Programme Booklet

IHSS & IWA 26

BRNO / CZECHIA

23.–28. 8. 2026

OREA Congress Hotel Brno

23RD MEETING OF THE IHSS

9TH IWA SPECIALIST CONFERENCE ON NOM

www.**ihss-iwa2026**.com

Time	Type	Speaker	Lecture/Activity

Sunday, August 23, 2026
Pre-conference Warm Up

16:00–20:00	**Registration** *Available at OREA Congress Hotel Brno*
18:00–22:00	**Icebreaker Party/Get-Together** **Venue:** *The Augustinian Abbey, Mendlovo nám. 157/1, Brno*

PL Plenary Lecture KL Keynote Lecture SL Standard Lecture TA Travel Awardee

Monday, August 24, 2026
Lecture and Poster Day

Time	Type	Speaker	Lecture/Activity
8:00–18:30			**Registration** *Available at OREA Congress Hotel Brno*
09:40–10:00		**Miloslav Pekař, Deborah P. Dick, William Mitch**	Opening Ceremony, Welcome Remarks
10:00–11:00	PL	**Martha J.M. Wells**	Supramolecular Structure of NOM and EfOM: Analytical Evidence
11:00–12:00	PL	**Kristopher McNeill**	Organic Matter Photochemistry and the Sulfur Cycle
12:00–13:15			**Lunch**
13:15–13:45	KL	**Philippe Schmitt-Kopplin**	Organic Chemical Diversity Beyond Earth: From Metabolomes to Meteorites and Asteroids
Programme Session: Analysis and Characterization			
13:45–14:00	SL1	**Alessandro Piccolo**	Unfolding the Conformational Structure of Supramolecular Humeomes in 8 M Urea
14:00–14:15	SL2	**Peter Herzsprung**	Visualizing Organic Matter Quality Differences with Ultra-High-Resolution Mass Spectrometry
14:15–14:30	SL3	**Mikhail Borisover**	From Dilution Simulations to 13C NMR-Derived Endmembers – and Beyond: Insights into Humic Substances
14:30–14:45	SL4	**Maria Jerzykiewicz**	Humins, Humic, and Fulvic Acids as Representative Fractions of Various Land-Use Soils
14:45–15:00	SL5	**Anne Kamau**	Characterization of Dissolved Organic Matter and Its Relationship with Carbonaceous and Nitrogenous Disinfection By-Products Formation in Drinking Water Treatment
15:00–15:15	SL6	**Michael E. Perdue**	Fourier Transform Ion Cyclotron Resonance Mass Spectra of the Entire IHSS Standard and Reference Sample Collection
15:15–15:30	SL7	**Garrett McKay**	Quantifying the Contribution of Carbonyl Groups to the Optical and Photochemical Properties of Dissolved Organic Matter
15:30–15:45	SL8	**Jingdong Mao**	Exploring Aromatic Cluster Models and Superstructures in Humic Substances via Advanced Solid-State NMR
15:45–16:15			**Coffee Break**
16:15–16:30	SL9	**Kazuhide Hayakawa**	Quantitative Size Fractionation of Dissolved Organic Matter in a Large Lake Using UF–NF with Diafiltration Correction

Time	Type	Speaker	Lecture/Activity
16:30–16:45	SL10	**Helen Rutlidge**	Mitigation of Batch Effects in High Resolution Mass Spectrometry of Natural Organic Matter
16:45–17:00	SL11	**Morimaru Kida**	Reframing Natural Organic Matter Research Through Compositional Data Analysis
17:00–17:15	SL12	**Gyumin Kim**	Fluorescence-Based Machine Learning for Compost Maturity Prediction and Identification of Key Humification Mechanisms
17:15–17:30	SL13	**Yuki Nakaya**	Solid-Phase Fluorescence Excitation-Emission Matrix (SPF-EEM) Spectroscopy of Clay Mineral-Organic Matter Complex: Implications for the Origin of Soil Fluorescence
17:30–17:45	SL14	**Etelvino H. Novotny**	Fast and Accurate Method to Estimate Biochar Pore Size Distribution, Water Retention Curves and Cation Sorption Capacity by Low-Field NMR
17:45–18:00	SL15	**Jarrod Psutka**	Use of a Spectrophotometric Method for the Detection of Adulterants in Commercial Fulvic Acid Products
18:00–18:15	SL16	**Antoine Raoult**	High-Frequency Monitoring of Dissolved Organic Matter in the Seine River (France) Using the Fluocopée® In Situ Fluorescence Probe
18:15–18:30	SL17	**Evgeny Shirshin**	Dissecting the Optical Properties of Humic Substances: From Fundamental Photophysics to the AI-Driven Insights
18:30–20:00			**Poster Session**

Tuesday, August 25, 2026
Lecture Day

Time	Type	Speaker	Lecture/Activity
8:00–18:30			**Registration** *Available at OREA Congress Hotel Brno*
09:00–09:30	KL	**Thomas Maskow**	Thermodynamic and Calorimetric Quantification of Soil Organic Matter Turnover
Programme Session: Analysis and Characterization			
09:30–09:45	SL18	**Stefan Huber**	Control of Biopolymers for Chlorine-Free Tap Water with High-Resolution Liquid Chromatography - Organic Carbon Detection (LC-OCD)
09:45–10:00	SL19	**Jiarui Han**	Which Disinfectant Generated Drinking Water DBP Mixture with the Least Developmental Toxicity?
10:00–10:15	SL20	**Richard Lamar**	A Fluorescence Spectroscopy-Based Method for the Validation and Quantification of Fulvic Acids from Peat, Coal and Aquatic Sources and Claimed Fulvic Acid-Containing Products
10:15–10:30	SL21	**Elin Lavonen**	Toxic Effects from Emerging Disinfection By-Products
10:30–11:10			**Coffee Break**
11:10–11:25	SL22	**Valentin Rougé**	Characterizing Organic Matter Through Functional-Group-Based Approach: Quantification of Nitro Compounds Formed during Ozonation
Programme Session: Technologies and Applications			
11:25–11:40	SL23	**Marawit Tesfa**	Precipitation of Carbonates Induced by Anoxigenic Phototrophic Sulfur Bacteria for the Capture of Carbon Dioxide
11:40–11:55	SL24	**Alexander Volikov**	Designing Artificial Humates for Environmental Remediation
11:55–12:10	SL25	**Tomáš Weidlich**	Artificial Humification of Waste Biomass at Ambient Pressure
12:10–13:25			**Lunch/IHSS National Coordinators Meeting**
13:25–13:55	KL	**Wei Wang**	Deciphering the Molecular Composition of Biological NOM and Their Transformation in Disinfection Using Novel MS-Based Approach
Programme Session: Technologies and Applications			
13:55–14:10	SL26	**Lauris Arbidans**	Hydrothermal Humification for Valorization of Food Waste into Artificial Humic Substances

Time	Type	Speaker	Lecture/Activity
Programme Session: Research Frontiers			
14:10–14:25	SL27	**Xin Yang**	The Hidden „Reductive Face" of Triplet-State Dissolved Organic Matter: A New Electron Donor Mechanism in AOPs
14:25–14:40	SL28	**Vítězslav Vlček**	Microbial Fingerprints in Antarctic Soils: Glomalin and the Hidden Drivers of Soil Carbon
14:40–14:55	SL29	**Mohammad Rahbari**	From Black Box to Molecular Insight: Multi-Omics Elucidation of Fulvic Acid Biostimulant Action in Crops
14:55–15:10	SL30	**Lap-Cuong Hua**	Liquid Ferrate as Chloride Free Alternative to Conventional Ferric Coagulant: NOM Removal and Its Post-Coagulation Consequences
15:10–15:25	SL31	**Kirin Furst**	Evaluating the Air-Water Interface as the "Fourth Phase" in the Transport of Humic Substances and Organic Contaminants in Wastewater Treatment
15:25–15:55			**Coffee Break**
15:55–16:10	SL32	**Mohsen Hesami**	Global Research Trends in Humic Substances-Based Biostimulants: Growth, Thematic Evolution, and Knowledge Gaps
16:10–16:25	SL33	**Akshara Bathini**	The Eustress Signature: Visualizing Proximal Signaling Events in Plant Roots Triggered by Electron Accepting and Donating Capacities
16:25–16:40	SL34	**Davide Savy**	From Trash to Treasure: Humic-Based Nanocarriers and Hydrogels for Sustainable Agriculture and Wastewater Treatment
Programme Session: Environment, Agriculture, and Forestry			
16:40–16:55	SL35	**Mackenzie Bowden**	Characterization of Wildfire Natural Organic Matter (NOM): Ash-Derived Humic and Fulvic Acids
16:55–17:10	SL36	**Michael Gonsior**	The Unique Chemodiversity of Geothermal Dissolved Organic Matter in Yellowstone Hot Springs, Wyoming, USA
17:10–17:25	SL37	**Petr Zapletal**	Contrasting Regeneration Pathways Influence Nutrient Stocks and Litter Accumulation under Young Silver Fir Stands in Secondary Norway Spruce Monocultures
17:25–17:40	SL38	**Susan Richardson**	Impact of Wildland-Urban Interface Wildfires on Drinking Water: Urban Structural Ash Is a Source of Precursors for Toxic Disinfection Byproducts
17:40–17:55	SL39	**Xianjin Tang**	Humic and Fulvic Acid Fractions Differentially Regulate Methane-Dependent Arsenate Reduction in Paddy Soils
17:55–18:10	SL40	**Jingyi Zeng**	Wildfires Increase the Molecular Heterogeneity of Soil Dissolved Organic Matter Across Mediterranean-Climate Forest Ecoregions

Time	Type	Speaker	Lecture/Activity
18:10–18:25	SL41	**Nontokozo Magwaza**	Detection of Phthalate Esters in Drinking Water with Absorbance-Transmittance Excitation Emission Matrix (A-TEEM) Spectroscopy
18:25–18:40	SL42	**Ouyuan Jiang**	Arsenic Reduces Methane Emissions from Paddy Soils: Insights from Continental Investigation and Laboratory Incubations
18:40–18:55	SL43	**Jun'ichiro Ide**	Seasonal and Spatial Variations of Dissolved Organic Matter in Throughfall in Cool-Temperate Birch Stands, Northern Japan
19:00–20:00			**IHSS General Assembly**

Wednesday, August 26, 2026
Optional Tours

1. ARCHITECTURE
2. CITY
3. NATURE
4. WATER

More information at https://www.ihss-iwa2026.com/organisational-information.

Thursday, August 27, 2026
Lecture Day and Gala Dinner

Time	Type	Speaker	Lecture/Activity
8:00–17:00			**Registration** *Available at OREA Congress Hotel Brno*

Room 1

09:00–09:30	KL	**Chris Oostenbrink**	Molecular Modeling and Simulation of Soil Components
Programme Session: NOM and Aquatic Systems			
09:30–09:45	SL44	**Xiangru Zhang**	From NOM to High Molecular Weight Aromatic DBPs and Then to Aliphatic DBPs during Chlorine Disinfection
09:45–10:00	SL45	**Francisco Zafra-Navarro**	Chlorination vs Chloramination: HRMS-Based Insights into DOM Transformations and Halogenated Byproduct Formation during Disinfection
10:00–10:15	SL46	**Paul Westerhoff**	Fractionation and Characterization of Acids and Neutrals in Treated Wastewater
10:15–10:30	SL47	**Rolf D. Vogt**	Shifting Drivers of DOM in Boreal Waters: From Acidification Recovery to Climate Forcing
10:30–10:45	SL48	**Raiga Shiota**	Hydroxyl Radical Production Associated with Sediment Redox Cycling in the Bottom Turbid Layer of Lake Biwa
10:45–11:15			**Coffee Break**
11:15–11:30	SL49	**Takumi Saito**	Molecular Characterization of Dissolved Organic Matter in Deep Groundwater of Marine Deposits by Data Fusion of EEM and FT-ICR-MS with Machine Learning
11:30–11:45	SL50	**Kathleen Murphy**	A novel fluorescence index for predicting DOM aromaticity in aquatic systems
11:45–12:00	SL51	**Alex Y. Murata**	Molecular-Level Characterization of Impacts of Surface Water NOM on Degradation of Pesticides by UV/Chlorine Treatment
12:00–12:15	SL52	**Madjid Mohseni**	Optimizing Biological Ion Exchange for NOM Removal: Backwashing and Regeneration
12:15–12:30	SL53	**Chao Liu**	Mitigating Mammalian Cell Cytotoxicity of Chlorinated Drinking Water by Conventional and Advanced Treatment Processes
12:30–14:00			**Lunch**

Time	Type	Speaker	Lecture/Activity
14:00–14:30	KL	**Jorg E. Drewes**	NOM Removal during Advanced Water Treatment and Water Reuse
Programme Session: NOM and Aquatic Systems			
14:30–14:45	SL54	**Sungeun Lim**	Heterocyclic Organic Chloramines as Chlorinating Agents Toward Phenolic Moieties in DOM: Implications for Disinfection Byproduct Formation
14:45–15:00	SL55	**Ina Kristiana**	Innovation-Led Optimization of Treatment Processes for Natural Organic Matter (NOM) Removal at a Groundwater Treatment Plant for Resilient Water Supply
15:00–15:15	SL56	**Magdalena Knabl**	Biotransformation of Trace Organic Chemicals from Reclaimed Water during Managed Aquifer Recharge: The Role of Natural Organic Matter
15:15–15:30	SL57	**Miroslav Jonáš**	Physico-Chemical and Molecular Properties of DOM in Peat Pore Water: Effect of Seasonality, Vertical Stratification, and Catchment
15:30–15:45	SL58	**Peter Jarvis**	The Curious Role of Inorganic Ions on the Coagulation of Natural Organic Matter
15:45–16:15		**Coffee Break**	
Programme Session: NOM and Aquatic Systems			
16:15–16:30	SL59	**Marlena Cheshire**	High Molecular Weight Disinfection Byproducts in Nitrifying Drinking Water Distribution Systems
16:30–16:45	SL60	**Raymond Hozalski**	The Biodegradable Fraction of Natural Organic Matter and Its Impact on Bacterial Growth in Potable Water Distribution Systems
16:45–17:00	SL61	**Huiyu Dong**	Natural and Anthropogenic Drivers of DOM Heterogeneity Dictate Disinfection Byproduct Formation and Cytotoxicity in Drinking Water of Yangtze River Basin, China
17:00–17:15	SL62	**Sofija Djukanovic**	Drinking Water Biostability: Connecting Microbial Regrowth with Bioavailable Dissolved Organic Matter Composition
17:15–17:30	SL63	**Fariba Amiri**	Dissolved Organic Matter Diversity as a Predictor of DBP Formation and Composition Across Canadian Watersheds

Room 2

Time	Type	Speaker	Lecture/Activity
Programme Session: Soil Organic Matter, Caustobiolites, and Biochar			
09:30–09:45	SL64	**Irina Perminova**	Molecular Composition of Dissolved Organic Matter on the Arctic Shelf as a Proxy of Carbon Cycling Change
09:45–10:00	SL65	**Francisco J. Górriz Nagore**	Amorphous Humic Acid-MOF Composites as Controlled-Release Fertilizers: EPR-Assisted Structural Characterization and Nutrient Release
10:00–10:15	SL66	**Heike Knicker**	Organic Components of Biochar/Hydrochar Act as Chemical Messengers That Can Reshape Microbiome Composition and Influence Plant Growth Response
10:15–10:30	SL67	**Na-Hyun Kwon**	Molecular Characteristics of Aggregate-Associated Humic Substances in CaO and SiO_2 Amended Soils
10:30–10:45	SL68	**Hiarhi Monda**	Thermal Modulation of Humic Acids Under Industrially Relevant Processing Conditions: Linking Analytical Characterization to Plant Biostimulant Activity
10:45–11:15			**Coffee Break**
11:15–11:30	SL69	**Petr Sedláček**	Microbial Architects: Plant Growth-Promoting Bacteria Building Their Own Hydrogel Delivery Systems
11:30–11:45	SL70	**Tomáš Vichta**	Linking Thermal Stability of Soil Organic Carbon to Water Repellency of Forest Floor and Topsoil in a Mixed Oak–Beech Forest
11:45–12:00	SL71	**Jianming Xu**	Cadmium in Contaminated Straw Impairs Carbon Sequestration and Reduces Nitrogen Availability in Paddy Soils
12:00–12:15	SL72	**Kristýna Müllerová**	The Characterization of the Soil Organic Matter Extract Made with Water and Alkali
12:15–12:30	SL73	**Gbenga Adejumo**	Evaluating Spectroscopy and Chemometrics as Tools to Improve Agricultural Soil Fertility Testing
12:30–14:00			**Lunch**

Time	Type	Speaker	Lecture/Activity
14:00–14:15	SL74	**Vitor Freitas**	Intercropped Pasture Systems with Biological Nitrogen Fixation Improve Soil Fertility and Reduce the Environmental Impact of Agriculture
14:15–14:30	SL75	**Edgar G. Andres**	Stabilization Mechanisms of Organic Materials on Clay Surfaces
14:30–14:45	SL76	**Tannis Serben**	Organic Biostimulants: Analytical Methodology and Performance on Wheat
14:45–15:00	SL77	**Yeji Seo**	Analysis of Natural Organic Matter Removal and Structure Changes Using PEM-Based Electrochemical Oxidation
15:00–15:15	SL78	**Jehangir Bhadha**	The Everglades Agricultural Area: A Fertile Landscape Experiencing Unprecedented Soil Loss
19:30–00:00			**Gala Dinner** **Venue:** Brewery House Poupě, Dominikánská 342, Brno

Friday, August 28, 2026
Lecture and Awards Day, Closing

Time	Type	Speaker	Lecture/Activity
09:00–09:30	KL	**Adele Muscolo**	Humic Substances as Drivers of Carbon Footprint Reduction: Linking Environmental Remediation, Soil Health and Sustainable Agriculture
Programme Session: Travel Awardee Presentations			
09:30–09:40	TA1	**Maia Hermógenes**	Coal Fines as a Smart Soil Conditioner via Production of Functional Encapsulation for Use in Modern and Sustainable Systems of Agriculture.
09:40–09:50	TA2	**Maria L. Goretti Quinones**	Estimation of Black Carbon in a Humic Acid Inventory and Evaluation of an Alternative BPCA Methodology
09:50–10:00	TA3	**Agnieszka Grabusiewicz**	Land-Use Impact on SOM Transformation
10:00–10:10	TA4	**Olasunkanmi Oladimeji**	Effects of Biochar and Sodium (Na)-Based Fertilizers on Soil Fauna Abundance, Soil Chemical Properties, Yields and Nutrients Uptake of Telfairia occidentalis
10:10–10:20	TA5	**Ildeane S. de Oliveira**	Biostimulants Based on Humic Substances and Bacterial Consortia Modulate Soybean Microbiome and Growth
10:20–10:30	TA6	**John R. M. Bendijo**	Soil Organic Carbon Stocks and Stabilization Mechanisms Along Shading Gradients in Agri-Photovoltaic Systems
10:30–10:40	TA7	**Maria B. de Garcia Fernandez**	Soil Organic Matter Chemical Composition and Aggregate Formation as a Function of Grasses Cultivated for 20 Years in Minesoil Restoration
10:40–10:50	TA8	**Maurizio Marrese**	Comparative Elemental and Spectroscopic Evaluation of Humic Acids Extracted from Conventional and Biodynamic Field Spray Preparation
10:50–11:30			**Coffee Break**

Time	Type	Speaker	Lecture/Activity
Programme Session: Environment, Agriculture, and Forestry			
11:30–11:45	SL79	**Shuxun Cheng**	Long-Term N Fertilization Altered Viral Community Composition and Increased Functional Potentials of Phosphorus Cycling by Causing Soil Acidification
11:45–12:00	SL80	**Zhongmin Dai**	Multi-Stressor Environments Shape Soil Microbial Biodiversity, Genomic Strategies and Phosphorus Cycle
12:00–12:15	SL81	**Yael Mishael**	Removal of NOM by desiged composite sorbents vs. GAC by filtration
Programme Session: NOM and Aquatic Systems			
12:15–12:30	SL82	**Liza S. Hamzah**	THMFP-Based Evaluation of DOM Reactivity Across VF–HF–GDM Treatment Stages
12:30–12:45	SL83	**Katarzyna Jaszczyszyn**	Using LC-OCD Analyses to Provide Insights into Natural Organic Matter Removal during Artificial Infiltration and Adsorption of MC-LR on Activated Carbon
12:45–13:00			**Awards and Closing Remarks**

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