



IV International Workshop

# NEUROSPINE

*Regeneration & Rehabilitation in Brain and Spinal Cord Injuries  
From Cells to Bioengineering and Neuroinformatic Applications*

**DATE:** June 28, 2019

**LOCATION:** Rehabilitation Sciences Institute,  
University of Toronto  
Room 140, 500 University Ave., Toronto (Canada)

## SPONSORED BY:



**IITM**

International Institute of Tele-Medicine  
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Rehabilitation Sciences Institute  
**UNIVERSITY OF TORONTO**



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## PROGRAMME

**H 13:00: PARTICIPANTS REGISTRATION**

**H 13:45: WELCOME ADDRESS AND INTRODUCTION**

**Angela Colantonio**, Director of Rehabilitation Sciences Institute, University of Toronto  
**Francesco Sicurello**, President of IITM & Bicocca University of Milan

**H 14:00: CHAIR – FRANCESCO SICURELLO**

- **Central nervous system trauma: Big data and mining techniques to guide prevention, treatment and rehabilitation;** **Angela Colantonio**<sup>1,3,4</sup>, **Michael Escobar**<sup>2</sup>, **Vincy Chan**<sup>3</sup>, **Tatyana Mollayeva**<sup>3,4</sup> (1 Rehabilitation Sciences Institute, Faculty of Medicine, University of Toronto, 2 Dalla Lana (School of Public Health, University of Toronto), 3Toronto Rehab-University Health Network), 4Occupational Science and Occupational Therapy, University of Toronto)
- **The therapeutic impact of human induced pluripotent stem cell-derived neural precursor cells in cervical spinal cord injury;** **Mohamad Khazaei**<sup>1</sup>, **Cristopher Ahuja**<sup>1</sup>, **Narihito Nagoshi**<sup>1</sup>, **Iijun Li**<sup>1</sup>, **Michael G. Fehlings**<sup>1,2,3,4</sup> (1.Department of Genetics and Development, Toronto Western Research Institute, University Health Network, Toronto, 2.Department of Surgery, University of Toronto, 3.Institute of Medical Sciences, University of Toronto, 4.Faculty of Medicine, University of Toronto, Toronto)
- **ReMediSCIne Project (Regenerative Medicine in Spinal Cord Injury);** **Alessandra Mezzelani**, **Roland Reinbold**, **Ileana Zucchi** (Biomedical Technologies Institute CNR), **Antonio Oliviero** (National Hospital of Paraplegia, Toledo, Spain), **Francesco Sicurello** (IITM & Bicocca University of Milan), et Al.
- **Metformin Activates Neural Stem and Progenitor Cells in the Spinal Cord and Leads to Improved Functional Outcomes Following Injury;** **Emily A.B. Gilbert**, **Cindi M. Morshead** (University of Toronto)
- **Blocking Repulsive Guidance Molecule A promotes repair after spinal cord injury;** **Andrea Mothe**<sup>1</sup>, **P Jacobsen**<sup>2</sup>, **P Monnier**<sup>1,3</sup>, **C Tator**<sup>1,4</sup> (1 Krembil Research Institute, Division of Genetics and Development, Toronto, 2 AbbVie Translational Sciences, AbbVie, Chicago, USA, 3 Department of Ophthalmology and Vision Science, University of Toronto, 4 Department of Surgery, Division of Neurosurgery, University of Toronto)
- **Sex and gender differences in technology needs and preferences among informal caregivers of persons with dementia;** **Chen Xiong**<sup>1,2</sup>, **Bing Ye**<sup>2</sup>, **Alex Mihailidis**<sup>1,2</sup>, **Jill Cameron**<sup>1</sup>, **Arlene Astell**<sup>1,3</sup>, **Emily Nalder**<sup>1</sup>, **Angela Colantonio**<sup>1,2</sup> (1Rehabilitation Sciences Institute, Faculty of Medicine, University of Toronto, 2Toronto Rehabilitation Institute-University Health Network, 3Ontario Shores Centre for Mental Health Sciences, Whitby, Canada)

**H 15:30: BREAK**

**H 15:45: CHAIR – ANGELA COLANTONIO**

- **Regaining postural control after spinal cord injury.** **Kristin Musselman** (Toronto Rehabilitation Institute-UHN)
- **Identifying cases of spinal cord injury in an Ontario database of primary care electronic medical records;** **John Shepherd**, **Susan Jaglal** (Rehabilitation Sciences Institute, University of Toronto)
- **Mixed method pilot of an online self-management intervention for individuals with SCI;** **Susan Jaglal** (Department of Physical Therapy, University of Toronto), **Sarah Munce** (Toronto Rehabilitation Institute-University Health Network), **John Shepherd** (Rehabilitation Sciences Institute, University of Toronto), **Sonya Allin** (Department of Physical Therapy, University of Toronto), **Teri Thorson & Chris McBride** (Spinal Cord Injury BC, Canada), **Gary Linassi** (Physical Medicine and Rehabilitation, University of Saskatchewan, Canada), **Karen Anzai** (GF Strong Rehabilitation Centre, Canada)
- **Neurological Recovery of the Upper Limb after Traumatic Cervical Spinal Cord Injury (SCI): Novel findings to inform benchmarks for clinical trials;** **Sukhvinder Kalsi-Ryan**<sup>1,6,7</sup>, **Dorcas Beaton**<sup>2,3,6,8</sup>, **Armin Curt**<sup>9</sup>, **Milos R. Popovic**<sup>3,5,6,7</sup>, **Molly C.Verrier**<sup>1,3,6,7</sup>, **Michael G. Fehlings**<sup>4,6,7</sup> (1Dept. of Physical Therapy, 2Dept. of Occupational Therapy, 3Graduate Dept. of Rehabilitation Science, 4Dept. of Surgery, 5Institute of Biomaterials and Biomedical Engineering, 6University of Toronto; 7University Health Network; 8St. Michael's

Hospital, Mobility Evaluation and Clinical Research Unit; 9Spinal Cord Injury Centre, University Hospital Balgrist, Zurich)

- **How to get the best out of rehabilitation technology to improve patients' outcomes; Martina Spiess** (Senior Scientific Coordinator of Hocoma), **Frans Steenbrink** and **Alberto Esquenazi** (Hocoma AG, Switzerland)

## **H 17:15: DEMO AND POSTER SESSION**

NeuroSpine 2019 – **Posters** (presenter name in bold)

1. **Jervis Rademeyer H**, Jovanovic L, Kapadia-Desai N, Musselman KE, Marquez-Chin C. **The potential of brain-computer interface plus functional electrical stimulation for activity-based therapy for people with chronic spinal cord injury.**
2. **Kapadia-Desai N**, Jovanovic L, Lo L, Zivanovic V, Popovic MR, Marquez-Chin C. **Brain Computer Interface-Controlled Functional Electrical Stimulation Therapy for the Recovery of Upper-Limb Function After Six Years of Chronic Severe Hemiplegia.**
3. **Bandini A**, Likitlersuang J, Visée RJ, Zariffa J. **Automatic hand-object interaction detection using first person videos in individuals with cervical spinal cord injury living in the community.**
4. **Boulos M**, Colella B, Meusel LA, Ruttan L, Bayley M, Zee J, Miguel-Jaimes L, Panozo M, Dabek M, Worthington T, Green R. **Remote Delivery of Neurorehabilitation to Patients with Acquired Brain Injury: Feasibility and Lessons Learned from a Newly Established Telerehabilitation Centre.**
5. **D'Onofrio P**. **Necroptosis induces neuron degeneration and prevents regeneration in the retina after optic nerve damage.**
6. **Rybkina J**, Gilboa A, Bruno T, Srivastava A, Belchev Z, Jeffay E, Boulos M, Johns K, Green R. **Self-administered brain care at home: A novel, online intervention to enhance cognition and brain health in individuals living with neurological disorders.**
7. **Sefton E**, Morrison T, Naguib HE, Popovic MR, Morshead CM. **The Effect of Electrical Stimulation on Endogenous Neural Stem and Progenitor Cell Behavior.**
8. **Smaoui, S.**, Peladeau-Pigeon, M, Richardson, D., Steele, C. **Tongue Pressure Resistance Training for Swallowing Impairment Post-Stroke.**

## CHAIRS

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## SCIENTIFIC COMMITTEE

- M. Salem Abdel-Badeeh**, Ain Shams University Cairo  
Egypt  
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**Ridvan Alimehmeti**, Medical University, "Mother Teresa" Hospital, Tirana  
**Angelo All**, Johns Hopkins University Baltimore, Maryland USA  
**Marcos J. Arauzo-Bravo**, Biodonostia Health research Institute, San Sebastian, Spain  
**Szczepan Baran**, Novartis Institutes for Biomedical Research (NIBR), Inc. Cambridge, Massachusetts, USA  
**Pedro Berjano**, Galeazzi Orthopedic Institute, Milan  
**Frank Bradke**, German Center for Neurodegenerative diseases (DZNE), Bonn  
**Federico Cabitza**, University of Milano – Bicocca  
**Matteo Caleo**, Neuroscience Institute-CNR, Pisa  
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**Federico Cremisi**, Scuola Normale Superiore, Pisa  
**Simone Di Giovanni**, Imperial College of London  
**Giuseppina Di Lauro**, Dedalo Solutions, Pisa  
**Ivano Dones**, National Neurological Inst. C. Besta Milan  
**Passent El-Kafrawy**, Minoufiya University, Egypt  
**Adam Ferguson**, BASIC Univ, California, San Francisco  
**Maurizio Fornari**, Humanitas Research Hospital, Milan  
**Hassan Ghazal**, Univ. Mohamed Premier Oujda, Morocco  
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- Martin Götte**, Munster University Hospital, Munster Germany  
**James Kehler**, National Institute of Health, Bethesda, USA  
**Mateja de Leonni Stanonik**, Global\_Neurology, Tucson  
**Silvestro Micera**, Institute of BioRobotics, Pisa & École Polytechnique Fédérale, Lausanne  
**Angela Morreale**, Rehabilitation Institute, Montecatone, Italy  
**Sandro Mussa-Ivaldi**, Northwestern University & Rehabilitation Institute of Chicago  
**Federico Nicolosi**, Humanitas Research Hospital, Milan  
**Antonio Oliviero**, Hospital Nacional de Paraplégicos, Toledo  
**Marco Onorati**, University of Pisa  
**Elvira Pirondini**, École Polytechnique Fédérale, Lausanne  
**Roland Rheinbold**, Biomedical Technologies Institute CNR  
**José Abad Rodríguez**, Hospital Nacional Paraplégicos, Toledo  
**Martin Tabakow**, Technological University of Wroclaw, Poland  
**Wolfram Tetzlaff**, ICORD-International Collaboration on Repair Discoveries  
**Peter Tonellato**, Harvard Medical School, Boston  
**Joseph Tritto**, WABT Paris  
**Mark H. Tuszynski**, UC San Diego La Jolla, California  
**Yukako Yagi**, Memorial Sloan Kettering Cancer Center, NY  
**George W. Yip**, National University of Singapore, Singapore  
**Wise Young**, Rutgers University, NJ  
**Elisa R. Zanier**, IRCCS- Mario Negri Instit. of Pharmacological Research, Milan  
**Ileana Zucchi**, ITB-CNR, Italy.

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## ORGANIZING/PROGRAM COMMITTEE

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**Paolo Milia** (Neurorehabilitation - Istituto Prosperius, Italy)  
**Kristin Musselman** (Ontario Neurotrauma Foundation)  
**Giulia Stampacchia** (Centro Mielolesi, University Hospital Pisa)

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For more information and participation modalities contact: [segreteria@iitm.eu](mailto:segreteria@iitm.eu)

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