IWA Nutrient Removal and Recovery Specialist Conference 2024

	Sunday 17 November	
12:30	Conference and Workshop Registration Opens	
	Room Maleny	**Room The Palms**
13:00-15:00	**Workshop 1** **Engineering meets Microbiology for optimisation of full-scale processes – BNR myths-facts-reality**	**Workshop 2** **Towards net zero: Connected thinking on minimising NRR process emissions**
15:00-15:30	**Afternoon Tea**	
16:00-18:30	**Welcome Function, Zuma Restaurant, Voco Hotel** **Sponsor: SUEZ**	

IWA Nutrient Removal and Recovery Specialist Conference 2024

	Monday 18 November		
08:30	**Registration Opens**		
09:00-10:30	**Session 1: Opening Ceremony and Day 1 Plenary** **Chair: Liu Ye and Shane Morgan** **Keynote Speaker: Robert Speed, Great Barrier Reef Foundation, Australia** *"Why we do what we do: saving the world's largest living system"*		
10:30-11:00	**Morning Tea**		
	Room Claremont & Maleny	**Room The Palms**	**Room Daintree**
	Session 2: Anammox	**Session 3: Pilot/Full Scale Nitrogen Removal**	**Session 4: N_2O Monitoring and Mitigation 1**
11:00-11:20	2.1	3.1	4.1
	Temperature-resilient superior performances by coupling partial nitritation/anammox and iron-based denitrification with granular formation *Jia Meng, Harbin Institute of Technology, China*	Selected lab- and pilot-scale insights advancing shortcut nitrogen removal for sewage treatment *Siegfried Vlaeminck, University of Antwerp, Belgium*	Dynamic prediction of nitrous oxide emissions in full-scale industrial activated sludge reactors *Tianyu Lei, Technical University of Denmark, Denmark*
11:20-11:40	2.2	3.2	4.2
	Developing granular sludge and maintaining high nitrite accumulation for anammox to treat municipal wastewater high-efficiently in a flexible two-stage process *Zhihao Peng, Beijing University of Technology, China*	Guidance for the operational transition from conventional high DO to suboxic process operation in Biological Nutrient Removal facilities *Tanja Rauch-Williams, Metro Water Recovery, United States of America*	Understanding and mitigating nitrous oxide emission from a pilot-scale hybrid membrane aerated biofilm reactor (MABR) *Ziping Wu, The University of Queensland, Australia* *Kevan Brian, Watercare Services Limited, New Zealand*
11:40-12:00	2.3	3.3	4.3
	Maximizing nitrite-oxidizing bacteria suppression for mainstream partial nitritation/anammox: optimization of a multi-parameter return-sludge treatment *Michiel Van Tendeloo, University of Antwerp, Belgium*	Long-term robustness and tunability of electrochemical ammonia stripping *William Tarpeh, Stanford University, United States of America*	N_2O mitigation and GHG cost-efficiency-analysis in two advanced full-scale WWTPs *Kristian Sahlstedt, Helsinki Region Environmental Services HSY, Finland*
12:00-12:20	2.4	3.4	4.4
	Mechanistic Insights into Microbial Communities in The Partial Nitritation/Anammox-Ion Exchange (IX-PN/A) Process for Mainstream Wastewater Treatment *Meng Wang, Penn State University, United States of America*	Total ammoniacal nitrogen removal from real reject water via a combination of electrodialysis reversal and bipolar membrane electrodialysis *Iosif Kaniadakis, Technical University of Delft, Netherlands*	Modelling-based development of N_2O mitigation strategies in two full-scale wastewater treatment plants *Ewa Zaborowska, Gdańsk University of Technology, Poland*

12:20-12:30	2.5/2.6	3.5/3.6	4.5
	Efficient alleviation granular sludge floatation in a high-rate anammox reactor by dosing folate *Dongdong Xu, The University of Queensland, Australia*	Evaluation of side impacts of using primary sludge fermentate for shortcut N removal in chemical P removal plants *Haydee De Clippeleir, DC Water, United States of America*	Understanding the seasonal variation of N_2O emissions from a full-scale wastewater treatment plant *Kaili Li, The University of Queensland, Australia*
	Integrated anoxic biological phosphorus removal with anammox under high organic carbon loadings in a hybrid single-stage bioprocess *Zhen Jia, Northwestern University, United States of America*	The impact of operational variables on the performance and mechanism of the SULFAMMOX process in wastewater treatment *Yang Liu, Queensland University of Technology, Australia*	
12:30-13:30	**Lunch**		
	Session 5: MABR	**Session 6: Nitrogen Removal Novel N/P**	**Session 7: N_2O Monitoring and Mitigation 2**
13:30-13:50	5.1	6.1	7.1
	Full-Scale implementation of an MABR for Sidestream PN/A: a deeper look into the significance of aeration management *Oliver Das, TU Darmstadt, Germany*	The effects of urine diversion on synthetic sewage treatment in lab-scale sequencing batch reactors *Chee Xiang Chen, University of Melbourne, Australia*	Sidestream treatment with ANITA Mox as a tool to mitigate N_2O emissions *Magnus Christensson Veolia Water Technologies, AnoxKaldnes, Sweden*
13:50-14:10	5.2	6.2	7.2
	MABR-DAS – Coupling MABR & densification for enhanced biological selection *Nadine Oschman, Veolia Water Technologies & Solutions, Australia*	The effects of different low gravity conditions on nitrification activity *Shin-ichi Akizuki, Soka University, Japan*	Reduction of N_2O emissions by nitrification-promoted operation of activated sludge in municipal wastewater treatment processes *Yoshihiro Ishii, National Institute for Land and Infrastructure Management, Japan*
14:10-14:30	5.3	6.3	7.3
	Upgrading an advanced step-feed membrane bioreactor plant with gravimetric separation and membrane aerated biofilm reactor (MABR) for process intensification *Yangshuo Gu, PUB, Singapore*	Barriers in phosphorus recovery from manure via vivianite formation *Sophie Banke, Wetsus/ TU Delft, Netherlands*	Experiences in N_2O abatement from full-scale sidestream deammonification *Nerea Uri Carreño, N118 Consulting, Denmark*

14:30-14:50	5.4	6.4	7.4
	Subiaco MABR pilot trial outcomes – implications for full-scale design *Julia Bailey, Water Corporation, Australia*	Removal of phosphate through Feammox-driven crystallization of vivianite *Kangning Xu, Beijing Forestry University, China*	From theory to Tier 3 – Insights from N_2O measurement across 14 WRRFs *Emma Shen, Jacobs, Canada*
14:50-15:00	5.5/5.6	6.5/6.6	7.5/7.6
	Evaluation of ethanol addition on rice-washing wastewater treatment in single-chamber air-cathode microbial fuel cell *Kharisrama Trihatmoko, Nagaoka University of Technology, Japan*	Intelligent Control and Dynamic Analysis of Key Indicators: Enhancing Nutrient Removal through Real-time Monitoring *Yinglin Wang, Zhejiang University, China*	Investigation of ammonium-based aeration control and microbial community dynamics on nitrous oxide emissions from a full-scale Modified Ludzack-Ettinger wastewater treatment plant *Ngai Ning Cheng, SA Water, Australia*
	Integrating chemical phosphorus precipitation and ammonia-oriented membrane distillation for enhanced nutrient recovery *Bogna Śniatała, Gdansk University of Technology, Poland*	Bioelectrochemical technology and recycling benefit evaluation on carbon and nitrogen separation of sludge cracking liquid *Siyuan Zhai, Tianjin University, China*	Lessons from real-time greenhouse gas measurement at full-scale water resource recovery facilities *Elliot Lee, The University of Queensland, Australia*
15:00-15:30	**Afternoon Tea**		
	Session 8: N/P Removal	**Session 9: Phosphorus Removal**	**Session 10: Contaminants of Emerging Concern**
15:30-15:50	8.1	9.1	10.1
	HRSD's Journey from pilot to full-scale implementation of mainstream partial denitrification/Anammox (PdNA) IFAS *Megan Bachmann, Virginia Polytechnic Institute and State University, United States of America*	Insights on biological phosphorus removal and short-cut nitrogen cycling in a single sludge via free ammonia and free nitrous acid dosing *Xuanyu Lu, City University Of Hong Kong, Hong Kong, SAR of China*	Using zeolite to improve the removal of Ibuprofen and Diclofenac in a nitrifying sequencing batch reactor: Insights on bioreactor performance and microbial community. *Cesar Huiliñir, Universidad De Los Andes, Chile*
15:50-16:10	8.2	9.2	10.2
	Integrating efficient anammox with enhanced biological phosphorus removal process through flocs management for sustainable ultra-deep nutrients removal from municipal wastewater *Qiongpeng Dan, Beijing University of Technology, China*	Performance of a novel cellulose-based anion exchange hydrogel for nitrate and phosphate removal from wastewater *Sepideh Ansari, University of Canterbury, New Zealand*	The fate of PFAS in pilot plant scale pyrolysis of Victorian biosolids to produce Biochar *David Bergmann, South East Water, Australia*

16:10-16:30	8.3	9.3	10.3
	Efficient granular sludge bioreactor treatment for ammonia and organic nitrogen removal in leachate wastewater *Yihui Zhang, University of Alberta, Canada*	Elucidating the impact of low DO on enhanced biological phosphorus removal under aerobic and anoxic conditions at full-scale *Riley Doyle, HRSD, United States of America*	Highly sensitive passive sampling of emerging pollutants in urban reclaimed water using hydrophilic-lipophilic balance sorbent-embedded cellulose acetate membrane *Xiaozhong Gao, Beijing Forestry University, China*
16:30-16:50	8.4	9.4	10.4
	Interaction between sulfur and nitrogen cycle in denitrifying bioelectrochemical systems at low temperatures *Francesco Savio Dtu Sustain, Technical University of Denmark, Denmark*	Extreme P removal using the BioPhree® adsorption technology *Pim De Jager, Aquacare, Netherlands*	Foams – a potential PFAS removal route in the biological nutrient removal process *Angel Chyi En We, The University of Melbourne, Australia*
16:50-17:00	8.5/8.6	9.5/9.6	10.5/10.6
	An innovative technology for the simultaneous removal of dissolved methane and nitrogen in anaerobically treated mainstream wastewater *Yan Lu, The University of Queensland, Australia*	Biomineralization of phosphorus during anaerobic treatment of distillery wastewaters *Lei Zhang, Queensland University of Technology, Australia*	Aeration rate impact on nitrification and micropollutant removal: Using Natural zeolite to improve performance in a nitrifying sequencing batch reactor *Jorge Leiva-Gonzalez, Universidad Bernardo O'Higgins, Chile*
	Granular activated carbon integration in anammox reactors: Enhancing performance through microbial extracellular secretions (MESs) *Hengbo Guo, University of Alberta, Canada*	A long-term comparison between conventional biological nutrient removal processes and the return sludge side-stream process for P removal *Hongmin Wang, The University of Queensland, Australia*	
	End of Day 1 Conference Sessions		

	Tuesday 19 November		
08:30	**Registration Opens**		
09:00-10:30	**Session 11: Day 2 Plenary** **Chair: Sudhir Murthy** **Keynote Speaker: Ana Soares, Cranfield University, United Kingdom** *"Breakthroughs in nutrient management in wastewater systems"* **Keynote Speaker: Guihe Tao, Public Utilities Board, Singapore** *"PUB's experience in nutrient, carbon management and resource recovery"*		
10:30-11:00	**Morning Tea**		
	Room Claremont & Maleny	**Room The Palms**	**Room Daintree**
	Session 12: Modelling and Control 1	**Session 13: Novel N Removal Technology**	**Session 14: Utility Practice 1**
11:00-11:20	12.1	13.1	14.1
	Reduced-order modelling to tune ammonia-based aeration control at a full-scale WRRF *Alexandria Gagnon, HRSD, United States of America*	CANDAN process – A novel "4E" technology for nitrogen removal to advance carbon-neutral wastewater treatment *Shenbin Cao, Beijing University of Technology, China*	Beyond energy neutrality: a programmatic approach to energy independence and decarbonization at a large nutrient removal facility in Denmark *Julian Sandino, Jacobs, United States of America*
11:20-11:40	12.2	13.2	14.2
	Short cut nitrogen removal – design for full scale implementation at Melbourne Water's Western Treatment Plant *Aprilia Vellacott, Jacobs, Australia*	Assessing the effectiveness of dual carbon source approaches in denitrification processes *Chengpeng Lee, Northwestern University, United States of America*	Fate and transport of microplastics through water recycling plants *Li Gao, South East Water, Australia*
11:40-12:00	12.3	13.3	14.3
	Refine liquid-based N_2O monitoring in wastewater treatment *Shuting Wang, The University of Queensland, Australia*	Combining four-pass step-feed BNR with densification: improving process robustness through hydraulic super-intensification *Kevan Brian, Watercare Services Limited, New Zealand*	Nutrient Management: Measuring and driving performance at wastewater treatment plants *Peter Donaghy, Urban Utilities, Australia*
12:00-12:20	12.4	13.4	14.4
	Quantifying, predicting, and mitigating nitrous oxide emissions in a full-scale partial nitration/anammox reactor treating reject water *Xavier Flores-Alsina, Technical University of Denmark, Denmark*	Effect of different carrier fillers on wastewater treatment efficiency *Hongyu Yu, Tongji University, China*	Densification: Combining biological, chemical and physical selection approaches *Richard Brice, CMP Consulting Group, Australia*

12:20-12:30	12.5/12.6	13.5/13.6	14.5
	Densification index/SVI model: A potential way to predict benefits of biomass densification in full-scale membrane systems *Ronald Bean, Veolia WTS, Canada*	Nutrients recovery from hydrolysed urine by electrodialysis: Ammonium loss and water transport *Yi Zhang, The University of Melbourne, Australia*	*Panel Discussion*
	Reinvestigating thiele modulus in granule and carrier modelling *Eugenio Giraldo, Carbon Materials LLC, United States of America*	Application of bipolar membrane electrodialysis to recover ammonia and sulfate from fertilizer industrial wastewater: Effects of voltage, pH, and interfering ions *Arseto Bagastyo, Institut Teknologi Sepuluh Nopember, Indonesia*	
12:30-13:30	**Lunch**		
	Session 15: Modelling and Control 2	**Session 16: Resource Recovery 1**	**Session 17: Utility Practice 2**
13:30-13:50	15.1	16.1	17.1
	Modelling byproduct generation during bio-electrochemical denitrification of groundwater *Borja Valverde Pérez, Technical University of Denmark, Denmark*	Pilot scale production of biopolymers from residual streams using mixed microbial cultures – How the substrate affects yield and chemical properties *Cora Laumeyer, University Kaiserslautern-Landau, Germany*	A "Benjamin Button" BNR Plant from full load to minimum load. Process modelling, civil and mechanical design issues *Peter Griffiths, pH Water Consultants Pty Ltd, Australia*
13:50-14:10	15.2	16.2	17.2
	Hydrogen sulfide: a key factor negatively affecting sulfur disproportionation process *Guijiao Zhang, Harbin Institute of Technology, China*	Applying photogranules for simultaneous biogas upgrading and biogas slurry purification towards net-zero carbon emission *Feixiang Zan, Huazhong University of Science and Technology, China*	A foundation towards energy net zero - the Upper South Creek AWRC *Damien Sharland, Jacobs, Australia*
14:10-14:30	15.3	16.3	17.3
	A novel model of fermentative and conventional polyphosphate accumulating organisms: metabolic insights and synergy *Adrian Oehmen, The University of Queensland, Australia*	Biogas conditioning via microalgal cultivation in anaerobic digestion effluent *Dayoung Ko, Ulsan National Institute of Science and Technology, South Korea*	Biological treatment shock events at a municipal resource recovery centre *Thakshila Balasuriya, Urban Utilities, Australia*

14:30-14:50	15.4	16.4	17.4
	Full-Scale applications of digital twins in nutrient management *Bruce Johnson, Jacobs, United States of America*	Photogranular technology for wastewater treatment with resource recovery *Tania Vasconcelos Fernandes, Ihe Delft - Institute for Water Education, Netherlands*	Operating results of nutrient removal at Quakers Hill WRRF – Application of AGS (NEREDA) utilising sustainable principles *Monita Naicker, Aquatec Maxcon, Australia*
14:50-15:00	15.5/15.6	16.5/16.6	17.5
	Nutrient removal performance in practice – does process configuration matter as much as process modelling indicates? *Cameron Staib, Stantec, Australia*	Integrated approach for nutrient recovery and wastewater treatment: anaerobic digestion-DHS system *Pranshu Bhatia, Soka University, Japan*	*Panel Discussion*
	Microbial Transition State (MTS) approach for modelling enriched nitrification systems, a comparison with Activated Sludge Model (ASM) *Tugce Katipoglu-Yazan, Istanbul Technical University, Turkey*	Impact of biochar as a soil amendment on crop growth and agricultural non-point source pollution control *ChingJung Lin, National Taiwan University, Taiwan*	
15:00-15:30	**Afternoon Tea**		
	Session 18: Net Zero	**Session 19: Resource Recovery 2**	**Session 20: Workshop 3**
15:30-15:50	18.1	19.1	
	The carbon footprint of typical wastewater treatment plants in China and Europe: Towards carbon neutrality *Hongtao Wang, Tongji University, China*	Unlocking simultaneous nitrogen, phosphorus, and carbon recovery from wastewater: Leveraging the assimilatory power of microbial communities abundant in waste stabilisation ponds *Dilani Jayathilaka, CSIRO, Australia*	
15:50-16:10	18.2	19.2	
	Digestate degassing: Is it financially feasible at Beenyup WRRF, Perth, Australia? *Gokul Bharambe, Jacobs, Australia*	Novel porous membrane with embedded zirconium hydroxide for recovery of high-purity phosphoric acid from wastewater *Takayuki Kakuda, Chuo University, Japan*	Workshop: Urine separation for a circular economy of nutrients *Stefano Freguia, The University of Melbourne, Australia* *Aprilia Vellacott, Jacobs, Australia*
16:10-16:30	18.3	19.3	
	First laboratory-scale study demonstrating methane emission mitigation from open wastewater sludge lagoons *Sarah Aucote, SA Water Corporation, Australia*	Pilot-scale demonstration of reducing and upgrading anaerobically digested sludge in an acidic aerobic digester *Zhetai Hu, The University of Queensland, Australia*	

16:30-16:50	18.4	19.4	
	Basic study on nutrients management and GHG emission reduction in the sewage treatment plant *Toshiki Fukushima, Metawater Co., Ltd, Japan*	Cycle conversion of FeSx and ferric (hydr)oxides: a new opportunity for sulfur recovery from sulfide-bearing water *Daheng Ren, Harbin Institute of Technology, China*	
16:50-17:00	18.5/18.6	19.5/19.6	
	Ammonia to energy: a key decarbonisation strategy for the water sector *Mark Powders, Cranfield University, United Kingdom*	Rapid sludge reduction and stabilization through a Novel Biofilm-Based Acidic Aerobic Digestion System *Xi Lu, The University of Queensland, Australia*	
	Holistic assessment of management strategies and technological solutions handling reject water *Xavier Flores-Alsina, Technical University of Denmark, Denmark*	Bipolar membrane electrodialysis for citric acid and ammonia regeneration from ammonium citrate scrubber effluents *Gladys Mutahi, Delft University of Technology, Netherlands*	
	End of Day 2 Conference Sessions		

	Wednesday 20 November		
09:30-10:30	**Session 21: Day 3 Plenary** **Chair: Nerea Uri** **Keynote Speaker: Pusker Regmi, Stantec, United States of America** *"Continuous flow densification: beyond granulation"*		
10:30-11:00	**Morning Tea**		
	Room Claremont & Maleny	**Room The Palms**	**Room Daintree**
	Session 22: City and Precinct Outcomes	**Session 23: Microbiology and Biochemistry Advances 1**	**Session 24: Pilot/Full Scale Phosphorus Recovery**
11:00-11:20	22.1	23.1	24.1
	Urine fertilizer production using a hybrid acidic strategy *Zhiqiang Zuo, The University of Queensland, Australia*	Enrichment and application of extracellular nonulosonic acids containing polymers of Accumulibacter as a value-added product *Yuemei Lin, Delft University of Technology, Netherlands*	Phosphorus recovery from sewage as vivianite in an Fe-retrofitted UCT-MBR system *Xiang Cheng, Beijing Forestry University, China*
11:20-11:40	22.2	23.2	24.2
	Can 'Nutrient Net Zero' Halt Moreton Bay's Environmental Decline? *Cameron Jackson, Urban Utilities, Australia*	Propioniciclava accumulated in an EBPR process can be a novel potential polyphosphate accumulating organism *Yongmei Li, Tongji University, China*	Pilot-scale assessment of sidestream enhanced biological phosphorus removal and recovery: impacts on performance and economics *Albie Zuo Meng Gan, The University of Queensland, Australia*
11:40-12:00	22.3	23.3	24.3
	Could we manage sewage overflow using biofilters? *Prasanna Egodawatta, Queensland University of Technology, Australia*	Nitrogen bioconcentration and recovery as the nitrogen-rich biopolymer cyanophycin in denitrifying phosphorus accumulating organisms *George Wells, Northwestern University, United States of America*	Taking the missing steps in promoting cost-effective and sustainable phosphorus recovery from sewage sludge ash via wet chemical leaching *Andrea Turolla, Politecnico Di Milano, Italy*
12:00-12:20	22.4	23.4	24.4
	Onsite greywater and blackwater management: nature-based solutions for water and nutrient reuse *Virginia Pinto, Federal University Of Mato Grosso Do Sul, Brazil*	Adaptive resilience of a coculture system: harnessing high-level hydrogen sulfide stress for enhanced biogas utilization *Baorui Zhang, Nanyang Environment & Water Research Institute, Singapore*	Recycling by-products of wet-chemical phosphorus recovery from sewage sludge ash as a precipitant for wastewater treatment *Sarah Müller, RWTH Aachen University, Germany*

12:20-12:30	22.5/22.6	23.5/23.6	24.5/24.6
	Absorbent hygiene products for incontinence are diverting nutrients to landfill *Emma Thompson Brewster, Southern Cross University, Australia*	The impact of long-term P starvation on the microbial community selection and performance of S2EBPR configuration *Xinyu Shi, The University of Queensland, Australia*	Sea urchin waste shells for phosphate removal in green wall systems *Moeen Gholami, University of Canterbury, New Zealand*
	Solar-wind hybrid power drive reuse type of rural domestic sewage treatment system in northwest China *Pengyu Li, Chinese Academy of Sciences, China*	Selective carbon sources influence the carbon transformation and metabolism of Purple phototrophic bacteria *Siwei Yu, Wuhan University of Technology, China*	How does the source of waste activated sludge influence the release of phosphorus when treated by thermal hydrolysis? *Claudia Santiviago, Universidad de la República, Uruguay*
12:30-13:30	**Lunch**		
	Session 25: Product Innovation	**Session 26: Microbiology and Biochemistry Advances 2**	**Session 27: Resource Recovery 3**
13:30-13:50	25.1	26.1	27.1
	Vivianite as a novel strategy for phosphorus recovery: latest developments, bottlenecks, and future perspectives *Thomas Prot, Wetsus, Netherlands*	Understanding the negative effects of biofilm thickening in elemental sulfur-based denitrification process and the novel moving-bed technical solutions *Jia-Min Xu, Harbin Institute of Technology Shenzhen, China*	Nutrient recovery from human urine using bioelectroconcentration: Up-scaling from laboratory to pilot scale *Veera Koskue, University of Melbourne, Australia*
13:50-14:10	25.2	26.2	27.2
	Biogas valorization for nutrient recovery and resourceful microbial protein production *Kashif Rasool, Hamad Bin Khalifa University (HBKU), Qatar*	The genomic and physiological characterization of the novel acid-tolerant commando Nitrospira found in the process of producing NH_4NO_3 from urine *Tingting Zhang, Tsinghua University, China*	Valorization of the organic content of sewage sludge from decentralized treatment via acidogenic fermentation *Marco Pesenti, Politecnico Di Milano, Italy*
14:10-14:30	25.3	26.3	27.3
	Investigating conditions for enhanced ammonium bicarbonate formation and precipitation via CO_2 sequestration with hydrolyzed urine *Joseph Lybik, University of Michigan, United States of America*	Shedding light on the complexities of internal carbon driven denitrifiers in biofilm & floc *April Gu, Cornell University, United States of America*	Centralised solids management: unpacking the impacts to nutrient management *Shannon Weaver, Urban Utilities, Australia*

14:30-14:50	25.4	26.4	27.4
	Cu-Ni nanoparticle-coated carbon cloth electrodes: advancing urea degradation and hydrogen production in urea-enriched wastewater *Padmavathy Bagavathi, Indian Institute of Technology Palakkad, India*	Formate as an alternative electron donor for the anaerobic methanotrophic archaeon Candidatus 'Methanoperedens nitroreducens' performing denitrification *Mengying Xie, The University of Queensland, Australia*	Tannin-based coagulants success in the food processing industry *Lucas Moreno, Tanafloc, Australia*
14:50-15:00	25.5/25.6	26.5/26.6	27.5/27.6
	Single cell protein production from methane in a gas-delivery membrane bioreactor *Yicheng Ma, The University of Queensland, Australia*	Autotrophic and heterotrophic adaptation to low dissolved oxygen *Lilian McIntosh, Hampton Roads Sanitation District, United States of America*	Integrated resource recovery system for resources (nutrient, water, and energy) mining from source separated urine *Sangeetha Vivekanandan, Indian Institute of Technology Palakkad, India*
	Potential roadmap to a biorefinery: Lessons from crude oil refining *Callum Hickey, Urban Utilities, Australia*	Exploring methanotrophs and methylotrophs for single-cell protein production in biomass enriched with oxygen and methane from paddy-rice rhizosphere *Akihiko Terada, Tokyo University of Agriculture and Technology, Japan*	Sludge pre-treatment can lead to pathogen regrowth in mesophilic AD *Junfu Li, The University of Queensland, Australia*
15:00-15:30	**Afternoon Tea**		
15:30-17:00	**Session 28: Closing Ceremony** **Chair: Haydee De Clippeleir** **Keynote Speaker: Mark Van Loosdrecht, Delft University of Technology, Netherlands** *"The complexity of N_2O emissions from WWTPs"* **NRR24 Awards Ceremony** **Chair: Liu Ye and Shane Morgan** Best Paper Award – *Sponsored by Aquatec Maxcon* Best Poster Pitch Award Best Poster Award – *Sponsored by Queensland University of Technology* **Conference Close**		
	End of Conference Sessions		

Thursday 21 November
08:30 – 12:30 Site Tour Luggage Point Innovation Precinct (Urban Utilities)
08:30 – 19:00 Site Tour North Stradbroke Island (Minjerribah WWTP)

Poster Display				
	Poster Title	**Presenter**	**Institution**	**Country/Region**
P001	The effect of natural zeolite on Nitrous Oxide emissions in a nitrifying sequencing batch reactor in the presence of Ibuprofen and Diclofenac	Jorge Leiva-Gonzalez	Universidad Bernardo O'Higgins	Chile
P002	Evaluation of side impacts of using primary sludge fermentate for shortcut N removal in chemical P removal plants	Haydee De Clippeleir	DC Water	United States of America
P003	Integrated anoxic biological phosphorus removal with anammox under high organic carbon loadings in a hybrid single-stage bioprocess	Zhen Jia	Northwestern University	United States of America
P004	The impact of operational variables on the performance and mechanism of the SULFAMMOX process in wastewater treatment	Yang Liu	Queensland University of Technology	Australia
P005	Evaluation of ethanol addition on rice-washing wastewater treatment in single-chamber air-cathode microbial fuel cell	Kharisrama Trihatmoko	Nagaoka University of Technology	Japan
P006	Nutrient removal from slaughterhouse wastewater using aerobic granules in pilot scale sequencing batch reactor	Farrukh Basheer	Aligarh Muslim University	India
P007	Investigation of ammonium-based aeration control and microbial community dynamics on nitrous oxide emissions from a full-scale Modified Ludzack-Ettinger wastewater treatment plant	Ngai Ning Cheng	SA Water	Australia
P008	Integrating chemical phosphorus precipitation and ammonia-oriented membrane distillation for enhanced nutrient recovery	Bogna Śniatała	Gdansk University of Technology	Poland
P009	Anaerobic Digestate Treatment for Nutrient Recovery and Fertiliser Production (Treated Liquid and Solid Digestate by Struvite Precipitation)	Shuotian Li	RMIT University	Australia
P010	Lessons from real-time greenhouse gas measurement at full-scale water resource recovery facilities	Elliot Lee	The University of Queensland	Australia
P011	An innovative technology for the simultaneous removal of dissolved methane and nitrogen in anaerobically treated mainstream wastewater	Yan Lu	The University of Queensland	Australia
P012	Biomineralization of phosphorus during anaerobic treatment of distillery wastewaters	Lei Zhang	Queensland University of Technology	Australia
P013	Aeration rate impact on nitrification and micropollutant removal: Using Natural zeolite to improve performance in a nitrifying sequencing batch reactor	Jorge Leiva-Gonzalez	Universidad Bernardo O'Higgins	Chile
P014	Intelligent Control and Dynamic Analysis of Key Indicators: Enhancing Nutrient Removal through Real-time Monitoring	Yinglin Wang	Zhejiang University	China
P015	A long-term comparison between conventional biological nutrient removal processes and the return sludge side-stream process for P removal	Hongmin Wang	The University of Queensland	Australia
P016	Simulating phosphorus recovery in the form of vivianite with plant-wide modelling	Jin Wang	National Institute of Applied Sciences of Toulouse	France
P017	Densification Index/SVI Model: A potential way to predict benefits of biomass densification in full-scale membrane systems	Ronald Bean	Veolia WTS	Canada
P018	Nutrients recovery from hydrolysed urine by Electrodialysis: Ammonium loss and water transport	Yi Zhang	The University of Melbourne	Australia

P019	Reinvestigating thiele modulus in granule and carrier modelling	Eugenio Giraldo	Carbon Materials LLC	United States of America
P020	Application of bipolar membrane electrodialysis to recover ammonia and sulfate from fertilizer industrial wastewater: Effects of voltage, pH, and interfering ions	Arseto Bagastyo	Institut Teknologi Sepuluh Nopember	Indonesia
P021	High ammonia molasses wastewater treatment using a granular sludge-based system	Xin Zou	University Of Alberta	Canada
P022	Integrated approach for nutrient recovery and wastewater treatment: anaerobic digestion-DHS system	Pranshu Bhatia	Soka University	Japan
P023	Nutrient removal performance in practice –does process configuration matter as much as process modelling indicates?	Cameron Staib	Stantec	Australia
P024	Impact of biochar as a soil amendment on crop growth and agricultural non-point source pollution control	Ching Jung Lin	National Taiwan University	Taiwan
P025	Ammonia to energy: a key decarbonisation strategy for the water sector	Mark Powders	Cranfield University	United Kingdom
P026	Rapid sludge reduction and stabilization through a Novel Biofilm-Based Acidic Aerobic Digestion System	Xi Lu	The University of Queensland	Australia
P027	Holistic assessment of management strategies and technological solutions handling reject water	Xavier Flores-Alsina	Technical University of Denmark	Denmark
P028	Bipolar membrane electrodialysis for citric acid and ammonia regeneration from ammonium citrate scrubber effluents	Gladys Mutahi	Delft University of Technology	Netherlands
P029	Absorbent hygiene products for incontinence are diverting nutrients to landfill	Emma Thompson Brewster	Southern Cross University	Australia
P030	The impact of long-term P starvation on the microbial community selection and performance of S2EBPR configuration	Xinyu Shi	The University of Queensland	Australia
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