

WMSM Programme

15 March Sunday

16:00–20:00 **Arrival**
Registration
Poster mounting

19:00–20:00 **Dinner**

20:10–21:40 **Welcome and Special Lectures**

Chair: Inês C. Pereira

20:10–20:20 *Welcome address:* **Inês C. Pereira, Niels-Ulrik Frigaard**

20:20–20:30 *FEMS address:* **Milton Costa**, Portugal (FEMS President)

20:30–21:05 *Special lecture:* **Cornelius Friedrich**, Germany (L1)
The Proteins Involved in Chemotrophic Sulfur Oxidation of
Paracoccus pantotrophus

21:05–21:40 *Special lecture:* **J. Gijs Kuenen**, Netherlands (L2)
Ecophysiology and Mixotrophy of Sulfur-oxidizing Bacteria

16 March Monday

7:00–8:30 **Breakfast**

8:30–10:35 **Genomics and Proteomics**

Chair: Ben Berks

8:30–9:05 *Plenary lecture:* **Donald Bryant**, USA (L3)
“-Omics” Analyses of Chlorophototrophic Sulfur Bacteria

9:05–9:30 **Stefan Sievert**, USA (L4)
Genome Enabled Insights into the Ecology of Sulfur-Oxidizing
Epsilonproteobacteria

9:30–9:55 **Niels-Ulrik Frigaard**, Denmark (L5)
Oxidation of Sulfur Compounds in Phototrophic Sulfur bacteria

9:55–10:15	Gabor Rakhely , Hungary (L6) Interrelationship between Sulfur and Hydrogen Metabolism in the Purple Sulfur Photosynthetic Bacterium, <i>Thiocapsa roseopersicina</i> . A Genomic Survey
10:15–10:35	Carlos Jerez , Chile (L7) The Secretome of the Extremophilic <i>Acidithiobacillus ferrooxidans</i> ATCC 23270 Grown in Elemental Sulfur
10:35–11:05	Coffee Break
11:05–12:30	Sulfate Reduction, Part 1 <i>Chair: Alfons Stams</i>
11:05–11:40	<i>Plenary lecture: Judy Wall</i> , USA (L8) Sulfate Reduction by <i>Desulfovibrio</i> Strains
11:40–12:05	Jan Kuever , Germany (L9) Phylogeny of Dissimilatory Adenosine-5'-phosphosulfate Reductase-encoding Genes (<i>aprBA</i>) among Sulfate-reducing and Sulfur-oxidizing Prokaryotes
12:05–12:30	Inês C. Pereira , Portugal (L10) Molecular Studies of the Dsr Sulfite Reduction Pathway in Sulfate Reducing Bacteria
12:30–14:00	Lunch
14:00–15:55	Sulfate Reduction, Part 2 <i>Chair: Judy Wall</i>
14:00–14:25	Jeff Cole , UK (L11) Preferential Reduction of the Thermodynamically Less Favorable Electron Acceptor, Sulfate, by a Nitrate Reducing Strain of the Sulfate Reducing Bacterium, <i>Desulfovibrio desulfuricans</i> 27774
14:25–14:50	Lee Krumholz , USA (L12) Identification of <i>Desulfovibrio</i> G20 Genes involved in H ₂ Uptake and Syntrophy

14:50–15:15	José Moura , Portugal (L13) Dissimilatory Sulphate Respiration and Nitrate/Nitrite Ammonification by Sulphate-Reducing Eubacteria – Interplay between Sulfur and Nitrogen Cycles
15:15–15:35	Laetitia Pieulle , France (L14) A Disulfide Bond-Dependent Mechanism of Protection against Oxidative Stress in Pyruvate-Ferredoxin Oxidoreductase of Anaerobic <i>Desulfovibrio</i> Bacteria
15:35–15:55	Jana Milučká , Germany (L15) <i>In Situ</i> Localization of Enzymes for Sulfate Reduction in Microbial Mats Performing Anaerobic Methane Oxidation
16:00–16:30	Coffee Break
16:30–18:35	Sulfur Transferases and Biosynthesis <i>Chair: Tom Hanson</i>
16:30–17:05	<i>Plenary lecture:</i> Marc Fontecave , France (L16) A Metal-Escorted Sulphur Tour: From Cysteine to Sulfurated Compounds
17:05–17:30	Silke Leimkühler , Germany (L17) Elucidation of the Sulfurtransfer Pathway for the Biosynthesis of Molybdopterin in <i>Escherichia coli</i>
17:30–17:55	Silvia Pagani , Italy (L18) Ancillary Proteins in Sulfur Trafficking: Emerging Roles of the <i>Azotobacter vinelandii</i> Rhodanese RhdA
17:55–18:15	Bob Tabita , USA (L19) Physiological Role of Distinct Reactions Catalyzed by Rubisco and the Rubisco-Like-Protein in Sulfur Salvage Pathways of <i>Rhodospirillum rubrum</i>
18:15–18:35	Naoki Shigi , Japan (L20) Common Thiolation Mechanism in the Biosynthesis of Transfer RNA Thiouridine and Sulfur-containing Cofactors
19:00–20:30	Dinner

20:00–22:00 **Poster session**

Participants presenting **even**-numbered posters should preferentially be present at their poster

17 March Tuesday

7:00–8:30 **Breakfast**

8:30–10:40 Sulfur Oxidation, Part 1

Chair: Cornelius Friedrich

8:30–9:05

Plenary lecture: Ulrike Kappler, Australia L(21)

Metalloenzymes and Their Role in Microbial Sulfur Oxidation

9:05–9:30

Ben Berks, UK (L22)

Mechanism for the Hydrolysis of a Sulfur-Sulfur Bond based on the Crystal Structure of the Manganese-Dependent Sulfate Thiohydrolase SoxB

9:30–9:55

Mark Dopson, Sweden (L23)

Genomic, Proteomic and Transcriptomic Insights into *Acidithiobacillus caldus* Reduced Inorganic Sulphur Compound Metabolism

9:55–10:20

Manuela Pereira, Portugal (L24)

Sulfide:Quinone Oxidoreductase from *Acidianus ambivalens*, a Key Enzyme in Bioenergetics

10:20–10:40

Tsuyoshi Sugio, Japan (L25)

Ferric Iron Reduction by Tetrathionate is Catalyzed by Tetrathionate Hydrolase in Tetrathionate-, Sulfur-, and Iron-Grown *Acidithiobacillus ferrooxidans* ATCC 23270 Cells

10:40–11:10

Coffee Break

11:10–12:10 Sulfate Oxidation, Part 2

Chair: Jan Kuever

11:10–11:30

Tom Hanson, USA (L26)

Experimentally Refining a Genome Based Model of Sulfur Oxidation in *Chlorobaculum tepidum*

11:30–11:50	Hidehiro Sakurai , Japan (L27) Biochemical Studies of the Components of the Thiosulfate Oxidizing System in the Green Sulfur Bacterium <i>Chlorobaculum tepidum</i>
11:50–12:10	Aubrey Zerkle , USA (L28) Fractionation of Multiple Sulfur Isotopes by the Green Sulfur Bacterium <i>C. tepidum</i> : Insights into the Physiology and Ecological Importance of Phototrophic S-Oxidizing Organisms
12:30–14:00	Lunch
14:00–16:05	Geochemistry, Evolution, Ecology <i>Chair: Bo Barker Jørgensen</i>
14:00–14:35	<i>Plenary lecture: Michael Wagner</i> , Austria (L29) Sulfate-Reduction in Acidic Wetlands: Hunting the Key Players of a Process with Increasing Importance for the Global Climate
14:35–15:00	Pascal Philippot , France (L30) Sulfur-based Metabolisms on Early Earth
15:00–15:25	Jörg Overmann , Germany (L31) Extreme Low-Light Adaptation in Green Sulfur Bacteria and its Implications for the Biogeochemistry of Ancient Oceans
15:25–15:45	Marjan Smeulders , The Netherlands (L32) Genotypic and Phenotypic Variation amongst CS ₂ Degrading <i>Acidithiobacillus</i> Species
15:45–16:05	Sabine Lenk , Germany (L33) Sulfur Oxidizing Bacteria in Marine Sediments Explored by the Full 16S rRNA Cycle, Functional Gene Analysis and Metagenomics
16:05–16:30	Coffee Break
16:30–18:20	Sulfur Metabolism in Archaea <i>Chair: Shuang-Jiang Liu</i>
16:30–17:05	<i>Plenary lecture: Michael Adams</i> , USA (L34) The Metabolism of Elemental Sulfur by the Hyperthermophilic Archaeon, <i>Pyrococcus furiosus</i>

17:05–17:30	Rudolph Thauer , Germany (L35) Cytoplasmic Heterodisulfide Reductase in Methanogenic Archaea: A Site of Energy Conservation
17:30–17:55	Kesen Ma , Canada (L36) Requirement and Catalysis of Sulfur Reduction in Hyperthermophilic Archaea
17:55–18:20	Arnulf Kletzin , Germany (L37) Structure-Function Relationship of the Sulfur Oxygenase Reductase of the Thermoacidophilic Archaeon <i>Acidianus ambivalens</i>
19:00–20:30	Dinner
20:00–22:00	Poster session Participants presenting odd -numbered posters should preferentially be present at their poster

18 March Wednesday

7:00–8:30	Breakfast
8:30–10:15	Organosulfur Compounds <i>Chair: Bob Tabita</i>
8:30–9:05	<i>Plenary lecture:</i> Andrew Johnston , UK (L38) The Remarkable Diversity of the Different Microbes and Different Mechanisms that make the Climate-Changing Gas Dimethyl Sulphide
9:05–9:30	Michael Kertesz , UK (L39) Microbial Sulfonatases and Sulfatases in Plant Rhizospheres
9:30–9:55	Alasdair Cook , Germany (L40) Organosulfonates: Nutrients for Half of the Marine Bacteria
9:55–10:15	Rich Boden , UK (L41) Microbial Production of Tetrathionate from Dimethylsulfide by <i>Methylophaga thiooxidans</i> : A new Link in the Sulfur cycle
10:15–10:40	Coffee Break

10:40–12:25	Applied Aspects <i>Chair: Gijs Kuenen</i>
10:40–11:15	<i>Plenary lecture: Alfons Stams</i> , The Netherlands (L42) Sulfate Reduction with Methanol and Other C ₁ -Compounds as Electron Donors
11:15–11:40	Shuang-Jiang Liu , China (L43) Exploring the Sulfur Metabolic Pathways of <i>Acidithiobacillus caldus</i> : What does the Genome tell?
11:40–12:05	Gerard Muyzer , The Netherlands (L44) Ecology and Biotechnology of Halo-Alkaliphilic Sulfur Bacteria
12:05–12:25	Raj Boopathy , USA (L45) Biodegradation of Trinitrotoluene (TNT) by a Sulfate Reducing Bacterial Consortium
12:30–14:00	Lunch
14:30–16:30	Visit to Convent
16:30–17:00	Coffee Break
17:00–18:20	Symbiosis <i>Chair: Jörg Overmann</i>
17:00–17:35	<i>Plenary lecture: Colleen Cavanaugh</i> , USA (L46) Shedding Light on Chemosynthetic Symbioses: Comparative Genomics, Phylogeny, and Evolution of Symbiont Sulfur Metabolism
17:35–18:00	Stephanie Markert , Germany (L47) Proteomics of the Bacterial Endosymbiont from the Deep Sea Tube Worm <i>Riftia pachyptila</i>
18:00–18:20	Félix Muller , Guadeloupe (L48) Diversity of Sulfur-Oxidizing Bacterial Symbionts of Marine Invertebrates Colonizing Organic Substrates in the Shallow Water Environment of Mangrove Swamp
18:20–18:30	Break

18:30–19:15 Special Lecture and Closing Remarks

Chair: Niels-Ulrik Frigaard

18:30–19:05 **Bo Barker Jørgensen**, Germany (L49) *Special lecture*
Life of Sulfate Reducing Bacteria in the Sea Bed – from Feast
to Famine

19:05–19:15 *Closing remarks: Inês C. Pereira, Niels-Ulrik Frigaard*

20:00 **Meeting dinner**

19 March Thursday

7:00–12:00 **Breakfast**
Departure
