

34th Annual Meeting of the German Society for Minerals and Trace Elements (GMS)



*Gesellschaft für Mineralstoffe
und Spurenelemente e.V.*

in Jena

7th to 9th June 2018

„Health benefits and risks –
from single essential elements to
molecular interactions“

Program

Friedrich Schiller University Jena

Rosensäle, Fürstengraben 27

07743 Jena, Germany



**FRIEDRICH-SCHILLER-
UNIVERSITÄT
JENA**





ORGANISATION AND PROGRAM COMMITTEE

Local Committee

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LABVETCON, Burgdorf, Germany

Kostja Renko

Charité Berlin, Germany

Lutz Schomburg

Charité Berlin, Germany

Dirk Schaumlöffel

Université de Pau et des Pays de l'Adour/CNRS, France

Daniel Brugger

Technical University Munich, Germany

Talks

For invited speakers: 20 min talk and 10 min discussion

For talks chosen from abstracts: 12 min talk and 8 min discussion

PROGRAM

Thursday, June 7th

13:00 Registration & Coffee (Rosensäle, Fürstengraben 27)

13:15 – 16:00 GMS-Workshops

Trace elements – specific aspects in livestock and veterinary medicine

Esther Humann-Ziehank (LABVETCON, Burgdorf, Germany)

Daniel Brugger (Technical University Munich, Germany)

Reference materials for the analysis in bodyfluids

Carmen Alt (RECIPE, Leipzig, Germany)

Spurenelementanalyse in einem akkreditierten Routinelabor

Matthias Leiterer (Thuringian State Institute of Agriculture Jena, Germany)

16:00 – 18:00 **GMS Board Meeting**

18:30 Öffentlicher Abendvortrag (Public Talk in German)

„Der Mensch lebt nicht vom Brot allein: Die Rolle von Spurenelementen für die Biochemie des Menschen am Beispiel von Selen und Jod.“

Ulrich Schweizer (University of Bonn, Germany)

Friday, June 8th

8:00 Registration & Coffee (Rosensäle, Fürstengraben 27)

8:45 – 9:00 Opening

TRACE ELEMENTS IN HUMANS – *TraceAge session*

Chair: Tanja Schwerdtle

9:00 – 9:30 **T1. Distinct patterns of adaptation of selenoproteins in humans and other vertebrates**

Sergi Castellano (University College London, UK)

9:30 – 10:00 **T2. Micronutrients and autoimmune thyroid disease**

Margaret Rayman (University of Surrey, UK)

10:00 – 10:30 **T3. Body iron status and risk of type 2 diabetes**

Matthias Schulze (German Institute of Human Nutrition, Potsdam-Rehbrücke, Germany)

10:30 – 11:00 Coffee Break

TRACE ELEMENTS IN HEALTH AND DISEASE

Chair: Ulrich Schweizer

11:00 – 11:30 **T4. Copper and brain cells: uptake, toxicity and metabolism**

Ralf Dringen (University of Bremen, Germany)



- 11:30 – 11:50 **T5. Methylselenocysteine destabilizes immune suppressive regulatory T cells and enhances the efficacy of vaccine-based immunotherapy**
Claudia Lennicke (Martin Luther University Halle-Wittenberg, Germany)
- 11:50 – 12:10 **T6. Selenofolate is Cytotoxic to Triple Negative Breast Cancer Cells**
Julian Spallholz (Texas Tech University, USA)
- 12:10 – 12:30 **T7. Zinc oxide nanoparticle convey tumor cell death via induction of oxidative stress and subsequent apoptosis**
Nadine Wiesmann (University Medical Center Mainz, Germany)
- 12:30 – 12:50 **T8. Magnesium and zinc balance under cisplatin-based radiochemotherapy in advanced head and neck cancer patients**
Oliver Micke (Franziskus Hospital Bielefeld, Germany)
- 12:50 – 14:00 Lunch Break

TRACE ELEMENTS AND NUTRITION

Chair: Esther Humann-Ziehanke

- 14:00 – 14:30 **T9. Iodine in the food chain**
Friedrich Schöne (Thuringian State Institute of Agriculture Jena, Germany)
- 14:30 – 15:00 **T10. Trace minerals in livestock nutrition – objectives and trade-offs**
Daniel Brugger (Technical University Munich, Germany)
- 15:00 – 16:00 **Short Presentations of posters (2 min each)**
- 16:00 – 16:15 Coffee Break
- 16:15 – 17:15 **GMS Business Meeting**
- 17:15 – 18:30 **Walk through the City center or the Botanical Garden**
- 18:30 **Poster Session**
with Drinks & Dinner

Saturday, June 9th

BIOMARKERS OF THE TRACE ELEMENT STATUS

Chair: Dirk Schaumlöffel

- 9:00 – 9:30 **T11. Biomonitoring: Exposure-or functional biomarker for Mn, Se, I and analytical aspects**
Bernhard Michalke (Helmholtz Center Munich, Germany)
- 9:30 – 9:50 **T12. Exploring the far side of the moon: function, regulation and detection of the human selenoproteome**
Laurent Chavatte (International Center for Infectiology Research, Lyon, France)
- 9:50 – 10:10 **T13. Defects in trace element metabolism as potential reason for neuropsychiatric diseases**
Qian Sun (Charité Berlin, Germany)

10:10 – 10:30 **T14. Bioavailability of small selenium species in the Caco-2 intestinal barrier model**
Isabelle Rohn (University of Potsdam, Germany)

10:30 – 11:00 Coffee Break

MOLECULAR BIOLOGY OF TRACE ELEMENTS

Chair: Bernhard Michalke

11:00 – 11:30 **T15. FOXO transcription factors: connecting micronutrients and fuel metabolism?**
Lars-Oliver Klotz (Friedrich Schiller University Jena, Germany)

11:30 – 11:50 **T16. Zinc in inflammatory diseases**
Inga Weßels (University Hospital RWTH Aachen)

11:50 – 12:10 **T17. Selenite supplementation reduces sex-specific diet-induced obesity in mice**
André Kleinridders (German Institute of Human Nutrition, Potsdam-Rehbrücke)

12:10 – 12:30 **Poster Prices & Farewell**