



**“New Frontiers in Magnesium Research:
Molecular Mechanisms and Clinical Implications”
XVIII International Magnesium Symposium
Research Institute of McGill University Health Centre
Mc Gill University, Montreal (Canada)**

August, 20-21, 2026

SCIENTIFIC PROGRAM

(EST TIME)

Thursday, August 20, 2026

08:00 – 08:30 **Registration**

08:30 - 08:45 **Welcome Remarks**

Rhian M Touyz

*McGill University Health Centre Montréal, Québec, **Canada***

Federica Wolf

*Università Cattolica del Sacro Cuore, Rome, **Italy***

08:45 - 09:10 **OPENING LECTURE** *organized by Rhian M Touyz*

*McGill University Health Centre Montréal, Québec, **Canada***

SESSION I

Magnesium Homeostasis – Wasting & Treatment

09:10 - 09:35 **SGLT2 inhibition and renal magnesium handling: Mechanisms and clinical implications**

Adriana Girardi

*Departamento de Cardiopneumologia, Faculdade de Medicina da Universidade de Sao Paulo (FMUSP), Sao Paulo, **Brazil***

09:35 - 10:00 **SGLT2 inhibitors for Hypomagnesemia: Case Series, Observational Studies, and a Clinical Trial**

Chintan V. Shah

*Division of Nephrology, Hypertension & Renal Transplantation
University of Florida – College of Medicine, FL, **USA***

10:00 - 10:25 **Magnesium reabsorption from the Proximal tubule and the TAL**

R. Todd Alexander

*Departments of Pediatrics, University of Alberta, **Canada***

10:25 - 10:35 ***Coffee Break around Poster Session***

SESSION II

Magnesium Homeostasis – TRP-channels

10:35 - 11:00 **New Insights into the Physiological Roles of TRPM6 and TRPM7**

Vladimir Chubanov

*Department of Pharmacology and Toxicology, Walther-Straub Institute, LMU Munich, **Germany***

11:00 - 11:25 **The magnesium channel TRPM6 is stimulated synergistically by the urinary proteins Mucin-1 and Uromodulin**

Matthias Wolf

*Department of Pediatrics, Pediatric Nephrology, University of Michigan, Ann Arbor, MI, **USA***

11:25 - 11:50 **TRPM channels in pancreatic islets**

Thomas Gudermann

*Walther Straub Institute of Pharmacology and Toxicology, Faculty of Medicine, LMU Munich, **Germany***

11:50 - 12:15 **Alexander Sobolevsky**

*Columbia University, New York, **USA***

12:15 - 12:40 **Alexey Ryazanov**

*Department of Pharmacology Rutgers, Robert Wood Johnson Medical School Piscataway, NJ, **USA***

12:40 - 13:05 **Modeling Calcium and Magnesium balance: Regulation by hormones**

Anita T Layton

*Department of Applied Mathematics, University of Waterloo, Waterloo, ON, **Canada***

13:05 - 14:00 ***Lunch around Poster Session***

14:00 - 14:25 **Keynote Lecture – Sponsored by *Magtein***

"From Molecule to Mind: A 20-Year Journey in Magnesium Translational Research"

Guosong Liu, PhD

Founder & CEO, Neurocentria, California, USA

Former professor at MIT and Tsinghua University

SESSION III

Magnesium Homeostasis – Evolution & Development

14:25 - 14:50 **Evolutionary involvement of PTP4A-like enzyme from TRANSLON to infectious agents**

Michel L Tremblay

Department of Biochemistry and Goodman Cancer Institute. McGill University, Montreal, Canada

14:50 - 15:15 **Magnesium control of bacterial physiology**

Eduardo A Groisman

Yale School of Medicine, Department of Microbial Pathogenesis, New Haven, CT, USA

15:15 - 15:40 **How Cells Set Magnesium Levels During Development**

Loren Runnels

Department of Pharmacology Rutgers, Robert Wood Johnson Medical School Piscataway, NJ, USA

15:40 - 16:10 **Coffee Break around Poster Session**

SESSION IV

Magnesium Homeostasis– CNNM-transporters

16:10 - 16:35 **Regulation of magnesium transport by the PRL/CNNM pathway**

Kalle Gehring

Department of Biochemistry, McGill University, Montreal, Canada

16:35 - 17:00 **Rewriting Liver Biology Through Magnesium Homeostasis**

María Luz Martínez-Chantar

CIC bioGUNE. Liver Diseases Lab, Vizcaya, Spain

17:00 - 17:25 **Onur Cil - Sponsored by the Jain Foundation**

Department of Pediatrics, UCSF, San Francisco, California, USA

17:25 - 17:50 **Open resources to understand and target membrane transporters in rare neurological diseases**

David Sauer - Sponsored by the Jain Foundation

Oxford CMD, UK

Friday, August 21, 2026

- 08:00 - 08:15** **Welcome sponsor session**
- 08:30 - 08:55** **Mechanisms of renal magnesium handling and links to hypokalemia**
James McCormick
Division of Nephrology & Hypertension, Department of Medicine, Oregon Health & Science University (OHSU), Portland, OR, USA
- 08:55 - 09:20** **The Mechanism whereby Mg treats Atrial Fibrillation and Heart Failure with Preserved Ejection Fraction**
Samuel C Dudley
Lillelei Heart Institute, Minneapolis, MN, USA
- 09:20 - 09:45** **Francisco Rios**
*School of Medicine, Pharmacy and Biomedical Sciences
University of Portsmouth, Portsmouth, UK*
- 09:45 - 10:10** **Novel insights in renal Mg²⁺ transport**
Jeroen de Baaij
Department of Medical BioSciences, Radboud University Medical Center, Nijmegen, the Netherlands
- 10:10 - 10:35** **Lixia Yue**
Department of Cell Biology, Pat and Jim Calhoun Cardiology Center, University of Connecticut Health Center Farmington, CT, USA
- 10:35 - 11:00** **Coffee Break around Poster Session**
- 11:00 - 11:25** **Renal Magnesium Conservation During Lactation**
Evan Ray
Renal-Electrolyte Div., University of Pittsburgh, PA, USA
- 11:25 - 11:50** **Marta Müller**
Department of Nephrology, University Hospital Düsseldorf, Germany
- 11:50 - 12:20** **Oral Presentations**
- 12:20 - 13:30** **Lunch around Poster Session**
- SESSION V**
Unveiling the Immunomodulatory Power of Magnesium: From Cellular Mechanisms to Clinical Impact
- 13:30 - 13:55** **Bebhinn Treanor**
Department of Biological Sciences, University of Toronto Scarborough, ON, Canada
- 13:55 - 14:20** **Hypomagnesemia in lymphoma patients receiving CAR T Therapy correlates with Immune dysfunction and decreased survival**
Thomas Witzig

14:20 - 14:50 **Oral Presentations**

SESSION VI

Magnesium across the lifespan: from conception to old age

14:50 - 15:15 **Rafael Fissore**

Veterinary Department, University of Massachusset, NJ, USA

15:15 - 15:40 **From Petri Dish to Patient: Unraveling the Role of Magnesium in the Biology of Aging**

Jeanette A Maier

Department of Biomedical and Clinical Sciences, University of Milan, Italy

15:40 - 16:05 **Magnesium involvement in biomineralization: a glimpse on the aging bone**

Stefano Iotti

Department of Pharmacy and Biotechnology, University of Bologna, Italy

16:05 - 17:35 **Oral Presentations**

17:35 - 18:00 **Coffee Break around Poster Session**

18:00 - 18:30 **SESSION VII**

Challenges in Magnesium Research:

still more questions than answers

where we are & where we are going

A Round Table discussion on issues that are still debated or unexplored and suggestions for the future of Mg research

Thomas Gudermann

Walther Straub Institute of Pharmacology and Toxicology, Faculty of Medicine, LMU Munich, Germany

Stefano Iotti

Department of Pharmacy and Biotechnology, University of Bologna, Italy

Jeanette A Maier

Dept Biomedical and Clinical Sciences, University of Milan, Italy

André Mazur

Clermont-Ferrand, France

Rhian M Touyz

McGill University Health Centre Montréal, Québec, Canada

Federica Wolf

Università Cattolica del Sacro Cuore, Rome, Italy

18:30 - 19:00 **Awards Nomination and Closing Ceremony**