



XVII International Magnesium Symposium

MAGNESIUM IN HEALTH AND DISEASE



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

SCIENTIFIC PROGRAM

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, 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 **TITLE TBD**
Loren Runnels
Dept. of Pharmacology, Rutgers Robert Wood Johnson Medical School, Piscataway, NJ, USA

11:50 - 12:10 **TRPM6 and TRPM7 kinases**
Alexey G Ryazanov
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)

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14:40 - 15:10 Oral Communications

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**

Michel L. Tremblay

Dept. of Biochemistry, Rosalind and Morris Goodman Cancer Research Centre - McGill University, Montreal, QC, Canada

15:50 - 16:10 **TITLE TBD**

Gerben van Ooijen

School of Biological Sciences, University of Edinburgh, UK

16:10 - 16:30

Roberta Cazzola

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

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 Baaji (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
- 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** **TBD**
- 11:30 - 11:50** **Mg in intensive care**
TBD
- 11:50 - 12:10** **Diabetes**
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**
Onur Cil
Department of Pediatrics, UCSF, San Francisco, California, USA

14:20 - 14:40 **Gastro hepatology**
TBD

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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, 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*)
Andrè 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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