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Hospital for  
Sick Children

# Spine Program newsletter

Fall 2018

## MESSAGE from the CO-DIRECTORS

Dear Spine community,

This year marks a decade of collaboration, integration, and excellence for The University of Toronto Spine Program. In its 10th anniversary, the Program continues to act as a driving force, bringing together senior and junior surgeons, scientists, and trainees along with key visiting professors from around the world recognized for their academic acumen. The goal is to foster advances in spine care and related research. We invite you to visit our Program website, <https://surgery.utoronto.ca/spine-program>, for a tour around our accomplishments over the past 10 years. In celebration of this landmark, we would like to thank all our faculty and program council members for their ongoing engagement and support to the program. A sincere thanks to the Department of Surgery and the Divisions of Orthopedic Surgery and Neurosurgery for their continued strong support. Thanks also to J&J/DePuy Synthes, Ethicon, Medtronic, Zimmer Biomet, and Stryker) for their longstanding support of our programmatic educational activities. We also would like to thank Ms. Nadia Jaber, our Program coordinator, who has been instrumental in assisting us over many years, in moving our program's mission forward.

Our program during 2018 has been very productive with several visiting professorships and knowledge sharing event opportunities platform:

We were delighted to host Professor Marcel Dvorak, a Spine orthopedic surgeon from University of British Columbia in February and Professor Ashiwini Sharan, a spine Neurosurgeon from Thomas Jefferson University in May as part of our hospital-based visiting Professorships at Sunnybrook Healthsciences Centre and St.



St. Michael's Hospital. It was our distinct pleasure to host Dr. Wilco Peul, Professor of Neurosurgery from Leiden University back to Toronto in June as a special visiting lecturer. We were also privileged to host Dr. Sanford Emery, Professor and Chair of Department of Orthopaedics and Director of Surgical Services at West Virginia University as our SpineFEST2018 keynote speaker in June. He provided an outstanding lecture on leadership in spine surgery and pointed out many highlights of Toronto's academic contribution to the same mandate. At SpineFEST, we also appreciated Dr. Robert Bell's (former Deputy Minister of Health & Long Term Care) time he took to participate as guest speaker.

Our program continues to serve as vibrant hub in hosting national and international spine scientific platforms: In April we had the 18th Annual conference of the International Society for the Advancement of Spine Surgery (ISASS); in August we had the NeuroTrauma 3rd Joint Symposium; we look forward to hosting the 19th Annual Scientific Conference of the Canadian Spine Society next year on Feb 27-Mar 2 2019; and we are excited about hosting the Global Spine Congress in Toronto next year on May 15-18, 2019.

Our program's offerings continue with multiple trainings and courses for our spine fellows and residents: the mock oral on spine in March was well received with excellent feedback from senior



Surgery

UNIVERSITY OF TORONTO

## Spine Program

MESSAGE Cont'd

residents; the advanced Cadaver Lab training on Osteotomies in June was also greatly valued by our citywide fellows ending their fellowship program this year; a workshop on traumatic spinal course injury served as a boot camp in August to both senior residents and citywide spine fellows to introduce SCI cases and guidelines in addition to ASIA standards for SCI assessment - the exposure to this educational event was very well appreciated; our Citywide Fellow Journal Club continues with interactive discussions led by our fellows with faculty input – the theme this September focused on degenerative cervical myelopathy.

Finally, join us in welcoming our new Program faculty member Dr David Label at Hospital for Sick Children and wish him and his family a successful career and enjoyable life in Toronto. We also wish to congratulate all our fellows across the affiliated spine hospitals on completing their fellowship program with us this year and we also welcome the new and continuing fellows for the new academic year wishing all best of success.

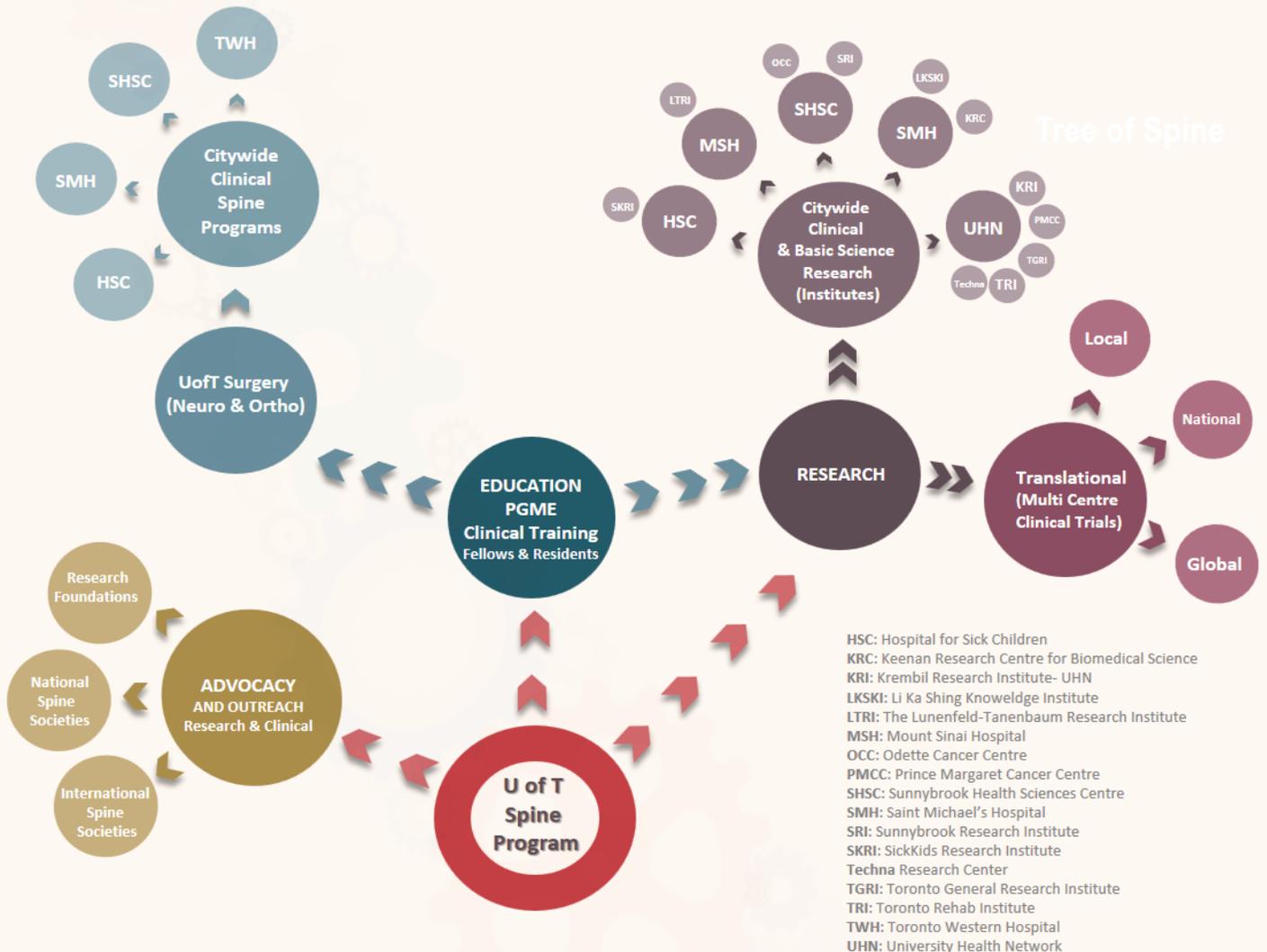
Recently this fall, the Sunnybrook group lead by Drs. Albert Yee, Michael Ford, Edward Chow and Joel Finkelstein along with our university Orthopaedic Chair, Dr. Peter Ferguson organized a Canadian musculoskeletal and spine oncology delegation from Canada to visit key academic centres in China (Beijing, Shanghai, and Hong Kong) in latter October. This will provide a great opportunity for knowledge exchange in spine care amongst our various programs.

We look forward to seeing all at next year's SpineFEST2019 on June 10th with our keynote speaker professor Praveen Mummaneni, a spine neurosurgeon at the University of California San Francisco. Also join us on Feb 11th with our visiting professor Dr Greg Kawchuk DC, PhD from Faculty of Rehabilitation Medicine at the University of Alberta who will be featuring new insights in spinal manipulation.

Sincerely,

Michael and Albert

Tree of Spine



## News!

### New Faculty

Please join us in welcoming Dr. **David Lebel** to our U of T Spine Program faculty at the Hospital for Sick Children in the capacity of Assistant Professor. Dr Lebel is a pediatric orthopedic surgeon with a special interest in complex spine deformities, early onset scoliosis and growing spine. Dr Lebel is our former spine fellow trained at the Hospital for Sick Children as a pediatric orthopedic and a pediatric spine surgeon from 2011-2012. He recently moved from Israel with his family to join the faculty at HSC. He has been involved in several clinical studies about spine biomechanics with the novel 3D EOS reconstruction, long term follow-up of brace treated patients and long term follow-up of muscular dystrophy patients treated with steroids. In order to provide better treatment for patients with spine deformities, Dr Lebel plans to conduct prospective studies about better post-operative pain management strategies and a translational research for better understating the etiology of scoliosis.



We wish David and his family a beautiful and happy life here in Toronto!

### Promotion

Congratulations to our faculty member **Karl Zabjek**, BSc, MSc, PhD on his promotion to become Associate Professor. Dr Zabjek is a faculty member in our program the Department of Physical Therapy and has extensive applied expertise within the field of Clinical Biomechanics. Dr Zabjek developed his knowledge of Biomechanics within the context of the Undergraduate Kinesiology program at the University of Waterloo, and learned to apply this knowledge to develop clinically relevant research questions that address the contemporary issues encountered by individuals living with disability and neuromusculoskeletal conditions. Dr Zabjek developed this knowledge and expertise within the context of a Masters in Clinical Science at the University of Sherbrook and a Doctorate in Biomedical Science in the Faculty of Medicine at the University of Montreal.



Dr Zabjek's current research is focused on the development of clinical models to assess the structure and function of the spine in children and youth living with a Paediatric Spinal Deformity. A secondary focus of his research aims to understand the multiple determinants of mobility in individuals living with a Disability. This program of research is conducted in collaboration with researchers from the Rehabilitation Sciences Sector at the University of Toronto, the Bloor view Research Institute, The Hospital for Sick Children, and the Toronto Rehabilitation Institute.

### Surgeon Scientist Program

Congratulations to **Anick Nater** MD PhD, Neurosurgery PGY 5 on her successful completion of the Surgeon Scientist Program with excellent PhD thesis defense on "Prediction of survival and quality of life in patients with metastatic spinal cord compression managed surgically." We wish Anick all the best in her future research endeavors and clinical career.

*Left: W Peul (External examiner), M Fehlings, A Nater*



### Nature Publication

Congratulations to **Dr Fehlings** and his research project lead team including co-first authors **Kajana Satkunendrarajah**, and **Spyridon K. Karadimas** on their recent publication in NATURE -the world's most cited scientific journal. The publication titled "Cervical excitatory neurons sustain breathing after spinal cord injury" demonstrates a strategy to restore breathing after central nervous system trauma by targeting a neuronal subpopulation and can lead to helping hundreds of thousands of Canadian SCI patients. Link to article: <https://www.nature.com/articles/s41586-018-0595-z>

*Left: S Karadimas, M Fehlings, K Satkunendrarajah*



## SPINEFEST2018 The 10th Annual Spine Academic Day

This year's SpineFEST was landmark for the University Of Toronto Department Of Surgery Spine Program! A Decade Celebration of SpineFEST!

As you all know, SpineFEST has become our key citywide annual spine academic event. We celebrated the accomplishments of our clinical and research trainees, as well as heard from key academic thought leaders from both a clinical as well as scientific perspective. We thank Professor Charles Tator and Professor Hamilton Hall for all their ongoing support to our Program and for sharing their valued perspectives on the evolution of our spine Academia throughout the past decade.

This year SpineFEST featured leadership in medicine and surgery. We were delighted we had Dr Bob Bell, former Deputy Minister of Health and Long-Term Care, as our guest speaker. Dr Bell shared his journey of leadership in health care in the introductory talk at 7:45. We were also pleased to have Dr Sanford Emery, professor and chair of Department of Orthopaedics and Director of Surgical Services at West Virginia University as the keynote speaker and Tator-Hall Lecturer. Dr Emery shared perspectives on leadership for new surgical generations at 8:30. We had an extensive discussion with our panel and key leadership at The Toronto Academic Health Science Network: Dr Shaf Keshavjee, Chief of Surgery, University Health Network; Dr Avery Nathens, Chief of Surgery, Sunnybrook Health Sciences Centre; Dr Christopher Caldarone, Chief of Surgery, Hospital for Sick Children; and Dr Najma Ahmed, Vice-Chair Education, U of T Department of Surgery.

@ Invited Panel. Left: S Emery, N Ahmed, S Keshavjee, C Caldarone, A Nathens



@ Faculty Panel. Left: J Wilson, R Ramparsaud, J Larouche

## SPINEFEST2018 Cont'd

The Panel shared insights about leadership in innovation, education, advancement, quality and patient care. We received around 40 excellent abstract submissions most of which were demonstrated in the e-poster session with excellent oral presentations and judging. At 13:15 our Program Faculty and surgeons (Drs., Albert Yee, Jeremie Larouche, Raj Rampersaud, and Jeff Wilson) engaged us with updates and perspectives about Quality Value-Based Surgery. Invited Surgeon Scientist Program trainee Drs Anick Nater and Bhanot Kunal featured excellent research projects followed by oral presentations for best abstracts at 14:45. The day was culminated by several award presentations. We congratulate winners of best abstracts Dr Carl Fisher and Vignesh Sivan for tie win of 1st place best abstract (clinical and basic science), and Drs Anick Nater, Geoff Klein and Christopher Ahuja for tie win of 2nd place for clinical and basic science.

Oral Presentation: Left: V Sivan , G Klein, C Fisher, C Ahuja



## SPINEFEST2018 Cont'd

The U of T Spine Program would also like to thank all our participants and special thanks to Dr Emery for making SpineFEST a great success. We extend our appreciation to Professors, Andres Lozano, Peter Ferguson, and James Rutka for their strong support of SpineFEST and the U of T Department of Surgery Spine Program over many years. The Program also extends gratitude to our educational event sponsors and industry partners Medtronic, DePuy Synthes, Ethicon, Zimmer-Biomet and Stryker.

SAVE The DATE for our next year's SpineFEST2019 on Monday June 10, 2019, 7am-4pm at the Peter Gilgan Centre for Research and Learning CRL Auditorium (2-9330), 686 Bay Street. Our Keynote speaker will be Dr Praveen Mummaneni, a spine neurosurgeon at the University of California San Francisco. Dr Mummaneni is a rising star in international spine surgery and is accomplished in a number of areas especially spine deformity. He is prominent in many international organizations including Scoliosis Research Society. We look forward to see you all there!

Nadia Jaber with input from Michael & Albert



@ the e-Poster Session

Invited Surgeon Scientist /trainee (middle) A Nater, B Kunal



Left: M Fehlings, C Tator, S Emery, H Hall, A Yee



Tator-Hall Lectureship w/ keynote speaker Professor S Emery



## UofT- GTA Spine Rounds & Fellow Graduation

After fulfilling an intensive yet an enjoyable year of clinical and academic duties our citywide fellows have successfully completed their fellowship program for the year of 2017/18. At the Hart House on June 11th following SpineFEST2018, our citywide faculty and trainees celebrated the graduation. We thank our faculty for their outstanding mentorship and training, we also wish our fellows all the success in their professional and personal life. Big thanks to our visiting professor Dr Sanford Emery who joined us in this event and provided a spectacular perspectives on the “The Power of Technology” at the UofT- GTA Spine Rounds.

### Graduating fellows of 2017/18:

**Jean-Christophe Murray** is from Quebec City, Canada. He completed his medical degree (MD) and a master degree (MSc) in clinical epidemiology from University of Sherbrooke, and then his residency training in orthopedic surgery in Laval University, Quebec City. He subsequently completed two spine fellowships, a first one at Toronto Western Hospital, and a second one at St. Michael’s Hospital in Toronto. He will be taking up position at the Enfant-Jésus Hospital in Quebec City as a staff orthopedic spine surgeon. His practice will include general orthopedic trauma, as well as spine trauma and an elective spine practice encompassing the whole spectrum of spine surgery. JC’s hobbies include running, road cycling, and he is also an avid alpine skier.

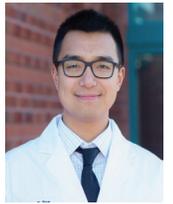


**Ralph Schär** graduated from medical school at the University of Bern, Switzerland. He completed his neurosurgery training at Bern University Hospital including a spine fellowship in Zurich. After being promoted to staff neurosurgeon in Bern he became more involved and interested in complex spine



surgery. He then successfully applied for a spine fellowship position with Dr. Howard Ginsberg at St. Michael’s Hospital in Toronto. During his clinical fellowship he got the opportunity to assist and operate on a broad spectrum of complex spine cases, he got involved with clinical research and was able to give oral presentations at national and international conferences. Upon his return to Switzerland, he takes up his staff neurosurgeon position at Bern University Hospital with a special focus on complex spine surgery.

**Zachary Tan** is originally a native of Calgary, Alberta. He went to medical school at the University of Alberta and received his Orthopedic Surgery residency training at the University of Toronto. He completed the rigorous Competency Based Curriculum residency in four years and enjoyed an additional year as a clinical fellow in Complex Spine Surgery at the Sunnybrook Health Sciences Center under the direction of Dr. Albert Yee, Dr. Joel Finkelstein, Dr. Michael Ford and Dr. Jeremie Larouche. He is transitioning to community private practice in coastal Virginia, United States with a practice tailored to general Orthopedics and Spine surgery. His recent research includes the development and validation of a novel freehand technique for inserting cortical based trajectory pedicle screws in the adult lumbar spine.



*@ UofT-GTA Spine Rounds and Fellow Graduation with faculty and fellows*



## Fellow Graduation Cont'd

**Stephanie de Vere** attended medical school at the University of Calgary and completed residency at the University of Alberta. She chose to come to the University of Toronto - Sunnybrook for fellowship due to her interest in trauma and oncology. She will have a further one year of fellowship at the University of Ottawa working with both neurosurgery and orthopedics. Stephanie has a keen interest in medical education and hopes to pursue a masters in medical education in the future.



**Mohammad Obeidat** is from Amman, Jordan. He is an army officer (Major). He had completed his MD in the Jordan University of Science and Technology- Irbid, and his Orthopedic residency program in King Hussein Medical Centre in Amman. Mohammad completed his two- year orthopedic spine fellowship at King Hussein Medical Centre. Mohammad completed his first year adult spine fellowship program at the Toronto Western hospital and his second year at Sunnybrook hospital. Mohammad continues in the 2018/19 for a third year at the Toronto Western Hospital with intensive exposure to pediatric spine surgery at SickKids. Upon his return, Mohammad will resume his career at the Jordanian Royal Medical Service as staff Orthopedic spine surgeon.



**Dror Ofir** is from Haifa-Israel. He completed his medical degree from University of Pavia, Italy. Dror completed his residency in orthopedic surgery in 2016 At Rambam Hospital Haifa. He has completed his first year fellowship at Sunnybrook hospital and continued his 2nd year of fellowship accords the citywide spine hospitals. Upon his return, Dror continues to further his interest in adult and pediatric spinal surgery. Dror will be taking up positions at the Rambam Hospital at Haifa as a staff spine surgeon.



We also congratulate our fellows Dr **Robert Ravinsky** for completing his fellowship and pursuing his career at the States, best wishes to Dr **Vinay Kulkarani** on a successful fellowship year and we wish him and his family a happy return to Australia, we are glad we have Dr **Fan Jiang** complete his first year fellowship and continue with us for the second year as a research fellow. Congratulations to Dr **Christopher Nielsen** on a successful fellowship and on his appointment as Clinical Associate in Toronto.



R Ravinsky



V Kulkarani



F Jiang



C Nielsen

## Welcome Dinner & Research Update Meeting

On August 7th, we welcomed our incoming citywide fellows who had the chance to network with citywide staff and trainees. We also introduced some of our spine research projects being conducted by our scientists and trainees across the spine related disciplines: Dr Mark Erwin presented his work on Treating Degenerative Disc Disease with a Novel Molecular Therapy; Victor Chan talked about Comparing Augmented Feedback and Standard Didactic Approaches to Change Lifting Technique During Paramedic-Specific Lifting Task; Danielle Carnegie introduced his research around Examining the influence of lower extremity mobility on spine mechanics to assess and (re)train lifting technique; Jae Lee and Kramay Patel demonstrated their research projects about Trunk control during standing balance for individuals with incomplete spinal cord injury and about Wheelchair Neuroprosthesis for Improving Dynamic Trunk Stability; our Surgeon Scientist trainee and Dr Muhammad Ali Akbar presented his work on Advanced Quantitative Imaging of the Spinal Cord; while Hardeep Singh shared the work on perspectives of administrators on fall prevention in SCI rehabilitation. Dr Milos Popovic discussed leadership in research at the Toronto Rehabilitation Institute, and Dr Jamie Wilson introduced key current and future research projects at the Toronto Western Hospital Spine Program.

We thank all presenters, faculty and trainees for their views and discussions. Special Thanks to Drs Karl Zabjek and Carlo Ammendolia for their efforts in organizing the Research Update Meeting.

We also welcome all our new spine fellows who have joined us this year from near and afar, and those who are remaining with us for a consecutive year. We wish them a successful academic year filled with happy holidays and fun times.

### Incoming Spine Fellows 2018/19

#### St. Michael's Hospital

- Rami Alshamrani from Saudi Arabia
- Alexander Romagna from Italy
- Vasudev Hannant Navalgund from Australia

#### Toronto Western Hospital

- Anastasios Charalampidis from Sweden
- Pratipal Singh Kalsi from the United Kingdom
- Mohammad Obeidat from Jordan (TWH /SickKids)
- Pang Hung Wu from Singapore
- Jamie Wilson from United Kingdom (Jan -Dec 2019)
- Fan Jiang from Canada

#### Sunnybrook Health Sciences Centre

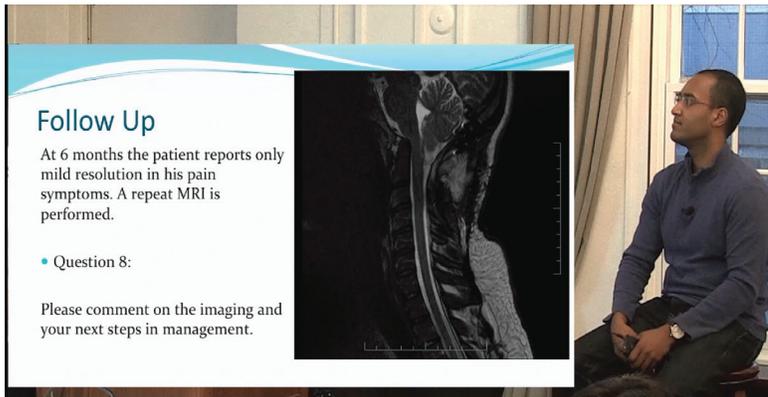
- Francis Lyons from Ireland
- Christopher Small from Canada
- Hananel Yashuv from Israel

## Annual Courses

### FRCS Mock Oral Exam on Spine

In Spring March 29th we had excellent resident's turnout at our Royal College Mock Oral Exam on Spine Prep Course. Co-Chaired by Professors Michael Fehlings and Albert Yee, our Program offers this annual training in Royal College format to attract our senior residents and Royal College examines candidates from both Neurosurgery and orthopedic surgery. We thank our teaching fellows this year (Drs Jamie Wilson, Christopher Nielsen, Steph De Vere, Ralph Schaer, and Fan Jiang) for their excellent training and quizzes. The training was very well received and evaluated as excellent and beneficial to residents who sit the exam this year.

@ tprep quiz. Deep Guha (PGY 4 Neurosurgery)



### Cadaver Lab

Chaired by Dr Stephen Lewis, the Program offered the citywide fellows an additional yearend surgical skills training on June 19th. The cadaver lab was focused on Osteotomies with advanced techniques, instrumentations, and exposure. The fellows also had the opportunity to train on specific cases upon their requests. We thank Dr Lewis for this additional exposure and for his continued excellence in advancing our fellow's surgical skills.

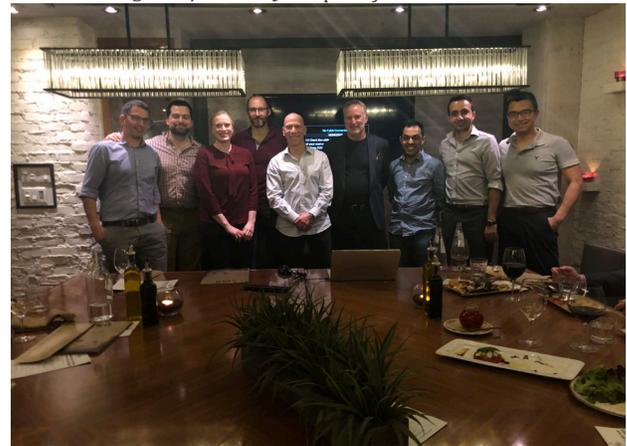
@ Mount Sinai Surgical Skills Lab. S Lewis with spine fellows and trainees



### Caree Night

Many thanks to Drs Finkelstein and Larouche for organizing an excellent workshop on professionalism and communication on May 2nd hosting Neil Grammer who shared his expertise to help our graduating spine fellows improve their public speaking and interviewing skills. Our fellows and senior residents found the workshop very informative and helped refine their professional communication skills.

@ Career Night w/ Faculty & spine fellows



### Traumatic Spinal Cord Injury Course

A team of faculty led by Dr Fehlings conducted the traumatic spinal cord injury course intended for fellows and senior residents. Coordinated by Dr Sukhvinder Kalsi-Ryan the course was designed to provide a body of knowledge related to traumatic SCI, management, clinical trials, trauma room management and classification of disease severity. The course covers information related to disease and pathology; epidemiology, fracture classification and severity of injury classification of disease severity. The course also covers information related to disease and pathology; epidemiology, fracture classification and severity of injury classification.

Thanks to the teaching team of Drs Fehlings, Jeff Wilson, Jeremie Larouche and Kalsi-Ryan for an excellent program and informative training session.

@ TSCI workshop w/ Faculty & spine fellows and senior residents



## Visiting Professors

### Special Lecture

We were delighted to have Dr **Wilco Peul** back to Toronto on June 18th on a double mission! Professor Peul from Leiden University served as an external review for our surgeon scientist trainee's (Dr Anick Nater) PhD degree Oral examination and as an invited lecturer.

Professor Wilco C. Peul, MD, PhD, MBA is a neurosurgeon and clinical epidemiologist at the Leiden University Hospital (LUMC) and Medical Centre-The Hague (MCH). In his talk Dr Peul's featured "Surgical Dilemma's & Moral Boundaries in Craniocervical Pathology". Thanks to Professor Peul for his valued participation in our program and congratulations to Dr Anick Nater on her successful thesis defense.

### Hospital-Based Visiting Professorships

Jointly with **Sunnybrook Health Sciences Centre** our program hosted Professor **Marcel Dvorak** MD (Professor of Orthopaedics, University of British Columbia Spine surgeon, Vancouver General Hospital; Medical Director, Rick Hansen Spinal Cord Injury Registry) as a visiting professor on February 26th. Dr Dvorak's lecture walked us through what is most likely to improve care for patients with acute SCI: More RCT's, Registries, or Health Policy and Systems Research. At the UofT-GTA Spine Rounds Dr Dvorak also shared a view of surgical services from the Dark-Side: The evolution, growth and future strategic direction of the Vancouver Spine Program.

*@ morning rounds W/ Dr Dvorak and Faculty*



*@ UofT-GTA Spine Rounds w/Dr Dvorak & faculty*

### Hospital-Based Visiting Professorships - cont'd

On May 7th, with **St. Michaels' Hospital** we also co-hosted Professor **Ashwini Sharan** MD, Professor of Neurological Surgery & Neurology visited our program. Dr Sharan is the Program Director, Residency in Neurological Surgery Division Chief, Epilepsy and Neuromodulatory Neurosurgery Vickie and Jack Farber Institute for Neuroscience at Jefferson, President - Congress of Neurological Surgeons, and he is also the Past President - North American Neuromodulation Society. Dr Sharan provided a talk about Neuromodulation and the post-Laminectomy. At the UofT-GTA Spine Rounds, Dr Sharan also featured Neuromodulation from economic perspectives.



*@ morning rounds W/ Dr Sharan and Neurosurgery Faculty*



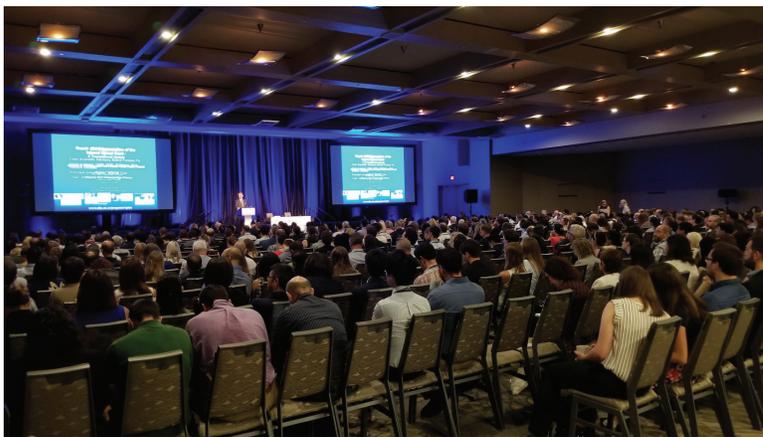
*@ morning rounds W/ Dr Sharan, Faculty and Trainees*

## Spine @ Large

### The NeuroTrauma 2018, Toronto August 11-16, 2018

Jointly with the International and National Neurotrauma Societies and AANS/CNS Section on Neurotrauma and Critical Care, Professor Michael Fehlings (Local Host, Co-Chair Neurotrauma 2018, and president INTS2020) thanks all who participated in this outstanding event and made it a huge success. The NeuroTrauma 2018 this year in Toronto brought together 1,288 attendees from 48 countries, 33 exhibiting companies, over 700 poster presentations, 28 scientific sessions, 7 symposia sessions and 2 pre-symposium courses.

All are invited to continue involvement with the International and National Neurotrauma Societies and AANS/CNS Section on Neurotrauma and Critical Care through the coming year. Save the date for The 2019 NNS annual meeting in Pittsburgh, June 30 – July 3, 2019 and the 2020 INTS meeting in Melbourne- Australia, March 29 – April 2, 2020.



@ Plenary session at the Neurotrauma 2018

## SAVE THE DATE

### Global Spine Congress coming to Toronto May 15-18, 2019

The AOSpine and Professor Michael Fehlings, Local Host, invite you to the 8th Annual Global Spine Congress (GSC) which will take place in Toronto, Canada from 15-18 May, 2019.

The GSC – is a world class International Spine Congress and the biggest gatherings for thousands of spine surgeons from all over the world. The congress provides an outstanding forum to exchange ideas, network with fellow spine professionals, and to learn about the latest research, techniques, and technologies in spine surgery. The GSC will feature an exciting and unique scientific program with parallel sessions for three full days, covering a wide range of spine related topics.

Get the opportunity to present your work to a broad audience, and to discuss it with the world's best spine experts. All accepted abstracts will be published in the special online issue of the Global Spine Journal. The Global Spine Congress is unique in its approach to sharing knowledge and developing new approaches to the treatment of spinal disorders in order to help advance spine care. The congress is open to all surgeons, spine practitioners, allied health care professionals and researchers.

Join us at the GSC 2019. Registration: <http://www.gsc2019.org/index.php/registration>

## SAVE THE DATE

### Hospital-Based Visiting Professorship

**Co-Host:** Dr Carlo Ammendolia - Mount Sinai Hospital

**Visiting Professor:** Dr. Greg Kawchuk DC, PhD, professor, Faculty of Rehabilitation Medicine - the University of Alberta.

**Talk Title:** "New insights into the mechanisms underlying spinal manipulation".

**Date:** Feb 11th, 2019 @ 7:30 am to 8:30 am

**Location:** Mount Sinai Auditorium 18th floor

**Invitees:** all faculty (surgeons and scientists), fellows and residents, other multidisciplinary trainees (post-doc, graduate and undergraduate), researchers, physiotherapists, clinicians and non-healthcare professionals.

### SPINEFEST2019 The 11th Annual Academic Spine Day

**Co-Chairs:** Dr Michael Fehlings and Dr Albert Yee

**Keynote Speaker:** Professor Mummaneni, Professor Neurological Surgery, University of California, San Francisco.

**Date:** Monday June 10, 2019 at 7:00 am-4:00 pm

**Location:** Peter Gilgan Centre for Research and Learning CRL Auditorium (2-9330), 686 Bay Street.

**Invitees:** all faculty (surgeons and scientists), fellows and residents, other multidisciplinary trainees (post-doc, graduate and undergraduate), researchers, physiotherapists, clinicians and non-healthcare professionals.

### The 19th Annual Scientific Conference of the Canadian Spine Society is coming to Toronto

Wednesday, February 27 – Saturday, March 2, 2019, at Fairmont Royal York, 100 Front Street West, Toronto Ontario M5J 1E3. For registration and program details visit <http://spinecanada.ca/>

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HOSPITAL-BASED  
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Mount Sinai  
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Greg Kawchuk DC PhD  
Professor, Faculty of Rehabilitation Medicine  
University of Alberta  
Canada Research Chair in Spinal Function  
1st chiropractic research chair in Canada  
Research Council Chair, World Federation of Chiropractic  
Lead, G.A. D Back initiative in Canada  
Research interests: Back pain and spine function  
Pubs: The Spine Journal, Pain, Scientific Reports, PLOS One

"New Insights into the Mechanisms  
Underlying Spinal Manipulation"

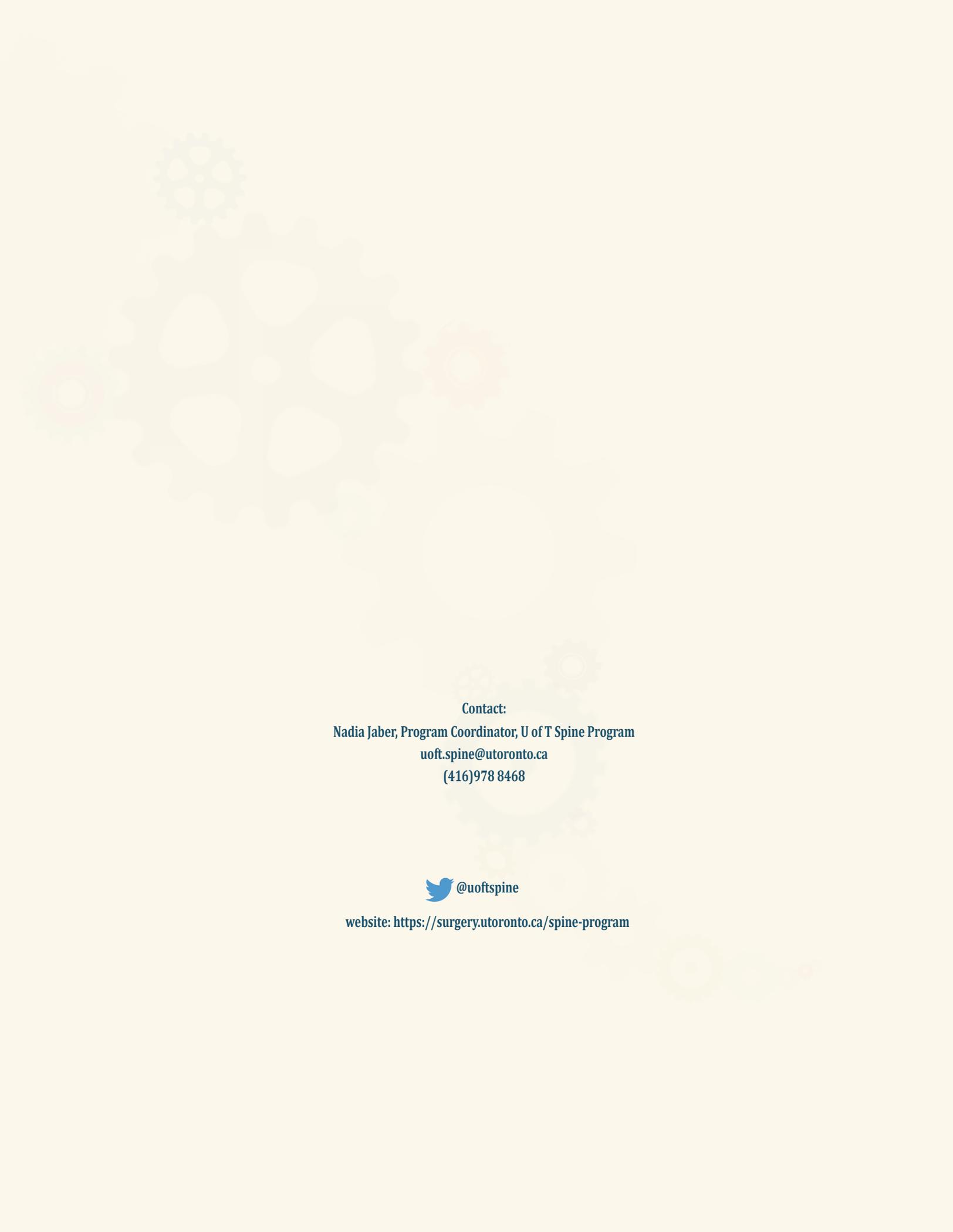
Monday  
February 11, 2019 @ 7:30 AM  
Ben Sadwoski Auditorium 18th Floor  
Mount Sinai Hospital, 600 University Ave



*The University of Toronto Spine Program acknowledges the strong support from the University of Toronto Department of Surgery, Division of Orthopaedic Surgery, and Division of Neurosurgery. The Program also acknowledges the continued support from our Industry Partners: Medtronic, DePuy Synthes; Ethicon; and Zimmer Biomet. and Stryker.*

Donations to the University of Toronto Spine Program support educational events, clinical and preclinical research and trainees. The funds also support ongoing programmatic collaborative initiatives set forth to advance spine care and research in Canada and worldwide.





**Contact:**

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**website: <https://surgery.utoronto.ca/spine-program>**