



XVII International Magnesium Symposium

MAGNESIUM IN HEALTH AND DISEASE



Grottaferrata (Roma, Italy) – Park Hotel Villa Grazioli
5-6 September 2024

SCIENTIFIC PROGRAM (CET)

Thursday, September 5th, 2024

- 09:00 – 09:15 **Registration / Connection**
- 09:15 - 09:30** **Welcome Remarks**
Federica I Wolf (Rome, *Italy*)
- 09:30 - 09:50** **INTRODUCTORY LECTURE (Online)**
Cannabinoids inhibit TRPM7 and protect from kidney fibrosis
Andrea Fleig
University of Hawaii Cancer Center, Honolulu, Hawaii, USA
- 09:50 - 11:10** **SESSION 1 Magnesium measurements and requirements**
Chairmen: **Andrzej Mazur** (Clermont-Ferrand, *France*)
Stefano Iotti (Bologna, *Italy*)
- 09:50 - 10:10** **New approach to Magnesium Measurements**
Daniela Buccella
Biomedical Chemistry Institute New York University, NY, USA
- 10:10 - 10:30** **TBD**
- 10:30 – 10:50** *Coffee / Tea Break*
- 10:50 - 11:10** **Essential role of Mg²⁺ and TRPM7 for pre-implantation embryo development in the mouse**
Rafael Fissore
Veterinary Department, University of Massachusset, NJ, USA

Chair: **Federica I Wolf** (Roma, Italy)

Scientific Committee:

Vladimir Chubanov (Munich, Germany) **Jeroen De Baaij** (Nijmegen, the Netherlands), **Thomas Gudermann** (Munich, Germany), **Jeanette AM Maier** (Milano, Italy), **Andrzej Mazur** (Clermont-Ferrand, France), **Franco Scaldaferrri** (Roma, Italy), **Rhian Touyz** (Glasgow, UK – Montreal, Canada)

11:10 – 12:40 **SESSION 2 Magnesium Transporters**

Chairman: *Vladimir Chubanov* (Munich, *Germany*)

11:10 - 11:30 **Regulatory mechanisms of TRPM7**
Vladimir Chubanov
Pharmacology & Toxicology Dept., Ludwig Maximilians University, Munich, Germany

11:30 - 11:50 **Cellular Regulators of the TRPM7 Channel**
Loren Runnels
Dept. of Pharmacology, Rutgers Robert Wood Johnson Medical School, Piscataway, NJ, USA

11:50 - 12:10 **TRPM6 and TRPM7 kinases**
Alexej G Ryzanov
Department of Pharmacology, Robert Wood Johnson Medical School, Piscataway, New Jersey, USA

12:10 - 12:40 Oral Communications

12:40 - 13:40 *Lunch Break*

13:40 - 17:00 **SESSION 3 Magnesium translational research**

Chairmen: *TBD*

13:40 - 14:00 **The vascular biology of Mg and TRPM7 in health and disease**
Rhian M Touyz
Research Institute of the McGill University Health Centre (RI-MUHC), Montréal, Québec, Canada
Francisco Rios
Research Institute of the McGill University Health Centre (RI-MUHC), Montréal, Québec, Canada

14:00 - 14:20 **Exploring the Therapeutic Role of Magnesium Transporter CNNM4 in Regulating the Repair Activity of Protein-L-Isoaspartyl-O-Methyltransferase in Alcohol-Induced Liver Injury**
Malu Martinez Chantar
University of Deusto, Liver Disease Laboratory, Derio, Spain

14:20 - 14:40 **Role of magnesium and TRPM channels in pancreatic islets**
Thomas Gudermann
Walther Straub Inst. of Pharmacology & Toxicology, Faculty of Medicine, Munich, Germany

14:40 - 15:10 Oral Communications

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15:10 - 15:30 *Coffee / Tea Break*

15:30 - 17:00 **SESSION 4**
Magnesium time: from the origin of life to circadian rhythm and metabolism regulation

15:30 - 15:50 **Title tbd (Online)**
Michel L. Tremblay
Dept. of Biochemistry, Rosalind and Morris Goodman Cancer Research Centre - McGill University, Montreal, QC, Canada

15:50 - 16:10 **The regulation and functional consequences of circadian magnesium rhythms in a minimal eukaryotic model cell**
Gerben van Ooijen
School of Biological Sciences, University of Edinburgh, UK

16:10 - 16:30 **Magnesium: the joker of metabolism**
Roberta Cazzola
Department of Biomedical and Clinical Sciences, University of Milano, Italy

Magnesium: an other brick in the wall of life
Stefano Iotti
Department of Pharmacy and Biotechnology, University of Bologna, Italy

16:30 - 17:00 Oral Communications

19:00 **Social Dinner** (Villa Grazioli)

Friday, September 6th, 2024

09:00 - 11:00 **SESSION 3 Magnesium in clinical setting – PART I**

Chairmen: **Jeroen de Baaij** (Nijmegen, NL) and **Qi Dai** (Nashville, USA)

09:00 - 09:20 **Mg, mitochondria, and heart disease**
Samuel Dudley
Lillelei Heart Institute, Minneapolis, MN, USA

09:20 - 09:40 **Magnesium paracellular transport**
Pascal Houillier
Centre de Recherche Des Cordeliers, INSERM, Sorbonne Université, Université Paris Cité, Paris, France

Chair: **Federica I Wolf** (Roma, Italy)

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- 09:40 - 10:10** Oral Communications
“Hipofam: from the hypomagnesemic patient’s side”
Antonio and Susana Cabrera Cantero
Hipofam Association, Barcelona, Spain
- 10:10 - 10:30** **The Role of MUC1 in Mg Homeostasis**
Evan Ray
Renal-Electrolyte Div., University of Pittsburgh, PA, USA
- 10:30 - 10:50** *Coffee / Tea Break*
- 10:50 - 11:10** **Novel genetic causes of hypomagnesemia**
Jeroen De Baaij
Radboud Institute for molecular life sciences, Nijmegen, the Netherlands
- 11:10 - 11:30** **Sodium-glucose cotransporter 2 inhibition, epidermal growth factor, and magnesium homeostasis: is there a link?**
Chintan V. Shah
University of Florida – College of Medicine, Gainesville FL, USA
- 11:30 - 11:50** **The Pharmacologist point of view**
Giorgio Minotti
Campus Biomedico University, Rome, Italy
- 11:50 - 12:10** **Mg in intensive care**
TBD
- 12:10 - 12:30** **Auto immunity**
TBD
- 12:30 - 12:50** **Hot topic - Retrospective association studies: benefits and limitations**
Qi Dai
Cancer Center Vanderbilt University, Nashville, NJ, USA
- 13:00 - 14:00** *Lunch Break*
- 14:00 - 15:30** **SESSION 3**
Magnesium in clinical setting - Part II
- Chairman:** **Federica I Wolf** (Rome, *Italy*) and **Ka Kahe** (New York, *USA*)
- 14:00 - 14:20** **Mg²⁺ supplementation treats secretory diarrhea in mice by activating calcium-sensing receptor in intestinal epithelial cells**

Chair: **Federica I Wolf** (Roma, Italy)

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Onur Cil

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

14:20 - 14:40

**Gastro hepatology
TBD**

14:40 - 15:00

Magnesium Intake and Pregnancy Outcomes: Findings from the nuMoM2b Study

Ka Kahe

Department of Obstetrics and Gynecology and Department of Epidemiology, Columbia University, New York, USA

15:00 - 15:30

Oral Communications

15:30 - 15:50

Coffee / Tea Break

15:50 – 16:30

SESSION 4 Magnesium in alloys

Chairmen:

Jeanette AM Maier (Milano, *Italy*)

Andrzej Mazur (Clermont-Ferrand, *France*)

15:50 - 16:10

The role Magnesium plays as an implant material and how we might use it in the future to tailor tissue regeneration after accident or surgery

Regine Willumeit – Roemer

Helmholtz-Zentrum Hereon GmbH, Geesthacht, Germany

16:10 - 16:30

**Mg in stent
TBD**

16:30 - 17:00

Award Nomination and Closing Ceremony

Chairmen:

Andrzej Mazur (Clermont-Ferrand, *France*)

Federica I Wolf (Rome, *Italy*)

Chair: **Federica I Wolf** (Roma, Italy)

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