

Proceedings of the 4th International Anammox Symposium IANAS2019

Venue

**Institute for Integrated Radiation and Nuclear Science,
Kyoto University**

Date

November 13-15, 2019

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Assoc. Professor at Kyoto University

&

Kenji Furukawa

Professor Emeritus at Kumamoto University

Organizer

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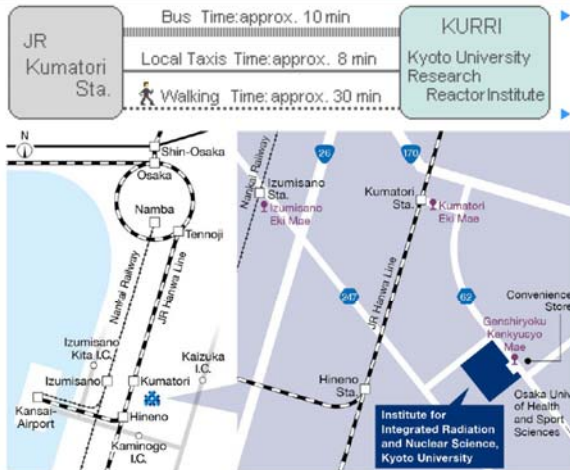
Venue

'Institute for Integrated Radiation and Nuclear Science, Kyoto University (KURNS)'

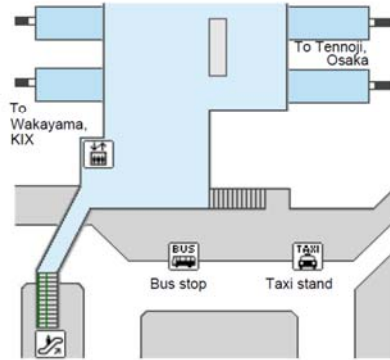
<Transportation>

From Kumatori Station

The closest station to KURNS is JR Kumatori Station.



- Bus**
JR Kumatori Sta.(Nankai Bus) → Genshiryoku Kenkyusyo Mae (Nankai Bus for Osaka Taiikudaigaku Mae)
Cost : 170yen
- Local Taxis**
Taxi ranks are located at JR Kumatori Station.
Cost : approx. 900yen



Close to the Nankai Wing Bus "Genshiryoku Kenkyusyo Mae" stop

- From JR Kumatori Sta. take Nankai Wing Bus for "Osaka Taiikudaigaku Mae" to "Genshiryoku Kenkyusyo Mae" (about 10 min ride).
- From Izumisano Sta. on Nankai Railway take Nankai Wing Bus for "Osaka Taiikudaigaku Mae" to "Genshiryoku Kenkyusyo Mae" (about 30 min ride).

To Kumatori Station

Traveling times do not include the time needed for transferring

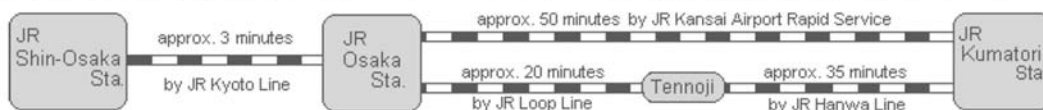
From Kyoto University

Cost : approx. 1100yen



From Shin-Osaka Station

Cost : 800yen



From Kansai International Airport (KIX)

Cost : 460yen

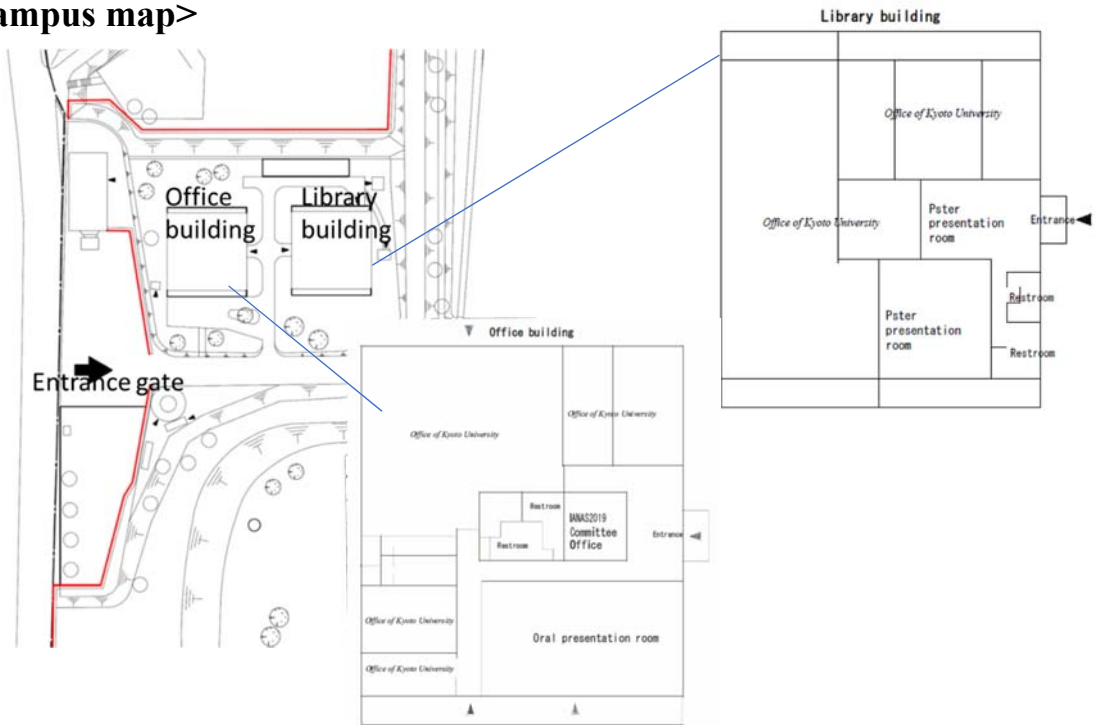


From Osaka International (Itami) Airport (ITM)

Cost : approx. 1200yen

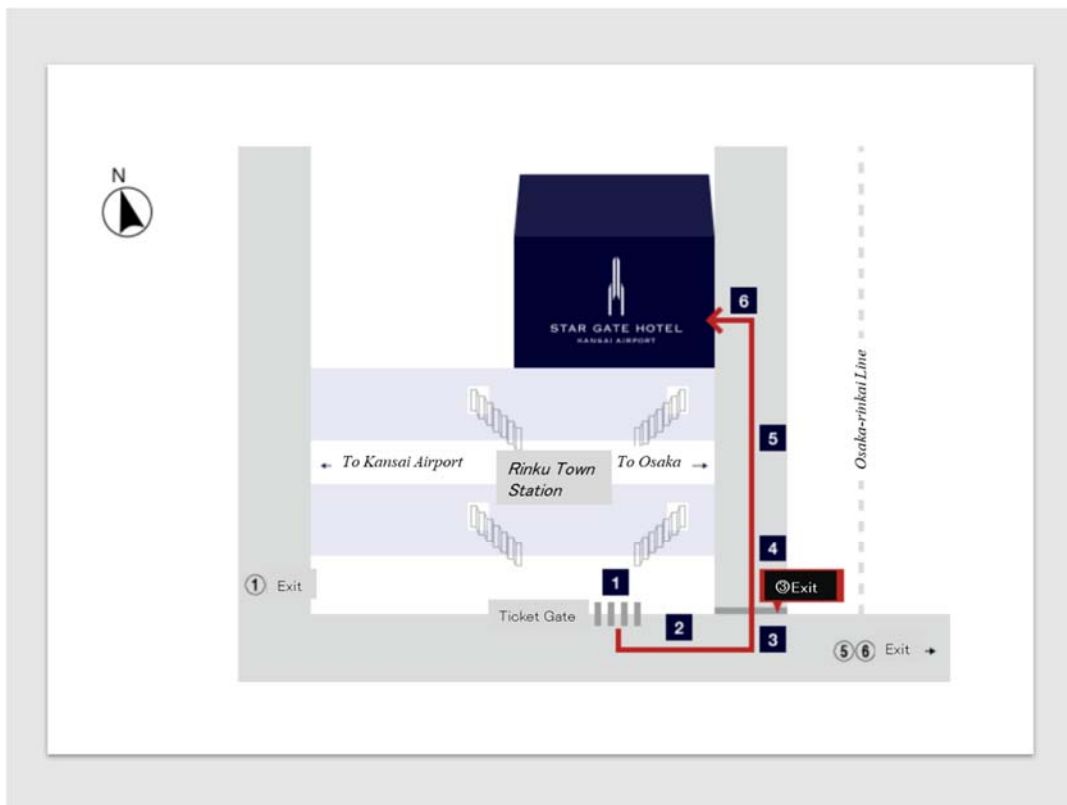


<Campus map>



Banquet

‘Star Gate Hotel Kansai Airport’



Meeting schedule

Nov. 13 (Wednesday)

8:30-9:30	Registration
9:30-9:45	Opening Address Assoc. Prof. Yoko Fujikawa (<i>Kyoto University</i>)
9:45-10:30	Oral Presentation (Session I)
10:30-11:00	Refreshment
11:00-12:00	Oral Presentation (Session II (part 1))
12:00-13:00	Lunch Break
13:00-15:15	Oral Presentation (Session II (part 2), (part 3))
15:15-15:45	Refreshment
15:45-17:15	Oral Presentation (Session III (part 1), (part 2))
<i>Move to Star Gate Hotel Kansai Airport</i>	
19:00-21:00	Banquet

Nov. 14 (Thursday)

8:30-9:30	Registration
9:00-11:00	Oral Presentation (Session IV (part 1), (part 2))
11:00-11:30	Refreshment
11:30-12:00	Session Keynote Speech Dr. Matias Vanotti (<i>United States Department of Agriculture, Agricultural Research Service</i>)
12:00-12:30	Lunch Break
12:30-14:00	Poster Presentation
14:00-15:00	Oral Presentation (Session IV (part 3))
15:00-15:15	Refreshment
15:15-16:00	Oral Presentation (Session V, Session VI (Part 1), (part 2))
17:30-17:45	Commendation Ceremony Assoc. Prof. Daisuke Inoue (<i>Osaka University</i>)
17:45-17:50	Closing Address Prof. Emeritus Kenji Furukawa (<i>Kumamoto University</i>)

Nov. 15 (Friday)

9:30-16:00	Excursion
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The 1st day (Nov.13)

Oral presentations

Session I Partial Nitrification

Start/ID	<i>Assoc. Prof. Shou-Qing Ni, Shandong Univ., China</i>
9:45 ID-02	<p>Nitrification performance for low-strength ammonium wastewater based on adsorption and biological desorption of zeolite</p> <p>Zhenguo Chen^{1,3}, Xiaojun Wang^{2,3}, Xiaozhen Chen²</p> <p>¹ School of Chemistry and Chemical Engineering, South China University of Technology, China, ² School of Environment and Energy, South China University of Technology, China, ³ Hua An Biotech Co., Ltd., China</p>
10:00 ID-03	<p>Partial nitrification performance of reactors with zeolite as biological media for ammonium wastewater treatment</p> <p>Xiaojun Wang^{*,1,2}, Zhenguo Chen^{2,3}, Xinghui Feng^{1,2}, Jing Chen¹</p> <p>¹ School of Environment and Energy, South China University of Technology, China, ² Hua An Biotech Co., Ltd., Foshan, China, ³ School of Chemistry and Chemical Engineering, South China University of Technology, China</p>
10:15 ID-42	<p>Operational simulation for conventional activated sludge reactor to eliminate nitrite oxidizing organisms with nitrite toxicity</p> <p>Viet Hoang Nguyen, Nguyen Hoang Ho, Mitsuharu Terashima, Hidenari Yasui*</p> <p><i>Faculty of Environmental Engineering, the University of Kitakyushu, Japan</i></p>

Session II Anammox Process

Start/ID	<i>(Part I) Assoc. Prof. Fumitake Nishimura, Kyoto Univ., Japan</i>
11:00 ID-04	<p>Fate of dissolved organic nitrogen during the Anammox process using ultra-high resonance mass spectrometry</p> <p>Zhang Li, Zhang Yanan, Peng Yongzhen*</p> <p><i>National Engineering Laboratory for Advanced Municipal Wastewater Treatment and Reuse Technology, Key Laboratory of Beijing for Water Quality Science and Water Environment Recovery Engineering, Beijing University of Technology, China</i></p>
11:15 ID-12	<p>Enlightenment of rapid enrichment of anaerobic ammonium oxidizing microorganisms in porous carrier: granular sludge plays an important role</p> <p>Jinyuan Ma, Kaijun Wang*, Hui Gong, Quan Yuan</p> <p><i>State Key Joint Laboratory of Environment Simulation and Pollution Control, School of Environment, Tsinghua University, China</i></p>

11:30 ID-24	<p>Anammox enrichment in a conventional activated sludge treatment system for swine wastewater</p> <p><u>Chikako Ishimoto</u>^{*1}, Tsukasa Sugiyama¹, Miyoko Waki²</p> <p>¹ Shizuoka Prefectural Research Institute of Animal Industry, Swine & Poultry Research Center, Japan, ² Institute of Livestock and Grassland Science, NARO, Japan</p>
11:45 ID-25	<p>Characteristics of anammox biofilms in the activated sludge treatment process in swine farms</p> <p><u>Miyoko Waki</u>^{1*}, Ryu Suto², Chikako Ishimoto³, Yoshito Aihara², Nori Miyashita², Toshimi Matsumoto⁴, Hirohide Uenishi⁵, Tomoko Yasuda¹, Yasuyuki Fukumoto¹, Hiroaki Saito⁶, Hiroki Yokoshima⁶, Takafumi Nagamine⁷</p> <p>¹ Institute of Livestock and Grassland Science, National Agriculture and Food Research Organization (NARO), Japan, ² Ibaraki Prefectural Livestock Research Center, Japan, ³ Shizuoka Prefectural Research Institute of Animal Industry Swine & Poultry Research Center, Japan, ⁴ Institute of Crop Science, NARO, Japan, ⁵ Institute of Agrobiological Sciences, NARO, Japan, ⁶ Yoshimoto Agri Co., Ltd., Japan, ⁷ Misakura Denki Co, Japan</p>
Start/ID	(Part 2) Chair: Prof. Sen Qiao, Dalian Univ. of Technology, China
13:00 ID-28	<p>Experiences in the implementation of anaerobic ammonium oxidation (Anammox) bacteria: both Suspended-and Attached-Growth Systems</p> <p><u>Pongsak (Lek) Noophan</u>^{1*}, Supaporn. Phanwilai¹, Junko Munakata-Marr²</p> <p>¹ Department of Environmental Engineering, Faculty of Engineering, Kasetsart University, Bangkok, Thailand, ² Civil and Environmental Engineering Division, Colorado School of Mines, U.S.A.</p>
13:15 ID-39	<p>Nanobubbles formation in anammox granular sludge system locally disrupt anammox granule integrity</p> <p><u>Huimin Fu, Youpeng Chen</u>[*]</p> <p>Key Laboratory of the Three Gorges Reservoir Region's Eco-Environments of MOE, Chongqing University, China</p>
13:30 ID-39	<p>Nitrogen removal performance and microbial community of ANAMMOX process at decreasing temperatures</p> <p><u>Sike Wang, Chen Lei, Heng Yu</u>¹, Jiane Zuo[*]</p> <p>State Key Joint Laboratory of Environmental Stimulation and Pollution Control, School of Environment, Tsinghua University, China</p>

13:45	Effect of Trace Element Limitation on Anammox Activity <u>Daichi Sugawara</u>, Kazuichi Isaka
ID-45	<i>Graduate School of Science and Engineering, Toyo University, Japan</i>
Start/ID	(Part 3) Chair: Assoc. Prof. Kazuichi Isaka, Toyo Univ., Japan
14:00	Phage induction in hydrazine wastewater treatment using anammox sludge. <u>Takashi Nishiyama</u>* , Takafumi Tokimatsu, Takao Fujii
ID-46	<i>Faculty of Life Science, Sojo University, Japan</i>
14:15	Startup of an anammox reactor for the treatment of high-salinity and mesophilic brine using indigenous sludge <u>Ryota Mineshima</u>¹, Nobuyuki Yokota^{1,2}, Hideyuki Yamaguchi¹, Tatsuaki Hirase³, Hisayoshi Ishikawa³, Takayuki Azuma³, Masaaki Hosomi², Akihiko Terada^{2,4}
ID-56	<i>¹ Kanto Natural Gas Development Co., Ltd., Japan, ² Department of Chemical Engineering, Tokyo University of Agriculture and Technology, Japan, ³ KRI, Inc., Japan, ⁴ Institute of Global Innovation Research, Tokyo University of Agriculture and Technology, Japan</i>
14:30	Effects of chemical compounds contained in coke-oven wastewater on anammox reaction and characteristics of nitrogen removal from the wastewater using anammox process <u>Fumitake Nishimura</u>, Taira Hidaka, Hiroshi Tsuno, Aya Nakagawa
ID-57	<i>Graduate School of Engineering, Kyoto University, Japan</i>
14:45	Simultaneous anammox and denitrification in a batch mode under ambient temperature <u>Satoshi Soda</u>¹, Kaede Takeuchi², Giri Park², Michihiko Ike²
ID-37	<i>¹ College of Science and Engineering, Ritsumeikan University, Japan, ² Graduate School of Engineering, Osaka University, Japan</i>
15:00	Accumulation of anammox sludge from leachate of adjustment reservoir of controlled final landfill site <u>Nobuyuki Aiko</u>*¹, Yoshinobu Yamagiwa², Daisuke Hira³, and Yuichi Suwa⁴
ID-60	<i>¹ Research Institute of Environment, Agriculture and Fisheries, Osaka Prefecture, Japan, ² Industrial Technology Center of Wakayama Prefecture, Japan, ³ Applied Biotechnology and Life Science, Sojo University, Japan, ⁴ Science and Engineering, Chuo University, Japan</i>

Session III Two-Stage Anammox Process

Start/ID	(Part 1) Chair: Prof. Satoshi Soda, Ritsumeikan Univ., Japan
15:45 ID-14	Nitrogen removal from organic wastewater by the DENIMOX[®] Process <u>Miri Matsubayashi</u>, Katsuko Kusumoto, Yongsheng Ge (Yosei Katsu) <i>Swing Engineering Corporation, Japan</i>
16:00 ID-32	Restart of fixed-bed anammox process after long-term suspension due to the Kumamoto Earthquake <u>Rvosuke Youra</u>*¹, Keita Takaki², Hiroki Itokawa³ <i>¹ Kumamoto City Waterworks and Sewerage Bureau, Japan, ² Takuma Co., Ltd., Japan, ³ Japan Sewage Works Agency, Japan</i>
16:15 ID-50	Full-scale demonstration of nitrogen removal from digester liquid using fixed- bed anammox process in Kumamoto City Tobu WWTP <u>Keita Takaki</u>*¹, Yoichi Watanabe², Hiroki Itokawa³ <i>¹ Takuma Co., Ltd., Japan, ² Kumamoto City Waterworks and Sewerage Bureau, Japan, ³ Japan Sewage Works Agency, Japan</i>
Start/ID	(Part 2) Prof. Tong Zhu, Northeastern Univ., China
16:30 ID-33	Nitrogen removal from old landfill leachate using a pilot two-sludge system consisting partial nitrification sequencing batch reactor followed by anammox internal circulation column <u>Dan Nguyen Phuoc</u>*¹, The Nhat Phan¹, Sang Truong Tran Nguyen¹, Bui Xuan Thanh¹, Thanh Le Quang Do¹, Thi Thanh Van Truong¹, Tuan Nguyen Van¹, Toan Le Hoang¹, Kenji Furukawa² <i>¹ Centre Asiatique de Recherche sur L'Eau (CARE), Ho Chi Minh City University of Technology, Ho Chi Minh City, Vietnam, ² Faculty of Engineering, Kumamoto University, Japan</i>
16:45 ID-53	Performance of two-stage partial nitrification and anammox process treating high saline wastewater <u>Soyeon Jeong</u>, Jeongmi Kim, Jaecheul Yu, Taeho Lee* <i>Department of Civil and Environmental Engineering, Pusan National University, Korea</i>
17:00 ID-55	Pilot study on the optimization of air-lift granulation reactor (AGR) for partial nitrification and subsequent Anammox reactor to treat reject water <u>Younghyun Park</u>, Taeseok Oh, Jaemin Kim, Yunsu Lim, Minki Jung * <i>BKT Co. Ltd., Korea</i>

The 2nd day (Nov.14)

Oral presentations

Session IV One-Stage Anammox Process

Start/ID	(Part 1) Chair: Dr. Miyoko Waki, National Agriculture and Food Research Organization, Japan
9:00 ID-09	<p>Full-scale SNAD-MBBR process for treating sludge digester liquor <u>Xie Quan</u>, Hongbo Zheng, Xiaochen Xu, Gang Wang, Liang Zhou, Fenglin Yang*</p> <p><i>Key Laboratory of Industrial Ecology and Environmental Engineering (Ministry of Education, China), School of Environmental Science and Technology, Dalian University of Technology, China</i></p>
9:15 ID-10	<p>Simultaneous nitrogen and phosphorus removal by combined SNAP and denitrifying phosphorus removal processes <u>Sen Qiao*</u>, Meijiao Zhang, Jiti Zhou</p> <p><i>Key Laboratory of Industrial Ecology and Environmental Engineering (Ministry of Education, China), School of Environmental Science and Technology, Dalian University of Technology, China</i></p>
9:30 ID-13	<p>An innovate one-stage bioprocess treating high-strength ammonia-rich organic wastewater : Simultaneous carbon oxidation, partial nitritation, denitrification and anammox (SCONDA) <u>Xin Zhou*</u>, Zeqian Zhang, Xinai Zhang, Gonglei Wang, Jiabo Chen</p> <p><i>College of Environmental Science and Engineering, Taiyuan University of Technology, China</i></p>
9:45 ID-16	<p>Startup of pilot-scale SNAP reactor for waste brine treatment <u>Nobuyuki Yokota</u>¹, Ryota Mineshima¹, Yasutsugu Watanabe*¹, Takashi Nishiyama², Kenji Furukawa³</p> <p><i>¹ Kanto Natural Gas Development Co., Ltd., Japan, ² Faculty of Life Science, Sojo University, Japan, ³ Graduate School of Science and Technology, Kumamoto University, Japan</i></p>
Start/ID	(Part 2) Chair: Prof. Li Zhang, Beijing Univ., of Technology, China
10:00 ID-19	<p>Partial nitrification and anammox process for low-strength ammonia wastewater treatment using single-stage membrane bioreactor <u>Takanori Awata</u>¹, Yumiko Goto², Hisashi Kuratsuka², Yoshiteru Aoi², Noriatsu Ozaki², Akiyoshi Ohashi², Tomonori Kindaichi*²</p> <p><i>¹ National Institute for Land and Infrastructure Management (NILIM), Japan ² Department of Civil and Environmental Engineering, Hiroshima University, Japan</i></p>

10:15 ID-20	<p>Single-stage autotrophic nitrogen removal using anammox and partial nitrification (SNAP) performance and microbial function classification under refractory organic matter disturbance</p> <p><u>Changhao Lu</u>^{1,2}, Chunli Yuan³, Tong Zhu^{4*}</p> <p>¹ Key Laboratory of Pollution Ecology and Environmental Engineering, Institute of Applied Ecology, Chinese Academy of Sciences, China, ² University of Chinese Academy of Sciences, China, ³ Ministry of Education Key Lab for Eco-restoration of Regional Contaminated Environment, Shenyang University, China, ⁴ School of Mechanical Engineering and Automation, Northeastern University, China</p>
10:30 ID-21	<p>Evaluation of COD effect on single-stage autotrophic nitrogen removal using anammox and partial nitrification (SNAP) process and microbial communities in an up-flow reactor</p> <p><u>Chunli Yuan</u>¹, Changhao Lu^{2,3}, Tong Zhu^{4*}, Youzhao Wang⁴, Yongguang Ma⁴, Kuo Zhang⁴, Liting Lv⁴, Xuelin Feng⁴</p> <p>¹ Ministry of Education Key Lab for Eco-restoration of Regional Contaminated Environment, China, ² Key Laboratory of Pollution Ecology and Environmental Engineering, Institute of Applied Ecology, Chinese Academy of Sciences, China, ³ University of Chinese Academy of Sciences, China, ⁴ School of Mechanical Engineering and Automation, Northeastern University, China</p>
10:45 ID-29	<p>Optimization of nitrogen removal performance in a single-stage SBR based on ANAMMOX process</p> <p><u>Daehee Choi</u>, Jinyoung Jung*</p> <p>Department of Environmental Engineering, Yeungnam University, Korea</p>

Session Keynote Speech

Start/End	Chair: Emeritus Prof. Takao Fujii, Sojo Univ., Japan
11:30 -12:00	<p>Use of Anammox Brocadia Caroliniensis for Treatment of Wastewater in Space</p> <p>Matias Vanotti</p> <p>United States Department of Agriculture, Agricultural Research Service, USA</p>

Poster Presentation

12:30-14:00

Oral presentations

Session IV One-Stage Anammox Process

Start/ID	(Part 3) Chair: Assoc. Prof. Dan Nguyen Phuoc, Ho Chi Minh City Univ. of Technology, Vietnam
14:00 ID-49	<p>Nitrogen removal from low strength ammonium containing wastewater by SNAP process using acrylic pile fabrics as biomass carrier</p> <p><u>Yoshinobu Yamagiwa</u>^{*1}, Tomohiro Akagi¹, Daisuke Hira², Kenji Furukawa³</p> <p>¹Industrial Technology Center of Wakayama Prefecture, Japan, ² Applied Biotechnology and Life Science, Sojo University, Japan, ³ Kumamoto University, Japan</p>
14:15 ID-48	<p>Construction of SNAP reactor using attached biomass on acrylic pile fabrics installed in reservoir leachate at sea-based landfill sites</p> <p><u>Tomohiro Akagi</u>^{*1}, Yoshinobu Yamagiwa¹, Daisuke Hira², Nobuyuki Aiko³, Kenji Furukawa⁴</p> <p>¹ Industrial Technology Center of Wakayama Prefecture, Japan, ² Research Institute of Environment, Agriculture and Fisheries, Osaka Prefecture, Japan, ³ Applied Biotechnology and Life Science, Sojo University, Japan, ⁴ Kumamoto University, Japan</p>
14:30 ID-54	<p>Evaluation of sidestream single-stage deammonification process performance with different feeding strategies</p> <p>Lucky Caesar Direstiyani, Jeongmi Kim, Taewon Kwon, Jaecheul Yu, <u>Taeho Lee</u>*</p> <p><i>Department of Civil and Environmental Engineering, Pusan National University, Korea</i></p>
14:45 ID-58	<p>Performance of a 500 L SNAP reactor placed in the downstream of biological filtration system for removal of arsenic from groundwater</p> <p>Yoko Fujikawa¹, <u>Phan Do Hung</u>², Daisuke Hira³, Takao Fujii³, Hiroaki Ozaki⁴, Kenji Furukawa⁵</p> <p>¹ Institute for Integrated Radiation and Nuclear Science, Kyoto University, Japan, ² Institute of Environmental Technology, Vietnam, ³ Faculty of Life Science, Sojo University, Japan, ⁴ Faculty of Engineering, Osaka Sangyo University, Japan, ⁵ Graduate School of Engineering, Kumamoto University, Japan</p>

Session V Application of Anammox Process to Mainstream

Start/ID	Chair: Prof. Sitong Liu, College of Environmental Science and Engineering, China
15:15 ID-01	<p>Unexpected mainstream anammox induced by hybrid SRT system in a full-scale wastewater treatment plant in the temperate region of China</p> <p>Quan Yuan¹, Kaijun Wang¹, Beiping He², Yaxu Zhou³, Hui Gong^{1*}</p> <p>¹ State Key Joint Laboratory of Environment Simulation and Pollution Control, School of Environment, Tsinghua University, China, ² Thunip Co., Ltd., China, ³ Xi'an Wastewater Treatment Co. Ltd., China</p>
15:30 ID-35	<p>Feasibility of mainstream deammonification for advanced municipal wastewater treatment</p> <p>M.Q.Lai^{*1}, Y. Fukuzaki¹, K. Sakai¹, M. Nakata¹, T. Watanabe¹, N. Hosoda², T. Okanouchi², C. Kajimoto²</p> <p>¹ Water Infrastructure Systems Business Unit, Meidensha Corporation, Japan ² Public Construction Projects Bureau, Sewage Works Department, Kobe City, Japan</p>
15:45 ID-51	<p>Successful integrating anaerobic membrane bioreactor and nitrification-anammox for upfront carbon separation for methanation and subsequent chemolithotrophic nitrogen removal</p> <p>Xingyuan Huang, Zhen Lei, Shuming Yang, Zhaoyang Hou, Rong Chen*</p> <p>Key Lab of Environmental Engineering, Shaanxi Province, Xi'an University of Architecture and Technology, China</p>

Session VI Ecology of Anammox Bacteria

Start/ID	(Part I) Chair: Assoc. Prof. Daisuke Hira, Sojo Univ., Japan
16:00 ID-15	<p>A new starting-up strategy for anammox process and illumina Hiseq sequencing reveals the community structure in anammox consortia</p> <p>Anran Fang, Kun Feng, Wei Li, Defeng Xing*</p> <p>State Key Lab of Urban Water Resource and Environment, School of Environment, Harbin Institute of Technology, Harbin 150090, China</p>

16:15 ID-07	<p>Insight into aggregation capacity of anammox consortia during reactor start-up</p> <p><u>Yunpeng Zhao</u>^{1,2}, Sitong Liu^{*1,2}, Ying Feng^{1,2}</p> <p>¹ College of Environmental Science and Engineering, China ² Key Laboratory of Water and Sediment Sciences, Ministry of Education of China, China</p>
16:30 ID-08	<p>Linking exoproteome function and structure to anammox biofilm development</p> <p><u>Zijian Chen</u>^{1,2}, Chao Jin^{1,2}, Fangang Meng^{*1,2}</p> <p>¹ School of Environmental Science and Engineering, Sun Yat-sen University, China, ² Guangdong Provincial Key Laboratory of Environmental Pollution Control and Remediation Technology (Sun Yat-sen University), China</p>
Start/ID	(Part 2) Chair: Prof. Taeho Lee, Pusan National Univ., Korea
16:45 ID-18	<p>The success of South-to-North Water Diversion Project (eastern route): from the perspective of the distribution of nitrate reducing bacteria in multistage constructed wetland</p> <p><u>Qianxia Li</u>, Cuina Bu, Shou-Qing Ni[*]</p> <p>School of Environmental Science and Engineering, Shandong University, China</p>
17:00 ID-59	<p>Microbiome analysis of samples from a single stage partial nitrification - anammox reactor used for treatment of groundwater</p> <p><u>Yoko Fujikawa</u>^{1*}, Daisuke Hira², Ichiro Suzuki³, Phan Do Hung⁴, Takao Fujii², Kouki Kokubun⁵, Kenji Furukawa⁶</p> <p>¹ Institute for Integrated Radiation and Nuclear Science, Kyoto University, Japan, ² Faculty of Life Science, Sojo University, Japan, ³ Graduate School of Engineering, Yokohama National University, ⁴ Institute of Environmental Technology, Vietnam, ⁵ Fukushima Prefectural Centre for Environmental Creation, ⁶ Graduate School of Engineering, Kumamoto University, Japan</p>
17:15 ID-47	<p>Microbial community analysis of anammox and associated processes</p> <p><u>Daisuke Hira</u>^{*1}, Yoshinobu Yamagiwa², Nobuyuki Aiko³, Yoko Fujikawa⁴, Kenji Furukawa⁵, Takao Fujii¹</p> <p>¹ Faculty of Biotechnology and Life Science, Sojo University, Japan, ² Industrial Technology Center of Wakayama Prefecture, Japan, ³ Key Laboratory of Research Institute of Environment, Agriculture and Fisheries, Osaka Prefectural Government, Japan, ⁴ Kyoto University Institute for Integrated Radiation and Nuclear Science, Japan, ⁵ Graduate School of Engineering, Kumamoto University, Japan</p>

Poster presentations

<Anammox Process>

No/ID	
P-01 ID-22	<p>Effects of intermittent vibration on anammox process at ambient temperature</p> <p><u>Kuo Zhang</u>, Sai Yao, Baorui Liang, Mingdong Chang, Tianli Kang, Yongguang Ma, Liting Lyu, Youzhao Wang, Tong Zhu *</p> <p><i>Institute of Process Equipment and Environmental Engineering, School of Mechanical Engineering and Automation, Northeastern University, China</i></p>
P-02 ID-23	<p>Analysis of nitrogen removal performance of anammox biofilm rotating bed treatment of pig farm wastewater</p> <p>Tianli Kang^a, Sai Yao^a, Kuo Zhang^a, <u>Yongguang Ma</u>^a, Baorui Liang^a, Mingdong Chang^a, Youzhao Wang^a, Tong Zhu^a *</p> <p><i>Institute of Process Equipment and Environmental Engineering, School of Mechanical Engineering and Automation, Northeastern University, China</i></p>
P-03 ID-26	<p>Study on anammox coupled MBR process</p> <p><u>Wenjie Zhang</u>*, Xueyan Ma, Shaoyuan Bai, Yanli Ding</p> <p><i>College of Environmental Science and Engineering, Guilin University of Technology, China</i></p>
P-04 ID-31	<p><i>In-situ</i> removal of nitrite inhibition on anammox bacteria in a UASB reactor</p> <p><u>H. Yu</u>¹, S.C. Huang¹, J.E. Zuo¹, Y.H. Song²</p> <p><i>¹ State Key Joint Laboratory of Environment Simulation and Pollution Control, School of Environment, Tsinghua University, Beijing, China, ² Chinese Research Academy of Environmental Sciences, China</i></p>
P-05 ID-06	<p>Self-assembling iron-rich nanoparticles regulate metabolism in anaerobic ammonium-oxidizing bacteria</p> <p>Meng-Wen Peng, <u>You-Peng Chen</u>* Jin-Song Guo, Gang Liu*, Fang Fang</p> <p><i>Key Laboratory of the Three Gorges Reservoir Region's Eco-Environments of MOE, Chongqing University, Chongqing 400045, China</i></p>
P-06 ID-41	<p>Startup of nitrogen removal process by PVA-immobilized anammox sludge at ambient temperature</p> <p><u>Zongpei Liu</u>*¹, Kotaro Oda¹, Kazutoshi Kawasoe¹, Kazuichi Isaka², Satoshi Soda¹</p> <p><i>¹ College of Science and Engineering, Ritsumeikan University, Japan ² Faculty of Science and Engineering, Toyo University, Japan</i></p>

P-07	Directional enrichment of anammox bacteria from aerobic activated sludge <u>Kun Feng</u>, Anran Fang, Defeng Xing* <i>State Key Laboratory of Urban Water Resource and Environment, School of Environment, Harbin Institute of Technology, China</i>
ID-52	

< Two-Stage Anammox Process >

No/ID	
P-08	Achieving energy-efficient nitrogen removal and excess sludge reutilization by partial nitrification and simultaneous anammox denitrification-fermentation process <u>Bo Wang</u>, Yuanyuan Guo, Mengyue Zhao, Yongzhen Peng* <i>National Engineering Laboratory for Advanced Municipal Wastewater Treatment and Reuse Technology, Beijing University of Technology, China</i>
ID-27	
P-09	Effects of nitrogen removal with internal recycle ratio in reject water using three-stage anammox system <u>Wonsang Yun</u>*¹, Daehee Choi², Jinyoung Jung², Dongjin Ju*¹ <i>¹ Samjin Precision Co, Ltd, Korea</i> <i>² Department of Environmental Engineering, Yeungnam University, Korea</i>
ID-38	
P-10	Anammox-HAP process for simultaneous nitrogen removal and phosphorus recovery <u>Yi Xue</u>¹, Haiyuan MA², Yu-You Li*^{1,2} <i>¹ Graduate School of Environmental Studies, Tohoku University, Japan</i> <i>² Graduate School of Engineering, Tohoku University, Japan</i>
ID-62	
P-11	Nitrogen removal in municipal wastewater of partial nitrification-anammox process using gel carriers <u>Shoko Miyamae</u>*, Yuya Kimura, Shinichi Yoshikawa <i>Water & Environmental Business Unit, Hitachi, Ltd., Japan</i>
ID-63	

< One-Stage Anammox Process >

No/ID	
P-12	Effect of chloride concentration for ammonium removal in tannery wastewater on hybrid partial nitrification/anammox process <u>C.N.P Le</u>*, H.T.L Nguyen, T.K Tran <i>Institute of Tropical Biology, Vietnam Academy of Science and Technology, Vietnam</i>
ID-43	

P-13	<p>High strength nitrogen removal of reject water from co-digester treating sewage sludge, livestock manure, foodwaste leachate by coupled with anammox and sulfur denitrification in the field</p> <p><u>Kiwook Kwon</u> *, Hyosun Kim, Junbae Lee</p> <p>ID-44 <i>Jeon Tech. Co. Ltd., Korea</i></p>
P-14	<p>High performance of one-stage anammox-HAP process in treating low concentration wastewater at room temperature</p> <p><u>Yan Guo</u>¹, Yujie Chen¹, Yu-You Li^{*1 2}</p> <p>¹ <i>Graduate School of Engineering, Tohoku University, Japan</i></p> <p>ID-61 ² <i>Graduate School of Environmental Studies, Tohoku University, Japan</i></p>

< Ecology of Anammox Bacteria >

No/ID	
P-15	<p>A new starting-up strategy for anammox process and illumina Hiseq sequencing reveals the community structure in anammox consortia (details of lecture)</p> <p><u>Anran Fang</u>, Kun Feng, Wei Li, Defeng Xing*</p> <p><i>State Key Lab of Urban Water Resource and Environment, School of Environment, Harbin Institute of Technology, China</i></p> <p>ID-17</p>
P-16	<p>Nitrite accumulation on hydrogen gas oxidizing denitrification for coupling denitrification with anaerobic ammonium oxidation: effect of hydrogen gas flow rate</p> <p><u>Tatsuru Kamei</u>^{1*}, Mai Nakano², Kenta Shinoda², Takashi Furukawa¹, Kazunari Sei¹, Futaba Kazama³.</p> <p>¹ <i>School of Allied Health Sciences, Kitasato University, Japan.</i> ² <i>Integrated Graduate School of Medicine, Engineering, and Agricultural Sciences, University of Yamanashi, Japan,</i> ³ <i>Interdisciplinary Research Centre for River Basin Environment, University of Yamanashi, Japan</i></p> <p>ID-36</p>

The 3rd day (Nov.15)

Excursion

9:30 JR Tennoji Station
↓ (Get on Bus)
10:00-11:30 Hirano Sewage Treatment Plant of Osaka City
↓ (Get on Bus)
12:00-13:00 Lunch Break
↓ (Get on Bus)
14:00-15:30 Maishima Sludge Center of Osaka City
↓ (Get on Bus)
16:30 JR Tennoji Station

Maximum 50 persons (1 bus)

Excursion fee: 1,000 JPY (Includes lunch)

Meeting place: Central gate of Tennoji Station

Please come to the meeting place by 9:20 (10 min before departure).

