH**

Schwartz S, Yama B. Multi-source feedback: Everyone has a say, but who is listening? $4,970

Bernstein S, Talarico S, Au H, Martinianakis T. RoTS on the Wards! A qualitative study of a resident as teacher elective experience. $3,822

Lara-Corrales I, Craw L, Bismilla Z. Teaching resident as teacher elective experience. $3,780

T . RaTS on the Wards! A qualitative study of a resident as teacher elective experience. $3,780

**PC: EDUCATION INNOVATION & DEVELOPMENT**

Tee S, Brydges R, Battish M, Martinianakis T. Validity of an interactive web-based teaching module to teach rheumatology for pediatric residents. $5,000

Finan E, Keir A, Jefferies A, Simmons B. Is simulation an effective way to teach communication skills? $3,822

Mema B. Post Factum – What if you could change the terms? Initial experiences of U/S guided lines. $2,898.50

Laser R, Mistry N. Design, development and usability evaluation of a resident’s guide to pediatric rheumatology mobile application. $5,000

**PC: MATCHING TO EDUCATION DEVELOPMENT FUND**

The EDF is a seed fund of the Faculty of Medicine designed to catalyze initiatives that immediately and directly impact University of Toronto Faculty of Medicine education and teaching programs through innovation and development. Proposals require matched funding that can come from a variety of sources such as grants, clinical departments and other. The EDF is a very competitive fund.

Belik J, Campbell D, Mukejji A. Development of a Newborn Lung Simulation Model. Educational Development Fund, University of Toronto. $10,000.

**PERCS: THE PEDIATRIC RESEARCH AND CLINICAL SUMMER (PERCS) PROGRAM**

The PerCS Program is an 8- or 12-week experience for first and second year medical students with flexibility to structure their experience with the assigned supervisor. During their summer experience students are involved in an original research project and have the opportunity to attend clinical activities organized by the supervisor. A lecture series is organized by the program committee on career opportunities in paediatrics and various research topics. The Department awards supervisors matched funding to support the salary of the medical students.


Carcao M. Does baseline coagulation profile and exercise induced change in hemostatic profile explain phenotypic variability between hemophilia A and hemophilia B patients: a comparative cohort study. $1,650.

Feldman B. The meaning and determinants of quality of life in chronically ill children. $4,150.

Gonska T. Assessment of the response to CFTR-modulating treatment in human intestinal tissue biopsies. $2,500.

Hamilton R. Investigations in high-risk cardiac conditions in the young. $2,500.

James A. Perioperative heart rate and respiratory rate variability in the newborn infant. $2,500.

Kamath B. Liver disease in Barget-Beidl Syndrome. $1,650.

Licht C. Unravelling pathomechanisms of atypical hemolytic uremic syndrome. $1,650.

Ng V. Metabolic syndrome in children post liver transplantation. $1,650.

Parekh R. Insight into Nephrotic Syndrome: Investigating genes, health and therapeutics. $1,650.

**SPReSS: THE SOCIAL PEDIATRICS RESEARCH SUMMER STUDENTSHIP (SPRESS) PROGRAM**

Each year, faculty compete for funding to provide undergraduate medical students with a summer research experience in the broad field of social pediatrics through which they can study the importance of the social determinants of health (in health, disease management and outcomes, resource utilization) and encourage the role of child health advocacy. Students also participate in a clinical experience and attend lectures on topics related to social paediatrics. To maximize the number of students that can participate in this program where possible supervisors match the funds awarded by the Department, the Department funds 8-10 SPReSS projects annually.

Bassani D. Changes in Coverage of Child Health Intervention Over Time in India: Policy Factors Affecting Change. $3,300.


Bonifacio J. A New Reflection: Understanding the social determinants of health and identity in homeless and street-involved youth through photovoice. $3,300.

Freeeman S. Integrating Developmental Services with School-Based Health – Feasibility, Efficacy and Relevance in Canada’s Healthcare System. $1,650.
Hick, K. Young Families Program – A Needs Assessment – What are we doing well and where are the gaps? $5,000.

Punnett A. Evaluation of a Provincial Oncology Satellite Care Program. $3,300.

Siddiqi A. The social distribution and social determinants of diabetes and diabetes-related risk factors in children. $3,300.

Weiss S. Parental experience of children’s sleep in children who are adopted from Canada vs. children adopted internationally. $3,300.

Young E. The Developmental Passport: How to ensure our families are accessing the right care. $1,650.

OTHER FUNDING SOURCES
An important component of our educational research activity involves collaborations that span departments and institutions. Furthermore, our faculty were involved in collaborative research projects that were merit with funding from a variety of sources including the Royal College, CIHR, PSI, and NIH.


Jones NL. Canadian pediatric clinician scientist program. BC Research Institute for Children and Women’s Health. $450,000 CAD. 2012 Apr 1-2015 Mar 31

Jones NL. Canadian pediatric clinician scientist program. Manitoba Institute of Child Health. $150,000 CAD. 2012 Apr 1-2015 Mar 31

Jones NL. Canadian pediatric clinician scientist program. The Hospital for Sick Children Foundation. $900,000 CAD. 2012 Apr 1- 2015 Mar 31

Jones NL. Canadian pediatric clinician scientist program. Women’s and Children’s Health Research Institute. $105,000 CAD. 2012 Apr 1-2015 Mar 31

Jones NL, Stevens B, Han WM, Lee SK, Chemtob S. Canadian Child Health Clinician Scientist Training Program. Canadian Institutes of Health Research. $975,000 CAD. 2012 Apr 1-2015 Mar 31

Katzman DK, Spiegler B, Thompson G. Development of an interprofessional adolescent health training program. Canadian Institute of Health Research Planning Grant. 24,900 CAD. 2012-2013


Leslie K, Law M, Ballon B, Yeung E, Shamji A, Lindzon G. Students and faculty as partners in innovation: The e-Faculty Development Project. University of Toronto Instruction Technology Incentive Fund (ITIF). $15,000+matched funds of $15,000 from the Faculty of Medicine ITIF initiative. 2011-2013


Rosenblum ND, CIHR MD/PhD Grant. Canadian Institutes of Health Research. $660,000 CAD. Jan 2007-Jan 2013


Whitehead C, Dubrowski A, McCarthy L, Carnahan H, Kapralos B, Cheung JI. Assessing the interest, acceptability and usability of social networking to support a primary care patient-centred model for vulnerable older adults. Academic Health Science Centre (AHSC) Alternative Funding Plan (AFP) Innovations Fund through the Ministry of Health and Long-Term Care. $30,000. 2012-2013.
AWARDS

POWER TEACHING AWARDS
For outstanding contributions for Postgraduate Teaching

Dr. Peter Cox
Dr. Jason Fischer
Dr. Jeremy Friedman
Dr. Elizabeth Harvey
Dr. Amish Jain
Dr. Michael Peer

OTHER TEACHING/EDUCATION AWARDS

National

Hilliard R: Canadian Paediatric Society’s prestigious Michel Weber Education Award for career educational impact on learners in child and youth health, Canadian Paediatric Society, Edmonton, Alberta – June 2013.

Katzman D: Winner of the 2013 Academy for Eating Disorder’s Leadership Award for Clinical, Administrative or Educational Service. Awarded at the International Conference on Eating Disorders. Montreal, Quebec.


University
Guttmann A: Finalist for the University of Toronto Faculty of Medicine Graduate Teaching Awards, University of Toronto, 2013.

Kives S: Winner of Chair’s Award for Postgraduate Teaching, Department of Obstetrics and Gynaecology, Faculty of Medicine, University of Toronto, ON, Canada, 2012.


Martimianakis, M., Mylopoulos, M., Kitto, S., Webster, F, Hodges, B, McNaughton, N, Kuper, A., Albert, M., Reeves, S., Lingard, L., 2013 Helen P. Batty Award for Excellence and Achievement in Faculty Development in the category of Innovation in Program Development and Design. Faculty of Medicine, University of Toronto, For Qualitative Atelier Series.

Divisional/Hospital: Faculty

Au H: Runner-up for the RHA Haslam Preclerkship Teaching Award, Department of Paediatrics, University of Toronto, The Hospital for Sick Children, Toronto - June 2013.

Avitzur Y: Subspecialty Teaching Award for Excellence in Clinical Teaching, Department of Paediatrics, University of Toronto, The Hospital for Sick Children, Toronto, 2013.

Egeler M: Runner up for the Subspecialty Teaching Award, The Hospital for Sick Children, Toronto, 2013

Elkadri A: Canadian Association of Gastroenterology/Werner Chilcott Resident Research Training Award, Toronto, July 2012.

Fischer J: Winner of James C Fallis Teaching Award for Best Paediatric Emergency Medicine Staff Physician Presentation, Division of Paediatric Emergency Medicine, The Hospital for Sick Children, 2013.

Fischer J: Winner of Clinical Teaching Recognition Award, Division of Paediatric Emergency Medicine, The Hospital for Sick Children, 2013.

Grant R: Alvin Zipursky Teaching Award, The Hospital for Sick Children, 2013


Munro Stephen S: The RHA Haslam Award for Excellence in Undergraduate Teaching, Toronto, ON, June 2013.

Parkin P: Winner of Faculty Mentorship Award, Department of Pediatrics, University of Toronto, Hospital for Sick Children, Paediatric Medicine Celebration of Academic Excellence, Toronto - 2013.

Rapoport A: Winner of the PeRLS Teaching Award, Department of Paediatrics, University of Toronto, The Hospital for Sick Children, Toronto - June 2013.

Ratnapalan S: Recognition of James C Fallis Teaching Award, Paediatric Emergency Medicine, The Hospital for Sick Children. 2012-2013

Schneeweiss S: Continuing Education Award, Department of Paediatrics, The Hospital for Sick Children, 2013.

Scolinic D: Winner of Clinical Teaching Award – Staff Physician Full-Time, Division of Paediatric Emergency Medicine, The Hospital for Sick Children, 2013.

Scolinic D: Winner of James C Fallis Teaching Award for Best Paediatric Emergency Medicine Staff Physician Presentation, Division of Paediatric Emergency Medicine, The Hospital for Sick Children. 2013.

Shouldice M: Runner-Up for the Faculty Mentorship Award, Department of Paediatrics, The Hospital for Sick Children, University of Toronto, June 2013.

Solomon M: The Hospital for Sick Children, University of Toronto, Ontario, Canada, Harry Bain Award, 2012-2013.

Tein I: Winner of the William A. Hawke Award, Clinical Excellence in Teaching, Division of Neurology, The Hospital for Sick Children, University of Toronto, Ontario, Canada,

Walters T: Teaching and Mentorship Award, Division of Gastroenterology, Hepatology and Nutrition, The Hospital for Sick Children, Toronto, 2013.


Yeh A: CanMEDS Faculty Award, Division of Neurology, Hospital for Sick Children, June 2013.
Divisional/Hospital: Residents/Fellows

Christopher Ondaatje Award
To a senior resident for excellence in clinical teaching as nominated by core paediatric residents
Dr. Mohamed Eltorki (PGY3)
Dr. Michael Khoury (PGY3)
Dr. Evelyn Rosenblum (PGY4)

CanMEDS Award – Core Resident
Dr. Melanie Ostreicher

CanMEDS Award – Subspecialty Trainee
Dr. Marta Wilejto
Dr. Peter Gowdie

Andrade A: Winner of the Excellence in the CanMEDS Competencies Award (Neurology Trainee), June 2013.
Aziz A: Winner of the Excellence in Clinical Teaching Award (Neurology Trainee), June 2013.

LEADERSHIP IN EDUCATION BEYOND THE DEPARTMENT OF PAEDIATRICS

Several of our faculty members currently hold key leadership positions in education beyond our department, demonstrating our growing capacity to inform educational practice more broadly.

Dr. Karen Leslie, Director of the Centre for Faculty Development, University of Toronto and St. Michael’s Hospital

Dr. Jonathan Pirie, Co-leads the procedural lab in the SickKids Learning Institute’s simulation program

Dr. Norman Rosenblum, Associate Dean, Physician Scientist Training, University of Toronto

Dr. Jay Rosenfield, Vice Dean of Undergraduate Medical Education, University of Toronto

Dr. Suzan Schneeweiss, Continuing Professional Educator for the Royal College of Physicians and Surgeons of Canada *NEW ROLE

Dr. Stacey Bernstein, Clerkship Director, University of Toronto

Dr. Rayfel Schneider, Member, National CaRMS Paediatric Subspecialty Match Steering Committee

Dr. Brian Simmons, Director, Standardized Patient Program, University of Toronto

Dr. Jonathan Kronick, Chief of Education of the SickKids Learning Institute, Chair of the Education Subcommittee and the Continuing Professional Development Committee of the Canadian Paediatric Society

HIGHLIGHTS OF OTHER FORMS OF EDUCATIONAL SCHOLARSHIP

The term education scholarship is used to comprise a variety of academic activities. These are not limited to research; they also include developing, delivering and disseminating educational programming. This section highlights forms of educational scholarship taking place in our department including promising new directions in educational innovation, which have not been captured under the sections of awards, grants and publications.

Curriculum and Program Development
Educators in our department focus a lot of their energy on reviewing, revising and developing programming for all levels of trainees that is grounded in the most up to date basic and clinical research and is developed, delivered and assessed according to current educational theories and practices. Furthermore, members of our faculty are contributing to the development of educational programming and learning standards and objectives at the university, national and even international level. The following are only a few examples of activities that fall in this category:

The Division of Respiratory Medicine has developed and participated in numerous educational activities within SickKids over the past year. Dr. Indra Narang plays a leading role in the education and awareness of sleep disorders in children and the Division of Respiratory Medicine hosted the second bi-annual SickKids Paediatric Sleep Symposium, an internationally recognized event, from March 1-2, 2013. Subsequently right after this event a Narcolepsy Family Educational evening was held on March 02, 2013, for the narcolepsy patient population in Ontario. Dr. Indra Narang was the course director for both of these successful...
Another milestone in the Division of Respiratory Medicine’s education portfolio for this past year was the dedicated subspecialty day at the SickKids Paediatric Update conference on April 17th, 2013 which Dr. Melinda Solomon chaired. Drs. Hartmut Grasemann, Sharon Dell, Indra Narang and Reshma Amin were all speakers at this international recognized event. The Paediatric Respiratory Medicine Fellowship Program, led by Dr. Melinda Solomon, expanded significantly this past year. We currently have the largest group of trainees we have ever had since the program’s inception in 2001. Our program continues to be accredited by the Royal College of Physicians and Surgeons of Canada, and is still the largest training program for paediatric respiratory medicine in Canada. As a testament to Dr. Solomon’s dedication to our training program, she recently won the Harry Bain Award for Excellence in Clinical Teaching.

Simulation
Simulation continues to be an important mechanism for training and assessing health care professionals. Our Department supports and encourages innovative ways to use simulation in educational programming. Given the expenses often associated with simulation technology, we continue to encourage educators to think of sustainable ways to use simulation technology in educational planning. The following example highlights some of the ways simulation is factored into global health initiatives:

Adam Dubrowski (co-lead) and LI Fellow Faizal Haji joined a team of eight international pediatric professionals traveling to Malawi to assess how to use simulation and education to improve training for healthcare professionals and ultimately improve pediatric and neonatal morbidity and mortality in Malawi. Malawi suffers from one of the highest rates of death in children under the age of 5 in the world. The International Paediatric Simulation Society partnered with Malawi’s Ministry of Health, the World Federation of Pediatric Intensive and Critical Care (WFPICCS) and the World Health Organization (WHO) to work towards improving child health outcomes in this region. The goals of the trip were to determine how best to leverage education and simulation as a learning modality for Malawi health professionals and parents. The team explored ways in which simulation could be used to deliver information and to reduce incidences of morbidity and mortality. While in Malawi, the team met with officials from the Ministry of Health and the public health care system as well as educators. They also visited local hospitals in urban and rural health centres. Currently data collected from this trip is being analyzed.