

**The 3rd International Symposium
on Water Environment Systems
---with Perspective of Global Safety
(January 28th-31st, 2016)**

**Department of Civil and Environmental Engineering
Graduate School of Engineering
Tohoku University**



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**Tohoku University, Main Administration Office
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Venue

Graduate School of Engineering, Aobayama campus, Tohoku University

Lectures and oral presentations

Room 101, Engineering Laboratory Complex building (総合研究棟)

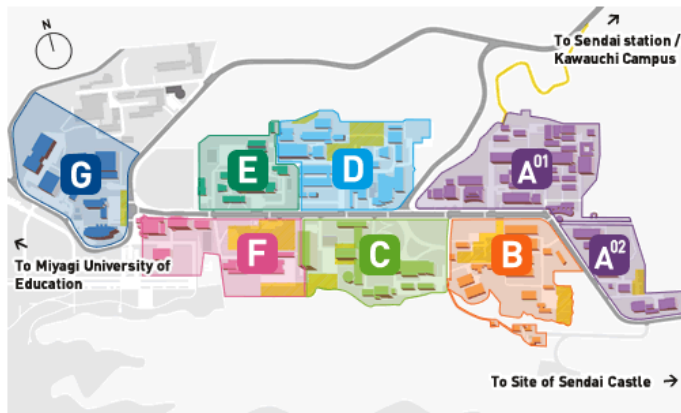
Posters exhibition

Room 201, Engineering Laboratory Complex building (総合研究棟)

Dinner party

(四季彩)

Map of Aobayama Campus



- A⁰¹** [Mechanical and Aerospace Engineering](#)
- A⁰²** [Quantum Science and Energy Engineering](#)
- B** [Materials Science and Engineering](#)
- C** [Center Square](#)
- D** [Electrical Engineering and Applied Physics](#)
- E** [Applied Chemistry, Chemical Engineering and Biomolecular Engineering](#)
- F** [Civil Engineering and Architecture](#)
- G** [Various Area](#)

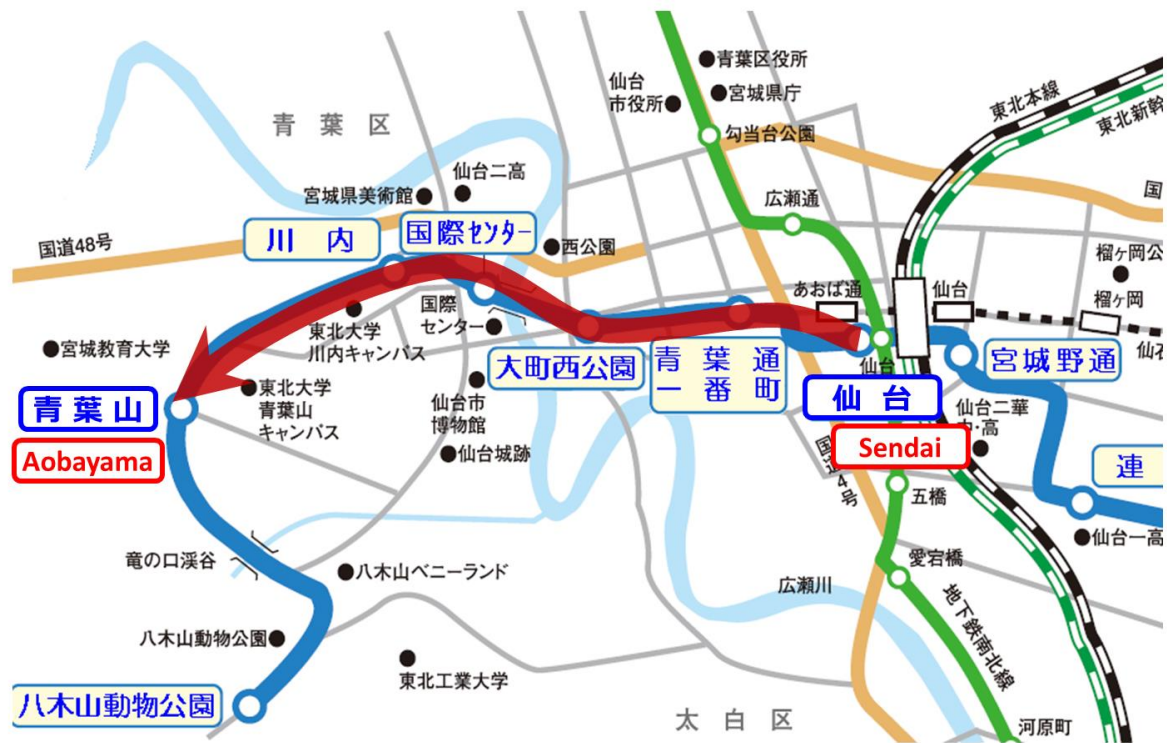


Engineering Laboratory
Complex building
(総合研究棟)



Dinner Party Restaurant
(四季彩)

Access to Aobayama Campus (Subway)



Map of East-west line subway(地下鉄 東西線) in Sendai

Please take this subway line and get off on the stop **Aobayama (青葉山)** .

Tips

If you start from Sendai Station, please make sure you are entering **East-west line subway (地下鉄 東西線)** rather than ~~South-north line subway (地下鉄 南北線)~~ nor ~~JR station~~.

Program

Thursday, 28 Jan 2016

Fieldwork

The reconstruction of Minami-gamo sewage treatment plant

- 2011/3/11 Tsunami hitting the Sewage Facilities



- Remains of 311-tsunami shocking on the wall of pump station



Plan view of the sewage facilities



[Restored facilities]



Restored incineration building



Restored administration building (TSE Reuse plant building in front)



Temporary wastewater treatment facility (biological contact oxidation using a bio film method with string media.)

Location of Minami-gamo sewage treatment plant



Friday, 29 Jan 2016

The 3rd International Symposium on Water Environment Systems

Place: Room 101, Engineering Laboratory Complex Building, Tohoku University

9:00 ~ 9:10 **Opening address**

9:10 ~ 9:20 **Memorial photo**

Session I Urban water systems

9:20 ~ 9:50 Urban stormwater management: challenges and potential solutions

Ranjan Sarukkalige

Curtin University

9:50 ~ 10:10 Routing the runoff from buildings using 1D sub-catchments in an urban 2D surface runoff model

Amila Prasad Basnayaka

Curtin University

10:10 ~ 10:40 A SWTM (Sewer Wastewater Transformation Model) concept for organic matter transformation in gravity sewers

Jin Pengkang

Xi'an University of Architecture and Technology

10:40 ~ 10:50 **Coffee break**

Session II Molecular techniques

10:50 ~ 11:10 Biotransformation and adsorption of Pharmaceutical and Personal Care Products by activated sludge after correcting matrix effects

Deng Yu

The University of Hong Kong

11:10 ~ 11:40 Antibiotics and antibiotics resistance genes as emerging pollutant in water environments

Zhang Tong

The University of Hong Kong

11:40 ~ 12:00 Prokaryotes distribution and diversity influenced by salinity in soda lakes

Li Lu

Tohoku University

12:00 ~ 12:10 **Coffee break**

12:10 ~ 12:30 Ammonia-oxidizing archaea dominate over ammonia-oxidizing bacteria in a municipal wastewater treatment plant treating saline municipal wastewater

Wang Yulin

The University of Hong Kong

12:30 ~ 12:50 Microbial community structure in a methanol-feeding upflow anaerobic sludge blanket (UASB) reactor operated under different COD and sulfate concentrations

Ni Jialing

Tohoku University

12:50 ~ 13:20 **Lunch break**

13:20 ~ 13:50 **Poster exhibition**

Place: **Room 201**, Engineering Laboratory Complex Building, Tohoku University

- Performance comparison of single-stage partial nitritation -anammox systems with 3 size of suspended biofilm carriers

Liu Yuan

*Research Center for Eco-Environmental Sciences,
Chinese Academy of Sciences*

- Comparison slope failure probability and slope disaster history using probability of landslide model

Prem Rangsiwanichpong

Tohoku University

- Integrated two-stage biofilters incorporated with sulfur-based and pyrite-based autotrophic denitrification for rural domestic wastewater treatment

Kong Zhe

Tohoku University

- Competition between methane production and sulfate reduction in UASB Treatment of ethanol- and acetate-based wastewater by long-term operation

Wu Jiang

Tohoku University

- The change of disaster memories in Japan — from the ancient Kashima belief to the modern composite monument

Xia Lu

Tohoku University

- Treatment performance of methanol wastewater by anaerobic membrane bioreactor

Chang Yuguang

NanJing XiaoZhuang University

Session III Anaerobic technologies

13:50 ~ 14:20 Using amylase to stimulate a bio-reagent obtained from anaerobic hydrogen fermentation degrading diesel-contaminated soil

Lay Jiunn-Jyi

National Kaohsiung First University of Science and Technology

14:20 ~ 14:40 Operation performance of self-agitated anaerobic baffled reactor (SA-ABR) treating diluted food waste

Matsui Kanechika

Tohoku University

14:40 ~ 15:10 Iron oxide promoted anaerobic digestion of algal biomass

Yue Zhengbo

HeFei University of Technology

15:10 ~ 15:30 Characterization and potential of three temperature ranges for hydrogen fermentation of cellulose by means of activity test and 16S rRNA sequence analysis

Samir I. Gadow

Tohoku University

15:30 ~ 15:40 **Coffee break**

Session IV Membrane fouling control

15:40 ~ 16:10 Osmotic microbial fuel cells as a membrane-fouling tolerant wastewater treatment technology

Li Wen-Wei

University of Science and Technology of China

16:10 ~ 16:30 Enhancement and mitigation mechanisms of protein fouling of ultrafiltration membranes under different ionic strengths

Miao Rui

Xi'an University of Architecture and Technology

16:30 ~ 16:40 **Coffee break**

Session V Denitrification processes

- 16:40 ~ 17:00 Nitrogen removal characteristics of enhanced in situ indigenous aerobic denitrification bacteria for micro-polluted reservoir source water
Zhou Shilei
Xi'an University of Architecture and Technology
- 17:00 ~ 17:20 Operation performance of Anammox process in a UASB reactor without recirculation system
Ma Haiyuan
Tohoku University
- 17:20 ~ 17:40 Effect of the aeration control on performance of long-term operated One-stage nitrification-anammox in lab-scale experiment
Ji Jiayuan
Tohoku University
- 17:40 ~ 17:50 **Closing speech**
- 18:00 ~ 20:00 **Dinner party**

Saturday, 30 Jan 2016
~ Sunday, 31 Jan 2016

Lab visiting, free communication and discussion