



# Conference Schedule



## CONFERENCE SCHEDULE

1 <sup>st</sup> November, 2023				
08:30-11:00	Registration IWARR 2023	Side Event-1 YWP Dialog with IWA Fellows Salon Du Theater	Side Event-2 CAPEES Events Grand Ballroom III	Side Event-3 Sludge minimization/ stabilization and valorization Salon Room
12:00-14:00		Side Event-4 Meeting Editors Salon Du Theater		Side Event-5 Decentralization and Resource Recovery Salon Room
14:30-15:00	Opening Ceremony			
15:00-17:20	Plenary Session			
18:30-21:00	Welcome Reception			
2 <sup>nd</sup> November, 2023				
08:30-12:00	Session-1 Water Reuse - Innovative Technology Grand Ballroom I	Session-2 Water Reuse - Pathway and Security Salon Du Theater	Session-3 Zero Waste City and Waste Recycling Grand Ballroom II	Session-8-1 Emerging and Cross- Field Technologies I Grand Ballroom III
13:30-18:00	Session-5 Value-added Organics Recovery and Reuse Grand Ballroom I	Session-10 Data Resource & Digital Economy Salon Du Theater	Session-6-1 Nutrients and Inorganics Recovery I Grand Ballroom II	Session-8-2 Emerging and Cross- Field Technologies II Grand Ballroom III
3 <sup>rd</sup> November, 2023				
08:30-12:00	Session-7 (Bio-)Energy Recovery Grand Ballroom III	Session-9 Full-scale Applications and Case Studies Salon Du Theater	Session-6-2 Nutrients and Inorganics Recovery II Grand Ballroom II	Session-4 Environmental Sustainability Management Salon Room
13:30-16:00	Plenary Session			
16:00-16:40	Closing Ceremony			
18:00-21:00	Gala Dinner			

**Note:** There will be two coffee breaks a day during the conference, one in the morning and another in the afternoon.



# Conference Agenda



## WORKSHOPS

### Workshops on 1<sup>st</sup> November, 2023 (Wednesday)

Registration IWA RR 2023 opening			
08:30-11:00	<p><b>Side Event-1</b> YWP Dialog with IWA Fellows (Salon Du Theater)</p> <p><b>Chair:</b> Xiaoyuan Zhang Rong Chen</p> <p><b>Speakers:</b> Glen T. Daigger Mark van Loosdrecht Zhiguo Yuan Ana Soares Xiaochang Wang Xiaoyuan Zhang</p>	<p><b>Side Event-2</b> CAPEES Events (Grand ballroom III)</p> <p><b>Chair:</b> Shihong Lin</p> <p><b>Keynote:</b> Zhugen Yang Shihong Lin</p> <p><b>Invited:</b> Zhiyong Jason Ren Huichun Zhang Qilin Li Yongsheng Chen</p>	<p><b>Side Event-3</b> Sludge minimization/ stabilization and valorization (Salon Room)</p> <p><b>Chair:</b> Xiaoyan Li Feiyun Sun</p> <p><b>Keynote:</b> Yuyou Li Kaimin Shih Yongmei Li</p> <p><b>Oral:</b> Florent Chazarenc Ruohong Li Ang Li Giorgio Mannina Lei Li</p> <p><b>Invited:</b> Anjie Li Lin Lin</p>
	12:00-14:00	<p><b>Side Event-4</b> Meeting Editors(Salon Du Theater)</p> <p><b>Coordinator:</b> Troy Y. Tao(<i>Environmental Science and Ecotechnology</i>)</p> <p><b>Editors</b></p> <ol style="list-style-type: none"> <li>1.Dr. Mark van Loosdrecht, <i>Water Research</i></li> <li>2.Dr. Zhiguo Yuan, <i>Water Research X</i></li> <li>3.Dr. Peng Wang, <i>Environmental Science &amp; Technology</i></li> <li>4.Dr. Jiaping Paul Chen, <i>Colloids and Surfaces C: Environmental Aspects</i></li> <li>5.Dr. Nan Zhang, <i>Engineering</i></li> <li>6.Dr. Yin Ye, <i>Nature Sustainability</i></li> <li>7.Dr. Yanhua Chen, <i>Nature Water</i></li> <li>8.Dr. Haoyu Wang, <i>Lancet Planetary Health</i></li> <li>9.Dr. Zhiling Li, <i>Environmental Research</i></li> <li>10.Dr. Hong Chen, <i>Sustainable Horizons</i></li> <li>11.Dr. Suling Shen, <i>Energy Reviews</i></li> <li>12.Dr. Xiezhi Yu, <i>Eco-Environment &amp; Health</i></li> <li>13.Dr. Jing Zhou, <i>Carbon Research</i></li> <li>14.Dr. Yuwei Cui, <i>Environmental Engineering</i></li> </ol>	<p><b>Side Event-5</b> Decentralization and Resource Recovery (Salon Room)</p> <p><b>Chair:</b> Korneel Rabaey Ana Soares</p> <p><b>Speakers:</b> Korneel Rabaey Ana Soares Irene Barnosell Jiuling Li Du Coop Gustavo Possetti</p>

## PLENARY SESSION

1<sup>st</sup> November Afternoon, 2023 (Grand Ballroom)

OPENING CEREMONY - PLENARY SESSION

Chairs: Xiangsheng Chen, Ana Soares

15:00-15:30	<b>Biotech for Resource Recovery: A Tripartite Challenge</b> <u>Willy Verstraete</u> , Ghent University, Belgium
15:30-16:00	<b>Digital Intelligence Empowers Resource and Environmental Management Innovation and Application</b> <u>Xiaohong Chen</u> , Hunan University of Technology and Business, China
16:00-16:30	<b>Curiosity Driven Research as Foundation for New Resource Recovery Processes</b> <u>Mark van Loosdrecht</u> , Delft University of Technology, The Netherlands
16:30-17:00	<b>Getting Molecular Value from Waste</b> <u>James H. Clark</u> , University of York, UK
17:00-17:20	<b>Embracing the Responsibility of Facilitating the Harmonious Development of Urban and Water system in Overcrowded Megacities, Propelling SEWG's Green and Low-Carbon Transformation and Advancement</b> <u>Limin Gong</u> , Shenzhen Water and Environment group Co., Ltd, China

3<sup>rd</sup> November Afternoon, 2023 (Grand Ballroom)

CONFERENCE CLOSING - PLENARY SESSION

Chairs: Guanghao Chen, Olaf van de Kolk

13:30-14:00	<b>New "Conventional" Water Resource: New Mindset &amp; Paradigm</b> <u>Jiuhui Qu</u> , Research Center for Eco-Environmental Sciences, Chinese Academy of Sciences, China
14:00-14:30	<b>Resource recovery from urban and industrial sources for sustainable agriculture</b> <u>Cees Buisman</u> , Wetsus, The Netherlands
14:30-15:00	<b>Strategies and Technological Advancements for Green and Low-Carbon Development of Future Urban Water System</b> <u>Jun Ma</u> , Harbin Institute of Technology, China
15:00-15:30	<b>A Roadmap to Net Zero Wastewater Management</b> <u>Zhiguo Yuan</u> , City University of Hong Kong
15:30-16:00	<b>Transforming Urban Water Management: Progress and Future Priorities</b> <u>Glen T. Daigger</u> , University of Michigan, USA



## SESSION

2<sup>nd</sup> November Morning, 2023 (Grand Ballroom I)

Session-1: Water Reuse - Innovative Technology Chairs: How Yong Ng, Jiangyong Hu	
08:30-08:55	<b>Advanced oxidation processes development for industrial wastewater treatment and reuse</b> <b>KEYNOTE</b> Jiangyong Hu, <i>National University of Singapore, Singapore</i>
08:55-09:15	<b>Electrified Membrane Flow-Cell Nitrate Reduction and Ammonia Recovery</b> <b>INVITED</b> Wen Zhang, <i>New Jersey Institute of Technology, USA</i>
09:15-09:30	<b>A Novel Pattern of Coupling Sulfur-Based Autotrophic Disproportionation and Denitrification Processes for an Adjustable High-Rate Nitrogen Removal</b> Kun Zheng, <i>Research Center for Eco-Environmental Sciences, Chinese Academy of Sciences, China</i>
09:30-09:45	<b>Roles of oxygen in methane oxidation coupled denitrification in membrane biofilm reactor</b> Jingyan Tan, <i>Harbin Institute of Technology, China</i>
09:45-10:00	<b>Revealing the response of community succession and metabolic mechanism to formation of autotrophic nitrogen removal granular sludge</b> Hong Wang, <i>Tongji University, China</i>
10:00-10:15	<b>Morning Coffee Break</b>
10:15-10:40	<b>Wastewater treatment and reuse using membrane-based processes: towards carbon emission reduction and technological sustainability</b> <b>KEYNOTE</b> Zhiwei Wang, <i>Tongji University, China</i>
10:40-11:05	<b>Innovations in Community-Based Rainwater for Drinking (CBRD) Systems: A Path Towards Sustainable Water Solution</b> <b>KEYNOTE</b> Mooyoung Han, <i>Seoul National University, South Korea</i>
11:05-11:20	<b>Fate of organic micropollutants during brackish water desalination for drinking water production in decentralized capacitive electro dialysis</b> Lingshan Ma, <i>Ghent University, Belgium</i>
11:20-11:35	<b>Enriched autoinducer-2(AI-2)-based quorum quenching consortium in a ceramic anaerobic membrane bioreactor(AnMBR) for biofouling retardation</b> Boyan Xu, <i>Beijing Normal University, China</i>
11:35-11:50	<b>Greywater treatment with membrane aeration and -filtration for extreme resource efficiency in decentralization</b> Marijn Timmer, <i>University of Antwerp, Belgium</i>
11:50-12:05	<b>Piercing the Veil: Extraction and Component Analysis of Irrecoverable Foulants End-of-life Membrane from Large-scale MBR</b> Chenxin Tian, <i>Tongji University, China</i>
12:05-13:30	<b>Lunch</b>

2<sup>nd</sup> November Morning, 2023 (Salon Du Theater)

Session-2: Water Reuse - Pathway and Security Chairs: Dandan Zhou, Wen Zhang	
08:30-08:50	Moving from sustainability to regenerative water management? <b>KEYNOTE</b> Yang Liu, <i>University of Alberta, Canada</i>
08:50-09:10	BNR: A potential hurdle for carbon-neutral municipal wastewater reclamation <b>KEYNOTE</b> Yu Liu, <i>Nankai University, China</i>
09:10-09:25	Upcycling water treatment residual: Ceramsite for nutrient and emerging pollutant removal <b>INVITED</b> Jinkai Xue, <i>University of Regina, Canada</i>
09:25-09:40	Dual-support Catalytic Ozonation for Advanced Wastewater Treatment and Water Reuse <b>INVITED</b> Xiaoyuan Zhang, <i>Tsinghua University, China</i>
09:40-09:55	Nanoscale zero-valent iron regulate horizontal transfer of antibiotic resistance genes during managed aquifer recharge (MAR) process Yuanping Fang, <i>Northeast Normal University, China</i>
09:55-10:10	Morning Coffee Break
10:10-10:30	Environmental Surveillance of Antibiotic Resistance Genes Using Standardized Quantitative Metagenomic Methods <b>KEYNOTE</b> Tong Zhang, <i>The University of Hong Kong, China</i>
10:30-10:45	Applications of nanobubble for radioactive nuclei denomintation in Fukushima <b>INVITED</b> Yoshikatsu Ueda, <i>Kyoto University, Japan</i>
10:45-11:00	Novel technologies for emerging contaminants removal in engineered water systems <b>INVITED</b> Hui Lu, <i>Sun Yat-sen University, China</i>
11:00-11:15	Heparin-like polysaccharides recovery from sewage sludge <b>INVITED</b> Tianwei Hao, <i>University of Macau, China</i>
11:15-11:30	New insight on microorganisms attached to sludge biochar modified by Ca(ClO) <sub>2</sub> : Efficiency and Mechanism Ting-ting Cao, <i>Northeast Normal University, China</i>
11:30-11:45	Enhanced H <sub>2</sub> O <sub>2</sub> Utilization Efficiency in Fenton-like System for Degradation of Emerging Contaminants: Oxygen Vacancy-Mediated Activation of O <sub>2</sub> Xixi Chen, <i>Research Institute of Tsinghua University in Shenzhen, China</i>
11:45-12:00	Fluoroquinolone residues in the environment rapidly induce heritable fluoroquinolone resistance in <i>Escherichia coli</i> Bing Li, <i>Research Institute of Tsinghua University in Shenzhen, China</i>
12:00-13:30	Lunch



## 2<sup>nd</sup> November Morning, 2023 (Grand Ballroom II)

### Session-3: Zero Waste City and Waste Recycling Chairs: Jiakuan Yang, Xiaodi Hao

08:30-08:55	<b>Phosphate recovery – a discussion on options</b> <b>KEYNOTE</b> Mark van Loosdrecht, <i>Delft University of Technology, The Netherlands</i>
08:55-09:15	<b>Food waste digestate for energy-rich hydrochar production</b> <b>INVITED</b> Dan Tsang, <i>Hong Kong Polytechnic University, China</i>
09:15-09:35	<b>Phosphorus cycle and sustainable resource utilization</b> <b>INVITED</b> Zengwei Yuan, <i>Nanjing University, China</i>
09:35-09:50	<b>Selective separation for CO<sub>2</sub>-driven nutrient recovery from urine</b> Hang Dong, <i>Georgia Tech Shenzhen Institute, China</i>
09:50-10:05	<b>Utilization of dried sludge derived from drinking water treatment plants for unfired bricks</b> Xiaomeng Han, <i>Donghua University, China</i>
10:05-10:15	<b>Morning Coffee Break</b>
10:15-10:40	<b>Leveraging urine treatment at source for a more sustainable urban water cycle</b> <b>KEYNOTE</b> Korneel Rabaey, <i>Ghent University, Belgium</i>
10:40-11:00	<b>Zero-waste city construction in China: theory, experience, and challenges</b> <b>INVITED</b> Xianlai Zeng, <i>Tsinghua University, China</i>
11:00-11:20	<b>Geopolymerization of MSWI fly ash and coal fly ash for efficient solidification of heavy metals</b> <b>INVITED</b> Huijie Hou, <i>Huazhong University of Science and Technology, China</i>
11:20-11:35	<b>Sustainable Protection of Sewer Networks Through Internet of Things</b> Jiuling Li, <i>The University of Queensland, Australia</i>
11:35-11:50	<b>Performance Regulation of the Sludge Derived Carbon for the Valorization</b> Lingjun Kong, <i>Guangzhou University, China</i>
11:55-12:05	<b>Ecological Resource Center: A New Model for Synergical treatment of solid waste and wastewater with resources recycling towards Dual Carbon Targets</b> Yunhua Kong, <i>Shenzhen Shenshui Ecological &amp; Environmental Technology Co., Ltd, China</i>
12:05-13:30	<b>Lunch</b>



**2<sup>nd</sup> November Morning, 2023 (Grand Ballroom III)**

**Session-8: Emerging and Cross - Field Technologies II**  
**Chairs: Peng Wang, Lu Lu**

08:30-08:55	<b>Hydrogels for Water and Energy Sustainability</b> <b><u>KEYNOTE</u> Guihua Yu, University of Texas at Austin, USA</b>
08:55-09:20	<b>Data-driven Language Model Reveals the Oversimplification and Over/Under Estimation of Greenhouse Gas Emissions from the Wastewater Sector</b> <b><u>KEYNOTE</u> Zhiyong Jason Ren, Princeton University, USA</b>
09:20-09:45	<b>Interfacial Solar Evaporation: Fundamental &amp; Applications</b> <b><u>KEYNOTE</u> Jia Zhu, Nanjing University, China</b>
09:45-10:10	<b>A novel thin film composite structure for monovalent ion selective ion exchange membranes</b> <b><u>KEYNOTE</u> Qilin Li, Rice University, USA</b>
10:10-10:25	<b>Morning Coffee Break</b>
10:25-10:50	<b>Minus Approach to Recover Resources from Municipal Wastewater for Urban Food Production Using Hydroponics</b> <b><u>KEYNOTE</u> Yongsheng Chen, Georgia Institute of Technology, USA</b>
10:50-11:10	<b>Membrane-based Processes for Li/Mg Separation</b> <b><u>INVITED</u> Shihong Lin, Vanderbilt University, USA</b>
11:10-11:30	<b>Origami-paper microfluidic device for rapid and onsite wastewater surveillance</b> <b><u>INVITED</u> Zhugen Yang, Cranfield University, UK</b>
12:00-13:30	<b>Lunch</b>



## 2<sup>nd</sup> November afternoon, 2023 (Grand Ballroom III)

### Session-8: Emerging and Cross - Field Technologies II Chairs: Peng Wang, Lu Lu

13:30-13:55	<b>Bioinspired Multi-Scale Pore/Channel Systems</b> <b>KEYNOTE</b> Xu Hou, <i>Xiamen University, China</i>
13:55-14:20	<b>Integrating environmental modeling and AI/machine learning with fundamental science</b> <b>KEYNOTE</b> Huichun Zhang, <i>Case Western Reserve University, USA</i>
14:20-14:45	<b>Mixed Solvent Phase Separation (MSPS), A Novel Method for Preparation of Highly Porous Ultrafiltration Membranes for Oil Water Separation</b> <b>KEYNOTE</b> Zhiping Lai, <i>King Abdullah University of Science &amp; Technology, Saudi Arabia</i>
14:45-15:10	<b>Single-cell metagenomic approach reveals microbial metabolic functions for resource recovery</b> <b>KEYNOTE</b> Defeng Xing, <i>Harbin Institute of Technology, China</i>
15:10-15:25	<b>Afternoon Coffee Break</b>
15:25-15:50	<b>Emerging Solar-Driven Processes for Resource Recovery</b> <b>KEYNOTE</b> Peng Wang, <i>Sun Yat-sen University, China</i>
15:50-16:10	<b>Regimes of electron transfer pathway in Carbon-AOP systems</b> <b>INVITED</b> Xiaoguang Duan, <i>University of Adelaide, Australia</i>
16:10-16:30	<b>Techno-economic assessment of brackish water electrochemical desalination with intercalative electrodes</b> <b>INVITED</b> Xitong Liu, <i>The George Washington University, USA</i>
16:30-16:45	<b>3D evaporative crystallization for lithium recovery from saline water</b> Xi Chen, <i>Tsinghua University, China</i>
16:45-17:00	<b>End-of-life membrane: a new resource that should be recovered for sustainable wastewater treatment</b> Ruobin Dai, <i>Tongji University, China</i>
17:00-17:15	<b>Covalent organic network for emerging pollutant elimination and hydrogen peroxide generation</b> Hou Wang, <i>Hunan University, China</i>

**2<sup>nd</sup> November afternoon, 2023 (Grand Ballroom I)**

**Session-5: Value - added Organics Recovery and Reuse**  
**Chairs: Wenzong Liu, Yuemei Lin**

13:30-13:55	<b>Extracellular polymeric substances from granular sludge as a valuable resource: recovery and application</b> <b>KEYNOTE</b> Yuemei Lin, <i>Delft University of Technology, The Netherlands</i>
13:55-14:15	<b>PHA production from organic waste: harnessing nature's way to recycle carbon</b> <b>INVITED</b> René Rozendal, <i>Paques Biomaterials, The Netherlands</i>
14:15-14:30	<b>Catalytic hydrothermal reaction for high efficient energy harvest and carbon capture from recalcitrant wastewater</b> Xiang Li, <i>Donghua University, China</i>
14:30-14:45	<b>Mixed culture fermentation for carbon recovery-a chain elongation process</b> P. Oleskowicz-Popiel, <i>Poznan University of Technology, Poland</i>
14:45-15:00	<b>Valorizing Extracellular Polymeric Substances from Excess Activated Sludge: Potential for Agricultural Foliar Applications</b> Rozalia Persiani, <i>Delft University of Technology, The Netherlands</i>

**15:00-15:15 Afternoon Coffee Break**

**Session Chairs: Chuan Chen, Shih-Hsin Ho**

15:15-15:40	<b>Linking algae with resource recovery: a green elf in water treatment</b> <b>KEYNOTE</b> Shih-Hsin Ho, <i>Harbin Institute of Technology, China</i>
15:40-16:00	<b>Conversion mechanism of microplastics into high-value chemicals through visible-light-driven catalytic technique</b> <b>INVITED</b> Yang Li, <i>Beijing Normal University, China</i>
16:00-16:20	<b>Electrodialysis-Based Separation of Value-Added Resources from Wastewater: Principles and Applications</b> <b>INVITED</b> Shu-Yuan Pan, <i>National Taiwan University</i>
16:20-16:35	<b>Mixed culture resource recovery from industrial glycerin pitch: Application of extracellular polymeric substances (EPS) produced as bio-flocculants</b> Wai Lun Ng, <i>Taylor's University, Malaysia</i>
16:35-16:50	<b>Sustainable film development using Extracellular Polymeric Substances recovered from activated sludge</b> Javier Romero, <i>Aarhus University, Denmark</i>
16:50-17:05	<b>Is it economically profitable to retrofit full-scale sewage treatment plants towards high-purity volatile fatty acids production?</b> Celia Castro Barros, <i>Water Technology Centre, Spain</i>



## 2<sup>nd</sup> November afternoon, 2023 (Salon Du Theater)

Session-10: Data Resource & Digital Economy (Salon Du Theater)	
Chairs: Aijie Wang, Dongjian Xu Vice chair: Tianming Chen, Ming Yang	
Report Moderator 13:30-15:45	<b>Yufeng Guo, Co-Chair of the IWA International Water Association Digital Water Specialist Group, China Chapter</b>
13:40-14:05	<b>Holistic and interoperable digital twins for water reuse and resource recovery</b> <b>KEYNOTE Saba Daneshgar, Department of Data Analysis and Mathematical Modelling, Ghent University, Belgium</b>
14:05-14:20	<b>Water Industry Data Governance Trends</b> <b>Jianfeng Wang, Data Governance Expert, DAMA China</b>
14:20-14:35	<b>Is Data Really That Special? - Some Thoughts on Data Ownership, Pricing, and Monetization</b> <b>Huan Ma, Data Management Expert, DAMA China</b>
14:35-14:50	<b>Enhancing Water Utility Operations through Data-Driven Approaches</b> <b>Feng Lin, Shenzhen Water and Environmental Group Co.,Ltd., China</b>
14:50-15:05	<b>Industrial Data Governance and System Understanding</b> <b>Ning Gui, Big Data Research Institute, Central South University</b>
15:05-15:20	<b>Application and Innovation of Data Value in Water Utility</b> <b>Meifang Wang, Managing of Shenzhen Water Technology Co., Ltd, China</b>
15:20-15:35	<b>Special Issue of "Smart City Water System" of Journal of Environmental Engineering</b> <b>Suzhen Li, Environmental Engineering, China</b>
15:35-15:45	<b>China Sensor and Internet of Things Industry Alliance Smart Environment and Water Affairs Committee introduces</b> <b>Dongjian Xu, China Sensor and Internet of Things Industry Alliance Smart Environment and Water Affairs Committee, China</b>
15:45-15:55	<b>Afternoon Coffee Break</b>
Dialogue Moderator	<b>Khu Soon-Thiam, Dean of School of Environmental Science and Engineering, Tianjin University</b>
15:55-17:25 Theme discussion segment	<b>Xiaohong Chen, Hunan University of Technology and Business, Honorary Dean of the Business School of Central South University, and Director of Xiangjiang Laboratory, China</b> <b>Weiyan Liu, Vice President of Beijing Enterprises Water Group, China</b> <b>Andrew Yuan, Vice President, Inspur Group, China</b> <b>Meifang Wang, Party Secretary and General Manager of Shenzhen Water Technology Co., Ltd. , China</b> <b>Tianming Chen, Vice Dean (Presiding) and Professor, School of Environmental Science and Engineering, Yancheng Institute of Technology, Vice Director of Jiangsu Intelligent Engineering Research Center for Environmental Protection Equipment, China</b> <b>Min Yang, Associate Researcher, Harbin Institute of Technology (Shenzhen), China</b> <b>Huaxin Zhao, Data Governance Expert, DAMA China</b> <b>Yiheng Huang, Managing Director of Jiangsu Suyun Information Technology Co., Ltd., China</b>
17:25-17:30 Closing remarks	<b>Khu Soon-Thiam, Dean of School of Environmental Science and Engineering, Tianjin University, China</b>

**2<sup>nd</sup> November afternoon, 2023 (Grand Ballroom II)**

Session-6: Nutrients and Inorganics Recovery I Chairs: Haoyi Cheng, Korneel Rabaey	
13:30-13:55	<b>Innovations in nutrient removal and recovery technologies are vital for reaching NET-ZERO targets</b> <b>KEYNOTE</b> Ana Soares, <i>Cranfield University, UK</i>
13:55-14:15	<b>Bioelectro-barrier prevents nitrate leaching to ground water</b> <b>INVITED</b> Xin Wang, <i>Nankai University, China</i>
14:15-14:30	<b>Could urea recovery from fresh urine be a sustainable alternative to NH<sub>4</sub><sup>+</sup> recovery from hydrolysed urine</b> Haotian Wu, <i>Université Laval, Canada</i>
14:30-14:45	<b>Mainstream nitrogen recovery in large WRRF: a multi-criteria analysis of available technologies</b> Antonin Azaïs, <i>INRAE, REVERSAAL</i>
14:45-15:00	<b>Ammonia stripping-scrubbing followed by nitrification-denitrification saves costs for manure treatment: a calibrated model approach</b> Ruben Vingerhoets, <i>Ghent University, Belgium</i>
15:00-15:15	<b>Afternoon Coffee Break</b>
15:15-15:35	<b>Efficient electrochemical nitrate reduction and high ammonia selective production</b> <b>INVITED</b> Miao Li, <i>Tsinghua University, China</i>
15:35-15:55	<b>Phosphate Recovery from Wastewater and the Role of Policies in the EU</b> <b>INVITED</b> Ludwig Hermann, <i>Proman Consulting, Austria</i>
15:55-16:15	<b>Phosphorus Recovery from Sewage as Vivianite in an Fe-retrofitted UCT-MBR System</b> <b>INVITED</b> Xiang Cheng, <i>Beijing Forestry University, China</i>
16:15-16:30	<b>Establishing Tailored Microbiome with Novel Polyphosphate Accumulating Organisms for Enhanced Biological Phosphorus Removal and Recovery from Wastewater</b> Feng Ju, <i>Westlake University, China</i>
16:30-16:45	<b>CaCO<sub>3</sub> particles packed electrochemical precipitation systems: membrane-free electrochemical systems for efficient and high-purity phosphate recovery</b> Yang lei, <i>Southern University of Science and Technology, China</i>
16:45-17:00	<b>Vivianite production from acidified wastewater</b> Kun Guo, <i>Xi'an Jiaotong University, China</i>



### 3<sup>rd</sup> November Morning, 2023 (Grand Ballroom II)

Session-6: Nutrients and Inorganics Recovery II Chairs: Zhang Lin, Victoria Flexer	
08:30-08:55	<b>Concomitant recovery of magnesium, calcium and sodium together with lithium carbonate from high salinity brines</b> <b>KEYNOTE</b> Victoria Flexer, <i>National University of Jujuy, Argentina</i>
08:55-09:15	<b>Green and Low-carbon Recovery of Critical Metals from Industrial Wastewater</b> <b>INVITED</b> Hong Chen, <i>Southern University of Science and Technology, China</i>
09:15-09:30	<b>A novel brine treatment on simultaneous recovery of Ca and Mg as pseudo-dolomite by Fluidized Bed Homogeneous Crystallization (FBHC) Technology</b> Kai-Yang Chang, <i>National Cheng Kung University, Chinese Taipei</i>
09:30-09:45	<b>High-efficiency recovery of palladium and platinum using black phosphorus for in-situ synthesis of long-term stable hydrogen evolution catalysts</b> Rui Gao, <i>University of Science and Technology of China, China</i>
09:45-10:00	<b>Electrochemical magnetite production for in-situ Se removal from wastewater</b> Bingnan Song, <i>Southern University of Science and Technology, China</i>
10:00-10:15	<b>Morning Coffee Break</b>
10:15-10:40	<b>Turning sulfur as resource for sustainable treatment of both industrial and municipal wastewater</b> <b>KEYNOTE</b> Guanghao Chen, <i>The Hong Kong University of Science and Technology</i>
10:40-10:55	<b>Resource recovery of chloride: Production of membrane cleaning fluids from reverse osmosis concentrates</b> Korneel Rabaey, <i>Ghent University, Belgium</i>
10:55-11:10	<b>Polysulfide distribution and chain length in the biodesulfurization process- Effect of pH and oxidation reduction potential</b> Kestral A.K.Y. Johnston, <i>Wetsus, the Netherlands</i>
11:10-11:25	<b>Recovery of iodide from thin film transistor liquid crystal display plants by Forward Osmosis using waste potassium hydroxide as a draw solution</b> Shiao-Shing Chen, <i>National Taipei University of Technology, Chinese Taipei</i>
11:25-11:40	<b>Recovery of boron by crystal growth of barium perborate in a fluidized-bed crystallizer</b> Jui-Yen Lin, <i>National Kaohsiung University of Science and Technology, Chinese Taipei</i>
12:00-13:30	<b>Lunch</b>

**3<sup>rd</sup> November Morning, 2023 (Grand Ballroom III)**

Session-7: (Bio - )Energy Recovery Chairs: Yongming Sun, Irimi Angelidaki	
08:30-08:55	<b>Emerging Biotechnologies assisting the Green transition</b> <b>KEYNOTE</b> Irimi Angelidaki, <i>Technical University of Denmark, Denmark</i>
08:55-09:20	<b>Dare to imagine the biogas future</b> <b>KEYNOTE</b> Renjie Dong, <i>China Agricultural University, China</i>
09:20-09:45	<b>Efficient biogas upgrading and utilization towards sustainable wastewater treatment</b> <b>KEYNOTE</b> Jianhua Guo, <i>The University of Queensland, Australia</i>
09:45-10:00	<b>Anaerobic digestion of OFMSW: Beyond anaerobic digestion</b> <b>INVITED</b> Fan Lv, <i>Tongji University, China</i>
10:00-10:15	<b>Metabolic Profiling of Anaerobic Digestion Microbiomes: Implications for Biogas Production and Upgrading</b> <b>INVITED</b> Stefano Campanaro, <i>Università di Padova, Italy</i>
10:15-10:30	<b>Acclimatization of Methanogenic Microbiomes and Their Bioaugmentation performance on Low efficiency Anaerobic Digestion</b> <b>INVITED</b> Ying Li, <i>Guangzhou Institute of Energy Conversion, Chinese Academy of Sciences, China</i>
10:30-10:45	<b>Morning Coffee Break</b>
10:45-10:57	<b>Anaerobic co-digestion synergy of organic components</b> Jialiang Zhou, <i>China Agricultural University, China</i>
10:57-11:09	<b>Temperature-phased anaerobic digestion for WWTPs – impact of seasonal changes on pretreatment of WAS and methane yield</b> Piotr Oleskowicz-Popiel, <i>Poznan University of Technology, Poland</i>
11:09-11:21	<b>Exploring the stability of an A-stage-EBPR system for simultaneous biological removal of organic matter and phosphorus</b> Congcong Zhang, <i>Tsinghua University, China</i>
11:21-11:33	<b>The microbiome insights into the food waste and poly (lactic acid) co-digestion</b> Xinyu Zhu, <i>Westlake Laboratory of Life Sciences and Biomedicine, China</i>
11:33-11:45	<b>An innovative technology for simultaneous removal of dissolved methane and nitrogen in anaerobically treated mainstream wastewater</b> Yan Lu, <i>The University of Queensland, Australia</i>
11:45-11:57	<b>A holistic approach for performance assessment, root cause analysis and solution validation of a full-scale UK sewage nutrient recovery plant</b> Xiaobo Shen, <i>University of Surrey, UK</i>
12:00-13:30	<b>Lunch</b>



### 3<sup>rd</sup> November Morning, 2023 (Salon Du Theater)

#### Session-9: Full - scale Applications and Case Studies

Chairs: **Song Gao**

08:30-08:55	<b>Technology Evolution or Technology Innovation</b> <b>KEYNOTE</b> Kaijun Wang, <i>Tsinghua University, China</i>
08:55-09:20	<b>Beyond Treatment: Insights from Yixing Concept Water Resource Reclamation Facilities</b> <b>KEYNOTE</b> Yifei Zhang, <i>CSD Water Service Co., Ltd, China</i>
09:20-09:40	<b>Progress and Practice of Pollution Source Identification Technology based on Aqueous Fingerprint</b> <b>INVITED</b> Jing Wu, <i>Tsinghua University, China</i>
09:40-10:00	<b>Treatment of Saline Industrial Waste Waters Enabling Reuse: a High and Low Organic Loading Case</b> <b>INVITED</b> Huub. H. M. Rijnaarts, <i>Wageningen University and Research, The Netherlands</i>
10:00-10:15	<b>Advanced nitrogen and phosphorus removal by the symbiosis of PAOs, DPAOs and DGAOs in a pilot-scale A2O/A+MBR process</b> Siqi Li, <i>Tsinghua University, China</i>
10:15-10:30	<b>Efficient biological nitrogen removal using a single anoxic/oxic/settling bioreactor for sewage treatment: A full-scale application</b> Lanlan Lu, <i>Qingyan Environmental Technology Co. Ltd, China</i>
10:30-10:45	<b>Morning Coffee Break</b>
10:45-11:05	<b>Sulfur Autotrophic denitrification (SADeN): from Lab to Full-scale application</b> <b>INVITED</b> Haoyi Cheng, <i>Harbin Institute of Technology Shenzhen, China</i>
11:05-11:20	<b>Zero to One practice for the next gen separation technology--Dynamic microgranular adsorptive filtration (DuGAF)</b> Zhenxiao Cai, <i>Zhenxiao Cai, MicroHAOPs, China</i>
11:20-11:35	<b>Wastewater management in metallurgic industries: water reuse and innovations</b> Xiaofei Wang, <i>Umicore, Belgium</i>
11:35-11:50	<b>Recognizing-cleaning-downcycling of Si-Al fouled RO membrane in a full-scale zero liquid discharge system</b> Hailan Wang, <i>Tongji University, China</i>
12:00-13:30	<b>Lunch</b>



**3<sup>rd</sup> November Morning, 2023 (Salon Room)**

Session-4: Environmental Sustainability Management Chairs: Ming Xu	
08:30-08:55	<b>Sociometabolic Analytics for Circular Economy and Carbon Neutrality</b> <b>KEYNOTE</b> Gang Liu, <i>Peking University, China</i>
08:55-09:15	<b>Toward sustainable material cycles in anthroposphere</b> <b>INVITED</b> Weiqiang Chen, <i>Institute of Urban Environment, Chinese Academy of Sciences, China</i>
09:15-09:35	<b>A Stoichiometric Life-cycle Approach for Sewage-derived Energy Systems</b> <b>INVITED</b> Mark S.C. Hsu, <i>The Hong Kong Polytechnic University</i>
09:35-09:50	<b>An Optimization Model for Determining the Degree of Decentralization for Nonportable Water Reuse in Hong Kong</b> Zhongming Lu, <i>Hong Kong University of Science and Technology</i>
09:50-10:05	<b>Nature Reciprocity from Wastewater Resource Recovery Solutions</b> Anurag Bhambhani, <i>Delft University of Technology, the Netherlands</i>
10:05-10:20	<b>A "Water and Carbon" Near-Zero Emission WWTP System: Model Development and Techno-Economic-Environmental Benefits Assessment</b> Bingqian Zhang, <i>Tsinghua University, China</i>
10:20-10:35	<b>Morning Coffee Break</b>
10:35-11:00	<b>Key Digital and Treatment Technologies for Smart Alternative Water Grids to Adapt to Droughts</b> <b>KEYNOTE</b> Huub Rijnaarts, <i>Wageningen University &amp; Research, the Netherlands</i>
11:00-11:20	<b>Sustainable Future Water Supply Mix for Hong Kong – Toward a Low-Carbon Transition for a Water Scarce City</b> <b>INVITED</b> Shauhrat Chopra, <i>City University of Hong Kong, China</i>
11:20-11:40	<b>Promoting sustainable development of urban buildings from the lifecycle perspective: A case study of Macao</b> <b>INVITED</b> Qingbin Song, <i>Macau University of Science and Technology</i>
11:40-11:55	<b>Strategies to achieving carbon neutrality of China's municipal wastewater treatment plants</b> Lanqing Li, <i>Harbin Institute of Technology, China</i>
11:55-12:10	<b>Using water cycle residuals, a hindrance or opportunity?</b> Jouke Boorsma, <i>Aqua Minerals, Netherlands</i>
12:10-12:25	<b>The Four Issues Related to Improve the Efficiency of Urban Sewage Systems Operation, Up-Grading and Reconstruction</b> <b>INVITED</b> Yeshi Cao, <i>CSD New Conceptual Environmental Development Yixing Ltd.</i>
12:25-13:30	<b>Lunch</b>



# Poster Presentations (Salon Room)

2nd November, 2023 (All day)

Water Reuse - Innovative Technology				
NO.	Title	Author	Country	University
A0286	Periodate activation by g-C <sub>3</sub> N <sub>4</sub> with LED irradiation for bisphenol A degradation: Performance and mechanism	Chun Cai	CHINA	China University of Geosciences
A0285	Loose polyamide layer enables reduced gypsum-organic fouling of nanofiltration membranes: Role of selective ion permeation	Tianlin Wang	CHINA	Tongji University
A0281	Pitfalls of Electron Paramagnetic Resonance Spectroscopy in Detecting Singlet Oxygen	Yang Zong	CHINA	Tongji University
A0280	Prevention of silica scale in the water resources recycling process: continuous removal of silicon and BTCs analysis by ANN model	Shuqin Bai	CHINA	Yangtze Normal University
A0277	Preparation of zeolite loaded polyvinyl alcohol gel beads and its application in rapid start-up of PDN/A bioreactor	Wuke Guo	CHINA	Xi'an Jiaotong University
A0273	Graphene oxide hydrogel coated membrane for efficient oil-water separation	Xu Ran	CHINA	East China Normal University
A0265	Electrochemical water softening with three-dimensional cathodes: An enhanced strategy for in-situ cooling water reuse	Jiayu Luo	CHINA	Southern University of Science and Technology
A0269	Rod-coated PVA interlayer induced nanofiltration membrane: method development and application for separation of dye/NaCl with greater performance	Zhiyu Liu	CHINA	Shenzhen University
A0262	Intensification of hydroxylamine enhanced spinel activated persulfate system	Jing Ding	CHINA	Harbin Institute of Technology
A0260	A novel sulfur-magnesite (S-Mg) composite material achieving synergetic removal of various nitrogen and phosphorus compounds	Lin Zhu	CHINA	RCEES, Chinese Academy of Sciences
A0249	Spinel trimetallic sulfide coupled electron donor system for peroxymonosulfate activation: synergy of ternary metals	Yunhui Zhang	CHINA	Tongji University
A0244	Enhance NH <sub>4</sub> <sup>+</sup> removal in constructed wetlands: using amorphous-MnO <sub>2</sub> /clinoptilolite as the substrate	Caocong Liu	CHINA	Chongqing University
A0242	Fluorescence and ultraviolet spectroscopic analysis of the effects of organic carbon sources on anaerobic ammonia oxidation	Weihua Li	CHINA	Anhui Jianzhu University
A0239	Novel application of aerobic composting technology: biological drying and resource recovery for wastewater	Mingdong Chang	CHINA	Northeastern University
A0228	Nitrogen Removal by Algal-Bacterial Consortium during Mainstream Wastewater Treatment: Transformation Mechanisms and Potential N <sub>2</sub> O Mitigation	Qi Li	CHINA	Wuhan University of Technology



A0227	Outstanding electrocatalytic performance of hierarchical Cu <sub>3</sub> P/Cu composites for degradations of antibiotics in high salt conditions over a wide pH range	Ruanshan Liu	CHINA	Harbin Institute of Technology Shenzhen
A0226	Recent Progress of Cu Based Catalysts on Electro-catalytic Nitrate Reduction to Ammonia from Water	Jinshan Wei	CHINA	Shenzhen University
A0225	Using Livestock Wastewater to Cultivate the Microalgae for Nutrient Recovery	Rui Xiao	CHINA	Clemson University
A0223	Fe(VI) activation system mediated by a solar-driven TiO <sub>2</sub> nanotubes electrode for CLQ degradation: Performances, mechanisms and pathways	Lijin Zhe	CHINA	Zhejiang University of Technology
A0222	AOPs	Shiwen Dong	CHINA	zhejiang University of Technology
A0221	Defective Covalent Triazine Frameworks: Enhanced Solar-Driven Peroxymonosulfate Activation.	Sijia Jin	CHINA	University of Chinese Academy of Sciences
A0219	Designing electron-deficient-Pd/NiCo <sub>2</sub> O <sub>4</sub> bifunctional electrocatalyst with enhanced hydrodechlorination activity to reduce the consumptions of Pd	He Jiang	CHINA	Zhejiang University of Technology
A0218	Constructed Electron-Dense Mn Sites in Nitrogen-doped Mn <sub>3</sub> O <sub>4</sub> for Efficient Catalytic Ozonation of Pyrazines: Degradation and Odor Elimination	Yinning He	CHINA	Zhejiang University of Technology
A0213	Intramolecular engineering of defective terminations within triazine-based conjugated polymers for augmented photocatalytic H <sub>2</sub> production and Cr(VI) reduction	Zhiquan Jin	CHINA	Zhejiang University of Technology
A0207	Enhance NH <sub>4</sub> <sup>+</sup> removal in constructed wetlands using amorphous-MnO <sub>2</sub> clinoptilolite as the substrate	Caocong Liu	CHINA	Chongqing University
A0208	One pot synthesis of Cu–Ni–S@Ni foam for the simultaneous removal and detection of norfloxacin	Xincheng Jiang	CHINA	Chongqing University
A0195	Kinetic parameter study and physiological analysis of vegetable oil biodegradation	Yuxi Chen	CHINA	Shandong jianzhu University
A0194	Vegetable-oil degradation model and kinetics in aerobic membrane biological reactor (MBR) system	Gaoyuan Geng	CHINA	Shandong Jianzhu University
A0176	A miniature sensitive electrochemical sensor for environmental toxicity monitoring in wastewater	Guanlan Wu	CHINA	Beijing Normal University
A0167	Recycling water and nutrients via reviving small water bodies in rice region	Sisi Li	CHINA	Innovation Academy for Precision Measurement Science and Technology, Chinese Academy of Sciences
A0131	A Novel Hydrogen-Sulfur Co-driven Autotrophic Denitrification Process Achieving a Greener Biological Nitrogen Removal	Zhouyang Li		Research Center for Eco-Environmental Sciences, Chinese Academy of Sciences

A0130	Deep nitrogen removal in a single-stage fixed bed by anaerobic ammonia oxidation coupled with denitrification under mainstream circumstances	Zheng Lu	CHINA	Henan University of Technology
A0129	Reverse osmosis membrane modification with novel polymers to remove organic micropollutant for water reuse	Mei An	BELGIUM	Ghent University
A0121	A novel sulfur-magnesite (S0-Mg) composite material achieving synergetic removal of various nitrogen and phosphorus compounds	Lin Zhu	CHINA	Research Center for Eco-Environmental Sciences, Chinese Academy of Sciences
A0113	Insight into microbial communities succession in sulfur autotrophic denitrification at different salinities	Zhuoran Li	CHINA	Research Center for Eco-Environmental Sciences, Chinese Academy of Sciences
A0096	Enhanced in-situ biogas upgrading with exogenous hydrogen supply during anaerobic digestion of sewage sludge	Zhongfang Sun	CHINA	Harbin institute of technology
A0091	Seperating anaerobic/oxic zone avioding sufficient aeration for enhancing simultaneous nitrification-denitrification, phosphorus removal	Ao Deng	CHINA	Qingdao University
A0080	Enhanced internal electric field in S-doped BiOBr for intercalation, adsorption and degradation of ciprofloxacin	Yang Jin	CHINA	Shandong University
A0010	A Synergistic Platform Enables Co-oxidation of Halogenated Organic Pollutants with Zero Carbon Input	Yuhang Cai	CHINA	Northeast Normal University

**Water Reuse - Pathway and Security**

NO.	Title	Author	Country	University
B0284	Application of ozonation for the removal of sulfachloropyridazine and for livestock farming water reuse	Rui Qin	CHINA	Hainan University
B0248	Nitrogen-based fertilizer recovery from nitrate wastewater: A novel electrocatalyst for ammonia synthesis and a new strategy for ammonia adsorption	Liaoman Ting	CHINA	Dongguan University of Technology
B0240	Degradation of Ibuprofen in Water by a Novel Combination of Air Microbubbles and Peroxymonosulfate Process	Feng Jiao Zhang	CHINA	Tongji University
B0243	Rational design to cobalt-doped LaFeO <sub>3</sub> -based for efficient activation of peracetic acid and the mechanism insight	Yali Guo	CHINA	Tongji University
B0241	Salt stimulates sulfide-driven autotrophic denitrification: Microbial network and metagenomics analyses	Tong Wang	CHINA	Tongji University
B0236	Selective reduction of chlorite to innocuous chloride by UV/sulfite systems: Effectiveness and mechanisms	Jixing Li	CHINA	College of Environmental Science and Engineering, Tongji University
B0230	Synthesis of Cu <sub>2</sub> <sup>+</sup> doped biochar and its inactivation performance of Microcystis aeruginosa: Significance of synergetic effect	Xing Gao	CHINA	Tongji Univerisity



B0220	Effects of sulfate concentration and external voltage on operation efficiency, sludge characteristics, and microbial community of a bioelectrochemical system	Zhengpeng Chen	CHINA	Guangxi Normal University
B0206	Risks posed by road-deposited microplastics: Implication for urban road stormwater reuse	Beibei He	CHINA	Queensland University of Technology
B0134	Fluoroquinolone residues in the environment rapidly induce heritable fluoroquinolone resistance in <i>Escherichia coli</i>	Bing Li	CHINA	Tsinghua Shenzhen International Graduate School
B0125	The control of virus and membrane fouling by $Fe_3^+-H_2O_2$ in-situ chemical cleaning during ultrafiltration process	An Ding	CHINA	Harbin Institute of Technology
B0124	Resilience of magnetite-assisted granules to starvation and oxytetracycline stress	Kaili Ma	CHINA	Henan Normal University
B0058	The Reduction and Oxidation Synergistic Platform (ROSP): A Sustainable and Innovative Solution for the Treatment of Halogenated Organic Pollutants in Water	Yihao Luo	CHINA	Northeast Normal University
B0037	Recycle and Reuse of Plastics in Asphalt Pavement: Evaluating Microplastic Leachability	Meibo He	SINGAPORE	National University of Singapore
B0022	The regulation of plant rhizosphere protozoa on nitrogen and carbon	Ying Chen	CHINA	Harbin Institute of Technology Shenzhen

### Zero Waste City and Waste Recycling

NO.	Title	Author	Country	University
C0254	Recycling urban waste soil to zeolite materials for waste-free city construction	Dazhong Yang	CHINA	Southern University of Science and Technology
C0183	Treatment of Urine and Recovery of Nutrient: the TURN of wastewater treatment	Peizhe Sun	CHINA	Tianjin University
C0144	Concept of "Using waste materials to dispose pollutants" from eggshell membrane	Defu Gan	CHINA	Tongji University
C0122	$\beta$ -Cyclodextrin-Polyacrylamide Hydrogel for Removal of Organic Micropollutants from Water for Wastewater Treatment	Xia Song	SINGAPORE	National University of Singapore
C0110	Leaching Behaviour of Heavy Metals from Recycled Municipal Solid Waste Used in Land Reclamation Materials	Xuan Yang	CHINA	National University of Singapore (Suzhou) Research Institute
C0109	Converting Biomass Okara to Superabsorbent Hydrogels for Enhancing Vegetable Growth through Improving Soil Water Holding Capacity	Jingling Zhu	SINGAPORE	National University of Singapore
C0104	Reducing the cohesive strength of sewer sediments and improving self-cleaning ability of pipelines by ultrasound	Zhenzhen Tang	CHINA	Tongji University

C0007	Decrease effective temperature of hydrothermal treatment (HT) for sludge deep dewatering by tannic acid aided	Renjie Chen	CHINA	Tongji University
C0002	How does ocean policy affect the economic development of coastal areas?	Xin Qi	CHINA	China University of Petroleum (East China)

**Environmental Sustainability Management**

NO.	Title	Author	Country	University
D0272	An easily recyclable photocatalysis-self-Fenton system based on alginate/C <sub>3</sub> N <sub>4</sub> por beads for highly efficient atrazine removal	Jiajia Xu	CHINA	Shenzhen University
D0271	Surface water quality monitoring using unmanned aerial vehicle (UAV) hyperspectral remote sensing and BP neural network	Genyu Yuan	CHINA	Sun Yat-sen University
D0259	Decision-making in food waste valorization: a systematic review leading to an improved holistic framework	Yujun Wei	NETHERLANDS	Wageningen University & Research
D0250	Estimating the economic and environmental impacts of China's seawater desalination industry with different technologies in the macroeconomic system	Xiuli Liu	CHINA	Academy of Mathematics and Systems Science, Chinese Academy of Sciences
D0198	Lifecycle Assessment of River Regulation Project: A case study on the river regulation Project in Central Taiwan	Chyi-How Lay	CHINESE TAIPEI	Feng Chia University
D0105	Comparison of photo-degradability of legacy and emerging PFAS in water	Junying Wen	DENMARK	Aarhus University
D0095	Integrated fixed-film activated sludge systems in continuous-flow and batch mode acclimated from low to high aniline concentrations: Performance, mechanism and metabolic pathways	Wu Nan-Ping	CHINA	Wuhan University of Technology
D0082	Unraveling the nexus of Cr (VI), Aniline, and Microbial Ecology on aniline-degrading biosystem: Removal efficiency, sludge type, microbial ecology	Bing Lin	CHINA	Wuhan University of Technology
D0032	Enhancement of medium chain fatty acids production from sludge anaerobic fermentation liquid under moderate sulfate reduction	Shan Gao	CHINA	Tsinghua University
D0026	Establishment of Hyperthermophilic Anaerobic Fermentation Platform for Highly Efficient Short Chain Fatty Acids Production from Thermal Hydrolyzed Sludge	Zhan Chen	CHINA	Tsinghua University
D0006	Methane production enhancement from waste activated sludge with the recycled magnetic biochar: Insights into the recycled strategies and mechanisms	Fei Wang	CHINA	Xi'an University of Architecture and Technology
D0015	Ammonia recovery by designing novel stacked FCDI cell	Fang Kuo	CHINA	Tsinghua University



D0009	High-biomass biofilm enrichment reactor improves enrichment efficiency of PHA production from food waste	Peng Yu	CHINA	Tsinghua University
D0250	Estimating the economic and environmental impacts of China's seawater desalination industry with different technologies in the macroeconomic system	Xiuli Liu	CHINA	Academy of Mathematics and Systems science Chinese Academy of Sciences

### Value-added Organics Recovery and Reuse

NO.	Title	Author	Country	University
E0279	A machine learning framework for intelligent prediction of composting maturity for the automation of biochar-based composting systems	Jianmei Zou	CHINA	Sichuan Agricultural University
E0275	Microbiome dynamic and products profiles of biowaste fermentation under different organic loads and additives	Li Ping	CHINA	Westlake University
E0255	Bioconversion of waste granular sludges into high-value biomaterials for circular economy	Cuijie Feng	CHINA	Sun Yat-sen University
E0247	Moderate sulfate reduction enhanced medium chain fatty acids production from sludge anaerobic fermentation liquid	Shan Gao	CHINA	Tsinghua University
E0245	A Hyperthermophilic Anaerobic Fermentation Platform for Highly Efficient Short Chain Fatty Acids Production from Thermal Hydrolyzed Sludge	Zhan Chen	CHINA	Tsinghua University
E0204	Untapping the potential of thermophilic chain elongation for caproate production	Alberte Regueira	BELGIUM	Ghent University
E0163	Methane Bioconversion to Volatile Fatty Acids by Aerobic Methanotrophs via a Novel Fermentation Pathway	Yicheng Ma	AUSTRALIA	University of Queensland
E0175	Fluidized Cathode Enhanced Electro-Fermentation for Caproate Production	Jingwei Ma	CHINA	Hunan University
E0171	Trace phenolic acids simultaneously enhance degradation of chlorophenol and biofuel production by <i>Chlorella regularis</i>	Liang Fu	CHINA	Northeast Normal University
E0165	Enhancing caproate production from sugars in an upflow reactor	Alberte Regueira	BELGIUM	Ghent University
E0152	A comprehensive comparison between two strategies to produce polyhydroxyalkanoates from domestic sewage sludge	Giorgio Mannina	ITALY	Palermo University
E0041	Optimising butyrate and lactate yields fermenting xylose in a mixed culture system	Juan Iglesias-Ribobó	SPAIN	CRETUS, Universidade de Santiago de Compostela
E0036	Influence of biomass activity on caproic acid production during xylose fermentation	Juan Iglesias-Ribobó	SPAIN	CRETUS, Universidade de Santiago de Compostela



E0100	Assessing the feasibility of carbon-source utilization of solid-state fermented Baijiu industry wastewater	Weiqliang Zhu	CHINA	University of Jinan
E0018	The neglected effects of polysaccharide transformation on sludge humification during anaerobic digestion with thermal hydrolysis pretreatment	Jun Gao	CHINA	Tongji university
E0068	Study on Resource Recovery Process of Potato starch Processing Wastewater	Jinlong Zuo	CHINA	Harbin University of Commerce
E0044	Biochar prepared by sludge residue contained iron species enhances anaerobic digestion from waste activated sludge	Hong-Yu Jin	CHINA	Xi'an University of Architecture and Technology
E0035	Free nitrous acid pre-treatment of swine manure enhances efficiency and antibiotic resistance removal of anaerobic digester	Jia Meng	CHINA	Harbin Institute of Technology
E0016	The fate of fly ash and bottom ash (FABA) of a coal-fired power plant in removing natural organic acid from drinking water treatment and its potency for slow-release fertilizer	Akhmad Adi Suliarto	INDONESIA	Universitas Brawijaya
E0030	Cation exchange resin pretreatment enhancing methane production from anaerobic digestion of wasted activated sludge	Hui Geng	CHINA	Tongji University
E0029	Physiological and Genetic Responses of <i>Chlorella</i> sp. Towards Free Ammonia Shock in Wastewater	Shijian Ge	CHINA	Nanjing University of Science and Technology
E0017	Effect of undissociated n-caproic acid on metabolic pathway of methanogens and subsequent recovery	Shijian Ge	CHINA	Nanjing University of Science and Technology
E0013	Investigating the role of syntrophic relationships in anaerobic digestion of carbon-rich food industry wastewater	Ellen Piercy	THE UNITED KINGDOM	King's College London
E0012	The coagulation/flocculation pretreatment combined with indigenous microalgal bacterial cultivation for rural black wastewater	Shuang Qiu	CHINA	Nanjing University of Science and Technology

**Nutrients and Inorganics Recovery**

NO.	Title	Author	Country	University
F0270	Simultaneous greenhouse gas and wastewater nitrogen recovery technology based on methanotrophs-microalgae	Xin Li	CHINA	Southeast University
F0268	Redox-electrolyte based electrochemical system for selective lithium recovery from unprocessed spent lithium batteries: A proof-of-concept study	Rui Gao	CHINA	City University of Hong Kong
F0246	Reclamation of Phosphorus from Urine by Mg-Functionalized Biochar: Adsorption Behavior and Potential Application	Lei Zhang	CHINA	Tongji University
F0264	Soil Enzyme Activity in The Water-Level-Fluctuating Zone of Lixiang Creek in Three Gorges Reservoir Area	Yiwen Wu	CHINA	Yangtze Normal University



<b>F0186</b>	Selective removal of ammonium in rocking chair capacitive deionization with PBA-based integrated membrane electrodes	Dawei Liang	CHINA	Beihang University
<b>F0177</b>	Enhance ammonia recovery from wastewater by high gravity technology	Shaomin Guo	CHINA	University of Science and Technology Beijing
<b>F0166</b>	Ammonia stripping-scrubbing followed by nitrification-denitrification saves costs for manure treatment: a calibrated model approach	Ruben Vingerhoets	BELGIUM	Ghent University
<b>F0162</b>	In-situ low-strength P recovery for eco-reuse after sewage pre-concentration through electrochemically induced-crystallization	YuJin Zheng	CHINA	Minzu University of China
<b>F0143</b>	Dynamic Simulation of Nitrifying Microbial Communities for Establishing Acidic Partial Nitritation in Suspended Activated Sludge	Yu Xue	CHINA	Tsinghua University
<b>F0139</b>	Sustainable hybrid membrane process for ammonia recovery from wastewater of superior recovery- and energy- efficiency	Le Han	CHINA	Chongqing University
<b>F0137</b>	Comprehensive Evaluation of Nutrient Removal and Recovery from Wastewater using Algal Turf Scrubber (ATS) Technology	Xinyu Gan	GERMANY	FZJ
<b>F0099</b>	Enhanced microalgal growth and auto-flocculation in anaerobic digestate by a biomineralization-inspired strategy	Haolian Xu	CHINA	Tongji University
<b>F0092</b>	Enhancement of phosphorus release and hydrogenotrophic methanogenesis by co-digestion of sulfur-rich vegetable waste with waste activated sludge	Shuang Zhang	CHINA	Tongji University
<b>F0084</b>	Inadvertently enriched cyanobacteria prompted bacterial phosphorus uptake without aeration	Jiaxiang Nie	CHINA	Qingdao University
<b>F0085</b>	Influence of organic acids on phosphorus recovery via vivianite crystallization from synthetic anaerobic fermentation supernatant	Suna Wang	CHINA	Hohai university
<b>F0079</b>	Enhanced NH <sub>4</sub> <sup>+</sup> Removal and Recovery from Wastewater using Na-zeolite-based Flow-Electrode Capacitive Deionization: Insight from Ion Transport Flux	Xin He	CHINA	Tsinghua University
<b>F0067</b>	Adsorptive phosphate recovery from pre-coagulated wastewater sludge after anaerobic digestion	Masanobu Takashima	JAPAN	Fukui University of Technology
<b>F0060</b>	Recovery of PHA and polyP using Magnetospirillum magneticum strain AMB-1	Qingxian Su	DENMARK	Beijing Normal University at Zhuhai
<b>F0051</b>	Mining phosphorus from municipal sludge through hydrothermal liquefaction	Huan Liu	CANADA	The University of British Columbia
<b>F0052</b>	Adsorption and recovery of phosphate from water using amine fiber technology	Jinshan Wei	CHINA	Shenzhen University

F0038	Recovery of Ammonium-nitrogen from Effluent of AnMBR Treating Domestic Wastewater Using Polymeric Hydrogel Column	Meibo He	SINGAPORE	Beijing Normal University at Zhuhai
F0045	Boosting nitrogen removal and recovery from anaerobic digester liquors by GPMs	Bogna Śniatała	POLAND	Gdansk University of Technology
F0027	Ammonium recovery driven by benzoic acid removal in two-chambered bioelectrochemical system	Siyuan Zhai	CHINA	Harbin Institute of Technology(Shenzhen)
F0020	Ammonium recovery using copper hexacyanoferrate coated 3D printed scaffold	Yuhoon Hwang	SOUTH KOREA	Seoul National University of Science and Technology
F0008	The use of indigenous microalgae-bacteria consortium coupled with partial nitrification to treat toilet wastewater	Shuang Qiu	CHINA	Nanjing University of Science and Technology

### Metals Recovery

NO.	Title	Author	Country	University
G0266	Electrically assisted anaerobic digestion under ammonia stress	Jun Xu	CHINA	Tongji University
G0253	Regulation mechanism of extracellular polymeric substances from aerobic granules on enhancing resource recovery of <i>Chlorella vulgaris</i>	Xiaolei Liu	CHINA	Beijing Normal University
G0252	Deep Insights into the Population Shift of n-DAMO and Anammox in Granular Sludge: from Sidestream to Mainstream	Shengqiang Fan	CHINA	Harbin Institution of Technology
G0251	Beijing Xiaohongmen WRP with Advanced Digestion	Di Deng	NORWAY	Cambi Group
G0235	Biochar-mediated partial denitrification/anammox (PD/A): multi-pathway nitrogen removal at varying $\text{NO}_2^-/\text{NH}_4^+$	Weijing Fu	CHINA	Xi'an University of Architecture and Technology
G0234	Double-chamber bioreactor improved the stability of methane production without biofilm from high-carbon wastewater by inducing functional microorganisms	Gaoyuan Shang	CHINA	Xi'an Jiaotong University
G0224	Contributions of MOF-808 to methane production from anaerobic digestion of waste activated sludge	Haoyu Liu	CHINA	Tongji university
G0133	Enhanced bio-antimony removal by sulfur and eucalyptus wood chips: the transcriptome	Guanghua Zhao	CHINA	Henan University of Technology
G0145	Heavy metal contaminated soil remediation effect by plants of bioretention facilities	Yongwei Gong	CHINA	Beijing University of Civil Engineering and Architecture
G0056	Recovery of phosphorus from sludge incineration ash by preparation N-P compound fertilizer	Liqiang Yu	CHINA	Sichuan University



(Bio-)Energy Recovery				
NO.	Title	Author	Country	University
H0274	Simultaneous coupling catalytic ozonation and biodegradation for bio-treated coking wastewater treatment: A dual-function of CaO in catalysis and coagulation	Chongjun Zhang	CHINA	Northeast Normal University
H0210	Enhancement of anaerobic digestion of ciprofloxacin wastewater by nano zero-valent iron immobilized onto biochar	Bing Yao	CHINA	Sichuan University
H0205	Covalent organic network for emerging pollutant elimination and H <sub>2</sub> O <sub>2</sub> generation	Hou Wang	CHINA	Hunan University
H0202	Enhancing biomethane recovery from high solid pig manure by pre-biohydrolysis	Wei Qiao	CHINA	China Agricultural University
H0192	Using recycling biogas-stripping to enhance methane production from chicken manure	Chyi-How Lay	CHINESE TAIPEI	Feng Chia University
H0120	A coupled photocatalytic-microbial fuel cell system under aerobic condition synergistically improves energy recovery and pollution removal	Chengzhi Wang	CHINA	Beijing Normal University
H0103	Biochar enhanced the multi-pathway nitrogen removal in Anammox by triggering nitrate reduction at different NO <sub>2</sub> <sup>-</sup> /NH <sub>4</sub> <sup>+</sup>	Weijing Fu	CHINA	Xi'an University of Architecture and Technology
H0094	Enrichment of r/K strategists' microorganisms in anaerobic digestion coupled with sulfate reduction	Jin Du	CHINA	Tsinghua university
H0069	Xiaohongmen WRP with Advanced Digestion for Biogas Production and Biosolids Application	Di Deng	NORWAY	Cambi Group
H0055	Microplastics migration during carbon recovery by flocculation from wastewater and its impact on the bioenergy formation	Xiaolei Zhang	CHINA	Harbin Institute of Technology, Shenzhen

Full-Scale Applications Towards Industry				
NO.	Title	Author	Country	University
I0282	A Versatile Power-to-Water Battery for Energy Storage, Atmospheric Water Harvesting, and Humidity Control	Haosheng Lin	CHINA HONG KONG	City University of Hong Kong
I0257	Using artificial intelligence-based algorithms to identify critical fouling factors and predict fouling behavior in anaerobic membrane bioreactors	Chengxin Niu	CHINA	Tongji University
I0256	Protonated carbon nitride elicits microalgae for water decontamination	Mao Jie	CHINA	Research Center for Eco-Environmental Science, Chinese Academy of Sciences
I0238	Effect of Sustainable Magnetic Treatment on Water Microbial Community and its Implications for Biostability	Xiaoxia Liu	THE NETHERLANDS	Wetsus

I0214	Unveiling Enhanced Electron-Mediated Peroxymonosulfate Activation for Degradation of Emerging Organic Pollutants	Junjie Xu	CHINA	Zhejiang University of Technology
I0212	Modulating the electronic structure of Co center via MgO@C co-doping for PMS activation to remove levofloxacin	Lian Chang	CHINA	Chongqing University
I0155	Enhancement identification of microbial activity, community and degradation load of returned sludge after the directional hydrocyclone classification	Juyuan Wei	CHINA	East China University of Science and Technology
I0151	The influence of C:N ratio on polyhydroxyalkanoate production: a pilot plant experiments from domestic sewage sludge	Giorgio Mannina	ITALY	Palermo University
I0116	High Turbidity Removal with roughing and slow sand filtration with Coagulant Chemical; A full scale application	Edward Sutharsan Masanad	SRI LANKA	National Water Supply and Drainage Board
I0023	Performance and mechanism of an algal-bacterial symbiosis system based on sequencing batch biofilm-sludge reactor for nutrients removal	Qiang Chao	CHINA	Xi'an University of Architecture and Technology
I0021	Heterogeneous Catalyst-Microbiome Hybrids for Efficient CO-Driven C6 Carboxylic Acid Synthesis via Metabolic Pathway Manipulation	Wen Wang	CHINA	Beijing University of Chemical Technology

### Emerging and Cross-Field Technologies

NO.	Title	Author	Country	University
J0199	Prediction of biological nutrients removal in full-scale wastewater treatment plants using H <sub>2</sub> O AutoML and BPANN model: optimization and comparison	Yuting Luo	CHINA	Hohai University
J0200	Novel calcium oxide activated peroxymonosulfate system for efficient methylene blue degradation: Transformation pathway and toxicity assessment	Xinyi Liu	CHINA	Hohai University
J0193	Data-driven Language Model Reveals the Oversimplification and Over/Under Estimation of Greenhouse Gas Emissions from the Wastewater Sector	Zhiyong Jason Ren	THE UNITED STATES	Princeton University
J0154	Sustainable desalination system based on intelligent analysis	Yi Zhang	CHINESE TAIPEI	National Taipei University of Technology
J0102	Performance of partial nitrification and microbial characteristics of ammonia oxidation microorganisms under different control conditions	Peihan Zheng	CHINA	South China Agricultural University
J0114	How did biochar involve in the process of N <sub>2</sub> O producing and emission in constructed wetlands: A review	Xin Wang	CHINA	Guilin University of Technology
J0119	Value-added Products from Agri-Food Waste: The Nanobiocatalytic Approach	Devendra Sillu	CHINA	guangdong technion – israel institute of technology



J0111	Enhanced Regulation of Anaerobic Ammonia Oxidation Pathways Based on Quorum Sensing	Qian Zhang	CHINA	South China Agricultural University
J0054	A non-aerated synergistic microalgae-bacterial process for energy-efficient and low C/N ratio wastewater treatment	Qingan Meng	CHINA	Beijing University of Technology
<b>Sludge minimization/stabilization and valorization</b>				
NO.	Title	Author	Country	University
W50261	Sewage Sludge as a Substrate for Microbial Poly- $\beta$ -hydroxyalkanoate Production	Lei Liu	FINLAND	University of Helsinki
W50258	Research progress of rural domestic sewage treatment technology	Haochun Zang	CHINA	Chinese Research Academy of Environmental Sciences
W50237	New strategy of drinking water sludge as conditioner to enhance waste activated sludge dewaterability	Tingting Xiao	CHINA	Tongji unviersity
W50233	Mechanisms of biochar-mediated promotion of acidogenic fermentation in waste activated sludge and propionic acid production pathways	Dayang Zheng	CHINA	Tongji University
W50147	Safe recovery of faecal sludge and Municipal solid Organic waste through co-composting: Towards circular economy	Dhundi Raj Pathak	NEPAL	(1) Engineering Study & Research Centre; (2) Integrated Development Society (IDS) - Nepal
W50128	Selective recovery of value-added organic acids from microbial fermentation through adsorption	Lingshan Ma	BELGIUM	Ghent University