NEUROSURGE
MONTHLY INFORMATION FROM THE CHAIRMAN’S OFFICE
UNIVERSITY OF TORONTO, DIVISION OF NEUROSURGERY

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FROM THE CHAIRMAN’S OFFICE

On July 6 we welcomed this year’s new PGY1 residents Ali Akbar, Jetan Badhiwala, Kyle Juraschka, Farshad Nassiri and Shervin Taslimi and incoming city-wide fellows to our Division with a BBQ reception held at the Chairman’s home. The warm weather provided the backdrop for a relaxing and enjoyable afternoon for over 50 faculty, residents, fellows and family and friends. Photos from the event can be found by logging on to our Division website and going to Faculty | Members Only | Event Photos.

Three Neurosurgery Faculty, Drs. Abhaya Kulkarni, Gelareh Zadeh and Taufik Valiante, were promoted at the University of Toronto effective July 1, 2014. Dr. Kulkarni, our Residency Program Director since 2010, was promoted to the rank of Full Professor. His research program is focused on outcomes and quality of life measures and assessment tools development in childhood hydrocephalus and pediatric neurooncology. In addition, he is leading several innovative approaches to neurosurgical training within the Toronto program. Drs. Zadeh and Valiante were promoted to the rank of Associate Professor. Dr. Zadeh’s laboratory is focused on the molecular biology of brain tumours, with a specific interest in angiogenesis and radiobiology. She also serves as our Division’s new Director of Academic Affairs. Dr. Valiante has developed a research program focusing on the electrophysiological characterization of neuronal networks in epilepsy. He has helped lay the groundwork for a clinical epilepsy research program in Toronto through local and provincial-level efforts. Congratulations on these milestone achievements.

Dr. Michael Tymianski, Division Head at Toronto Western Hospital, received $6.6M in funding from Brain Canada for the Phase III trial of NA-1 for stroke. NA-1 will be administered by paramedics in the FRONTIER field program that begins next year in Toronto, Peel Region and Vancouver. The program was featured in a Globe and Mail article that can be accessed at: http://www.theglobeandmail.com/life/health-and-fitness/health/promising-canadian-stroke-drug-receives-large-research-grant/article20569436/#dashboard/follows/.
Dr. Andres Lozano was appointed to the rank of University Professor, the highest and most prestigious rank at the University of Toronto, effective July 1, 2014. He is the first neurosurgeon at the University of Toronto to be granted the distinction, which recognizes the University’s most outstanding scholars. He was nominated for his pioneering work in the mapping of new brain areas and circuits underlying neurological and psychiatric diseases, and the translation of these discoveries into the clinical application of deep brain stimulation for Parkinson's disease, treatment-resistant depression and Alzheimer's disease—mapping new areas of the brain involved in neurological disease. Details including a complete list of University Professors can be accessed at: http://news.utoronto.ca/andres-lozano-promoted-university-professor and http://www.provost.utoronto.ca/awards/uprofessors/complete.htm

Dr. James Drake, Division Head at the Hospital for Sick Children and Director of Sick Kids’ Centre for Image Guided Innovation and Therapeutic Intervention, was featured by the Toronto Star for his work in removing an osteoid osteoma using high-intensity focused ultrasound (FUS), a first such use in North America. The story can be accessed at: http://www.thestar.com/news/gta/2014/08/06/brampton_teens_leg_tumour_removed_with_highintensity_ultrasound.html

Dr. Michael Cusimano (St. Michael’s Hospital neurosurgeon) and his brother R.J. Cusimano (Toronto General Hospital cardiac surgeon) were profiled in the Toronto Star entitled “Toronto’s 'surgeon brothers' on top of medical world”. The piece can be accessed at: http://www.thestar.com/news/gta/2014/09/05/torontos_surgeon_brothers_on_top_of_medical_world.html.

Dr. Mark Bernstein, the Greg Wilkins-Barrick Chair in International Surgery at Toronto Western Hospital, authored two books for residents and fellows: “Neuro-oncology: The Essentials” and “Neurosurgical Ethics in Practice: Value-Based Medicine”. The latter is the first of its kind, focusing on the ethical dilemmas faced daily by neurosurgeons. http://wwwuhn.ca/corporate/News/Pages/Dr_Mark_Bernstein_writes_two_new_books.aspx
Drs. Gelareh Zadeh and Mark Bernstein together would like to thank the Society of Neuro-oncology Foundation and the Greg Wilkins-Barrick Chair in agreeing to support the International Neuro-oncology Neurosurgery Scholarship Program to help fund educational courses internationally. Dr. Zadeh, as the International Outreach Chair for Society of Neuro-oncology, initiated this proposal as a pilot program this year through the Society of Neuro-oncology. Please see the attached flyer and proposal form for further details.

On August 6, twenty fellows and Faculty and family attended a Toronto Blue Jays game against the Baltimore Orioles. The Blue Jays lost their fourth straight game, but attendees enjoyed the opportunity to meet and socialize at the Roger’s Centre under sunny skies. We thank Dr. Todd Mainprize, Division Head at Sunnybrook Hospital and City-Wide Fellowship Director, for organizing another successful event.

PGY3 resident Chris Ahuja represented Toronto Neurosurgery at this year’s Ozark Neurosurgery Education (ONE) clinic held August 7-9. The annual ONE clinic offers an opportunity to learn advanced cranial and spinal approaches at the Big Cedar Resort in Missouri. Residents enjoyed highly informative training and lectures as well as the free time allotted to partake in the area’s amenities, including fly fishing and jet skiing.

PGY6 resident Safraz Mohammed was spotlighted on the Canadian Association of Interns and Residents website. The piece can be found at: http://www.cair.ca/en/news/spotlight/.

On September 12-14th, fourteen Neurosurgery residents and Dr. Andres Lozano enjoyed a Division cottage weekend in the Parry Sound-area. The group took advantage of the warm September weather to go hiking, boating and attend a pub night. We thank to PGY6 resident Sumit Jhas for helping to organize this year’s event.

We welcome Rachel Wynski, a recent graduate in English and sociology from the University of Toronto, as assistant editor of Neurosurge.

It is with sadness that we marked the passing of Dr. Maureen Dennis, a Division-affiliated neuroscientist with the Hospital for Sick Children, on July 15. Dr. Dennis was a well-respected scientist who made immense contributions to the field of Developmental Neuropsychology. Dr. Dennis received her PhD in 1971 from York University before joining the Hospital for Sick Children for the duration of her career, where she was a Senior Scientist in Neurosciences and Mental Health and a Professor of Surgery and Psychology at the University of Toronto. She received the Lifetime Achievement Award from the International Neuropsychological Society in 2012. Please join me in extending condolences to the Dennis family at this time.
HONORS, GRANTS AND AWARDS – JULY-SEPTEMBER 2014

Vivek Bodani received a 2014 Canada Graduate Scholarships-Master’s from the CIHR and the Edward Christie Stevens Fellowship, the Chisholm Memorial Fellowship and the Nellie L. Farthing Fellowship from the University of Toronto.

Allan Martin received the Edward Christie Stevens Fellowship and the Joseph M. West family Memorial Fund from the University of Toronto.

Nir Lipsman was awarded the 2014 CSCI/CIHR Resident Research Prize for “Subcallosal cingulated deep brain stimulation for treatment-refractory anorexia nervosa”.

Ivan Radovanovic was awarded a $25 000 USD grant from the Brain Aneurysm Foundation for the project “Imaging Genomics of Unruptured Intracranial Aneurysms”. Co-PIs on the project are Michael Tymianski, Timo Krings, Danny Mandell and Vitor Mendes Pereira.

Mojgan Hodaie was invited to serve on the Health Professional Awards - Fellowships committee for 2014-2015.

Michael Fehlings was awarded a grant from the Physicians’ Services Incorporated Foundation for 2014-16 in the amount of $165,500 for his project “Preventing neurological decline in cervical spondylotic myelopathy with intravenous IgG”.

Michael Fehlings was awarded a 5-year grant from the Canadian Institutes of Health Research for 2014-19 in the amount of $569,330 for his project entitled “Mechanistic insights and neuroprotective approaches to enhance recovery in age related spinal cord degeneration”.

Michael Fehlings has accepted a position on the Advisory Board of company “Cell Reprogramming and Therapeutics” headed by Arshak Alexanian, Associate Professor at Medical College of Wisconsin.

Michael Fehlings was featured in the article “Path to Discovery” and wrote an article entitled “Centering on central nervous system injury” for International Innovation (Issue 144, pages 27-9).

Andres Lozano was named to the rank of University Professor.

Andres Lozano was invited to serve on the Jonas Salk Research Awards Committee and the Margolese National Brain Prize Committee.

PUBLICATIONS – JULY-SEPTEMBER 2014


Macdonald RL. When you are old. Stroke. 2014 Sep;45(9):2830-2.


Martin, Allan. AJNR-14-00330,R1 Small pipes: preliminary experience with 3mm or smaller Pipeline flow-diverting stents for aneurysm repair prior to regulatory approval.


Books


VISITING PROFESSORSHIPS – JULY-SEPTEMBER 2014

Leo Da Costa was an Invited Faculty at the 10 Current Controversies in Spine Surgery sponsored by Stryker Latin America. "Surgical approaches to traumatic lesions of the sub-axial spine". Royal Oak, Michigan. July 16-18, 2014.

Leo Da Costa had three presentations given on his behalf at the 19th International Conference on Biomagnetism 2014. (1) “Delayed activation of mental flexibility-related brain regions in mild traumatic brain injury patients as detected with magnetoencephalography” (MacDonald, Matt J.; Da Costa, Leodante; Bethune, Allison; Robertson, Amanda; Shek, Pang N.; Taylor, Margot J.; Pang, Elizabeth W.), (2) “Neurofunctional differences of mild traumatic brain injury elicited during a working memory task” (Cassel, Daniel B.; Dunkley, Benjamin T.; Da Costa, Leo; Robertson, Amanda; Bethune, Allison; Urbain, Charline M.; Pang, Elizabeth W.; Taylor, Margot J.) (3) “Amplitude envelope correlations during resting state in mild traumatic brain injury” (Dunkley, Benjamin; Da Costa, Leo; Doesburg, Sam; Robertson, Amanda; Pang, Elizabeth; Taylor, Margot). Halifax, Nova Scotia. August 24-28, 2014.


Gelareh Zadeh was a Visiting Professor to the University of Alberta, Division of Neurosurgery. “Is Anti-angiogenic Therapy in Brain Tumors a Failed Attempt”. Edmonton, Alberta. June 26-27 2014.

Gelareh Zadeh was an Invited Speaker at the 20th International Conference on Brain Tumor Research – ASILOMAR. “Identifying Targets of Tumor Metabolism in GBMs”. Lake Tahoe, California. July 20-23, 2014.

Gelareh Zadeh was a Visiting Professor to the University of Indianapolis, Goodman Campbell Brain and Spine Center. “Molecular Mechanisms of Resistance to Anti-angiogenic Therapy” Indianapolis, Indiana. July 28-31, 2014.


Michael Fehlings was a Guest Speaker at the American Academy for Cerebral Palsy and Developmental Medicine (AACCPDM ) 68th Annual Meeting. “Instructional Courses - Neural Stem Cells as a Potential Therapeutic Approach for Developmental Brain Disorders: What Does The Clinician Need to Know” San Diego, California. September 10-13, 2014.

Michael Fehlings was an Invited Lecturer at the XXX Brazilian Congress In Neurosurgery.
Michael Fehlings was a Guest Speaker at Oregon Health & Science University (OHSU). “Role and Timing of surgery for Spinal Cord Injury” and “Repair and Regeneration of the injured spinal Cord: from molecule to man”. Portland, Oregon. September 29, 2014.


Andres Lozano was a Guest Lecturer at Stanford University, Department of Neurology and Neurological Services. “Treating neurological and psychiatric disorders by recalibrating the activity of brain circuits.” Stanford, CA. August 14, 2014.


Andres Lozano was an Invited Speaker at the International Forum on Motor Control and Parkinson’s Disease. “DBS for Parkinson’s disease.” Beijing, China. Sept 3, 2014


IN THE MEDIA

Mojgan Hodaie wrote a feature article for the American Association of Neurological Surgeons on neurosurgical education in low-resource areas. The piece highlights the work of the Neurosurgical Education with Universal Research ONline project (NEURONproject), the product of a visit to Ghana with Dr. Mark Bernstein, the Greg Wilkins-Barrick Chair in International Surgery at University Health Network. The piece can be accessed at: http://www.aansneurosurgeon.org/features/international-neurosurgery-education-are-we-keeping-up-with-the-times/.

Victor Yang’s work with the 7D Surgical Navigation device were featured by the CBC. The article can be accessed at: http://www.cbc.ca/news/world/scanner-gives-surgeons-real-time-road-map-of-human-body-1.2669579.
Andres Lozano’s work on deep brain stimulation as a treatment for anorexia nervosa is discussed in Aeon magazine in a profile of a young woman who received the treatment. The piece can be accessed at: [http://aeon.co/magazine/being-human/can-deep-brain-stimulation-treat-anorexia/](http://aeon.co/magazine/being-human/can-deep-brain-stimulation-treat-anorexia/)


**FACULTY FOCUS – SEPTEMBER 2014**

**Andres Lozano, MD, PhD, FRCSC, FRSC, FCAHS**

Dr. Lozano was born in Sevilla, Spain and moved with his family to Ottawa at a young age. He obtained his MD degree from the University of Ottawa and his PhD in Neurobiology and neurosurgical training from McGill University. He received postdoctoral training in movement disorders at Queen Square, London, UK and in cell and molecular biology in Toronto. He was appointed to the University of Toronto in 1991, and in 1999 he became the youngest individual to be appointed Full Professor in the Department of Surgery. In 2014 he was appointed to the rank of University Professor, the highest and most prestigious academic rank at the University of Toronto. He is currently Chairman of the Division of Neurosurgery at the University of Toronto and holds with it, the Dan Family Chair in Neurosurgery. He also holds the R.R. Tasker Chair in Functional Neurosurgery at University Health Network and a Tier 1 Canada Research Chair in Neuroscience.

Dr. Lozano has an active laboratory dedicated to the study of neurodegeneration and functional neurosurgery. He has published over 450 manuscripts, 90 chapters and edited 5 books. He has the unique distinction of being named the most highly cited neurosurgeon in the world (Thompson Reuters, 2002-2012). Dr. Lozano has been an invited speaker or visiting professor throughout the world, delivering over 500 lectures including 45 named lectures such as the Penfield, Marsden, Leksell, Feindel, Ojemann, Hunt-Wilson, Winn, Salk and Olivecrona lectures. He has served on the board and executive of several international organizations, including the founding scientific advisory board of the Michael J. Fox Foundation and the Weston Brain Institute, and has been President of both the American and World Society for Stereotactic and Functional Neurosurgery. He is editor-in-chief of the Textbook of Stereotactic and Functional Neurosurgery and currently serves on the international editorial board of 18 journals. Dr. Lozano is married to Marie and they have two sons, Alexander and Christopher.
Areas of Interest and Expertise
Dr. Lozano is best known for electrical recording and stimulation mapping of hitherto unexamined brain areas and for the identification and testing of novel therapeutic targets for deep brain stimulation (DBS). He and his team have pioneered the “first in man” applications of DBS in dystonia, Huntington’s, depression, anorexia and Alzheimer’s disease and locomotor brainstem areas in Parkinson’s disease. His recent work in experimental animals has shown that DBS can drive neurogenesis and enhance memory function. He is currently leading a large multicenter trial of DBS for Alzheimer’s disease. Dr. Lozano is particularly proud of the residents in the neurosurgery training program in Toronto and the more than 60 functional neurosurgery fellows that have trained with him and gone on to become leaders in their field.

Current Appointments
- University Professor, Department of Surgery, University of Toronto, 2014-present
- Chair, Scientific Advisory Board, Weston Brain Institute, 2014-present
- Dan Family Chair in Neurosurgery, University of Toronto, 2010-present
- R.R. Tasker Chair in Functional Neurosurgery, University Health Network, 1999-present
- Tier 1 Canada Research Chair in Neuroscience (renewed), 2005-present
- Professor of Neurology (cross-appointment), University of Toronto, 2011-present
- Member, Institute of Medical Science, University of Toronto, 1994-present
- Senior Scientist, Toronto Western Research Institute, 1996-present
- Staff Surgeon, Division of Neurosurgery, Toronto Western Hospital, 1991-present

Selected Awards and Distinctions
- Innovations Award, Canadian College of Neuropsychopharmacology, 2014
- Cloward Award, Western Neurosurgical Society, 2014
- Margolese National Brain Prize, University of British Columbia, 2013
- Tasker Award, World Society for Stereotactic and Functional Neurosurgery, 2013
- Elected to 100 Espanoles (100 People of Spanish Origin), 2013
- Olivecrona Medal, Karolinska Institute, 2012
- Pioneer in Medicine Award, Society for Brain Mapping and Therapeutics, 2012
- Elected Fellow of the Canadian Academy of Health Sciences, 2012
- Senior Investigator Award, International College of Psychoneuropharmacology, 2012
- Donald Calne International Award for Parkinson’s Disease Research, 2010
- Winn Prize, Society of Neurological Surgeons, 2010
- Elected Fellow of the Royal Society of Canada, 2009
- Guest Member, Japanese Neurosurgical Society, 2009
- Jonas Salk Award, 2008
- Order of Merit of Spain, 2007
Selected Publications


Selected Current Funding


PI: Chen R, Zhuang P.; Co-PI: Hodaie M, Lozano AM.
$225,000
  *Phase II Trial of Deep Brain Stimulation of the Subcallosal Cingulum for Treatment-Refractory Anorexia Nervosa.*
  PI: Lozano AM.
  $200,000
  *Deep Brain Stimulation for Alzheimer’s Disease.*
  $3,390,034
- Canadian Institutes of Health Research (CIHR), 2012-2017.
  *Pathophysiological mechanisms of dystonia: Insights from deep brain stimulation and brain plasticity.*
  $811,895
  *Deep Brain Stimulation for Alzheimer’s disease.*
  PI: Lozano AM.
  $520,439
- Canadian Institutes of Health Research (CIHR), 2011-2014.
  *Brain stimulation to induce plasticity and enhance recovery in animal models of stroke.*
  PI: Lozano AM.
  $225,000

**PDFs OF THE MONTH**


**UPCOMING NEUROSURGICAL MEETINGS, EVENTS AND ANNOUNCEMENTS**

**October 2014**

3rd Annual General Meeting of the Division of Neurosurgery. Wednesday, October 8, 2014. University of Toronto Faculty Club 41 Wilcox Street (Main Dining Room) from 5:15pm to 7:00pm.

Canada-Wide Neurosurgery Practice Exam. February 6, 2015. 9:00-12:00. Location to be confirmed. Confirm intent to sit the exam by October 8.

City-Wide Journal Club, hosted by Dr. Abhaya Kulkarni at his residence. October 16, 2014. 6:30 pm. To register, please contact Ms. Sandi Amaral at sandi.amaral@uhn.ca

Dr. Gelareh Zadeh, Medical Director, Acoustic Neuroma Association, together with Alireza Mansouri, MD (Neurosurgery Resident) have organized the Acoustic Neuroma Association of Canada (ANAC) Symposium to be held Oct 18, 2014. Toronto Western Hospital will be hosting this symposium (Lecture Hall. 8:30am to 5:00pm), chaired by Dr Michael Tymianski. Please contact Gelareh if you wish to attend. More information can be found on the attached flyer.


**November 2014**

Call for Resident Clinical Research Presentations for the Horsey Prize: abstract deadline November 5. Competition held during the Botterell Lectureship on Tuesday, November 11.


2014 E. Harry Botterell Lectureship in Neurosurgery. Speaker: Hugues Duffau. Toronto Western Hospital, Main Auditorium, West Wing 2-401. November 11, 2014. 9:00-18:00.


**RESIDENTS’ CORNER**

**Academic Career Opportunity**

The Department of Neurosurgery at Loma Linda University is seeking two BE/BC faculty members at the Assistant or Associate Professor level to join their neurosurgical practice as a full-time Spine specialist and a full-time specialist in Cerebrovascular/Endovascular surgery. Contact Farbod Asgarzadie, the Interim Chair, Loma Linda University Health System, Department of Neurosurgery at (909) 558-4419 for more information.

**Brain School Schedule & Events**

[thebrainschool.net](http://thebrainschool.net)

**OCTOBER 2014**

**Friday, October 3, 2014**

Toronto Western Hospital, Main Pavilion 15th Floor Solarium

0900-1200

Dr. Albert Yee: Bone Biology

Resident Case Presentations
Friday, October 10, 2014
Toronto Western Hospital, Main Pavilion 15th Floor Solarium

Spine Block

Friday, October 17, 2014
Mount Sinai Hospital, Surgical Skills Centre, Level 2, Grand Room 247
0900-1500

Dissection Workshop for Cranio-Orbital Region
Course Director: Dr. Farhad Pirouzmand

All residents invited to attend Didactic Session from 0900 to 1100
• Applied anatomy of orbit (tailored toward neurosurgical diseases)
• Common neurosurgical diseases presenting with involvement of orbit,
  Common neurosurgical approached for cranio-orbital diseases

PGY4-6 residents must sign up on first-come basis for Dissection segment from 1100 to 1500
• Cadaver Dissections, Anterior skull base, extradural bony exposure/approach (bony work)
• Cadaver Dissections, Anterior skull base, intraorbital exposure/approach (soft tissue dissection)

All resident must confirm their attendance to sandi.amaral@uhn.ca

Friday, October 24, 2014
Toronto Western Hospital, Main Pavilion 15th Floor Solarium
0900-1200

Topic: Spine Infections

Dr. Abdu Sharkawy: Classification, etiology, work up, and treatment for spine infections
Resident Case Presentations

October 27-31, 2014
Mount Sinai Hospital, Surgical Skills Centre, Level 2
49th William Lougheed Microsurgical Course
Course Director: Dr. Ivan Radovanovic
Guest Faculty: Dr. Peter Gooderham, Assistant Professor, Division of Neurosurgery, University of British Columbia, Vancouver General Hospital

Friday, October 31, 2014
Toronto Western Hospital, Main Pavilion 15th Floor Solarium
0900-1200

Spine Block
RESIDENCY PROGRAM COMMITTEE MEETING
Tuesday, October 14, 2014, TWH, WW 4-430

NEUROSURGERY CABINET MEETING
Tuesday, October 21, 2014, TWH, WW 4-438 (library)