

Jin Chang

Post-doctoral researcher

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Education and Training

- Post-doc** **University of Michigan, Mar 2020 – Present**
Post-doctoral researcher
Advisor: Jeremy D. Semrau
- Ph.D.** **KAIST, 2020**
Ph.D. in Civil and Environmental Engineering
Advisor: Sukhwan Yoon
Thesis: Influence of Methanotrophs on Nitrogen Cycling and N₂O Emissions
- M.S.** **KAIST, 2015**
M.S. in Civil and Environmental Engineering
Advisor: Sukhwan Yoon (Co-advisor: Woojin Lee)
Thesis: Comparison of energy consumption and greenhouse gas emissions from water reuse system and water treatment system
- B.S.** **Yonsei University, 2013**
B.S. in Civil and Environmental Engineering
Yonsei University, Seoul, Korea

Awards

- **Outstanding Poster Award** at 2018 International Meeting of the Federation of Korean Microbiological Societies
- **ISME Travel Awards** at 17th International Symposium on Microbial Ecology (ISME)
- **Outstanding Poster Award** at 2018 International Meeting of the Microbiological Society of Korea
- **Outstanding Oral Presentation Award** at 2017 International Meeting of the Federation of Korean Microbiological Societies
- **Outstanding Poster Award** at 2016 International Meeting of the Federation of Korean Microbiological Societies

Publications

- Yoon, S., Song, B., Phillips, R. L., **Chang, J.**, Song, M. J. (2019). Ecological and physiological implications of nitrogen oxide reduction pathways on greenhouse gas emissions in agroecosystems. *FEMS microbial. Ecol.* 95(6).

- **Chang, J.**, Gu, W., Park, D., Semrau, J.D., DiSpirito A.A., Yoon, S. (2018) Methanobactin from *Methylosinus trichosporium* OB3b inhibits N₂O reduction in denitrifiers. *ISME J.* 12:2086-2089.
- **Chang, J.**, Lee, W., and Yoon, S. (2017) Analysis of energy consumptions and associated greenhouse gas emissions in operation phases of urban water reuse systems. *J. Clean. Prod.* 141:728-736
- Kyung, D., Kim, M., **Chang, J.**, and Lee, W. (2015) Estimation of greenhouse gas emissions from a hybrid wastewater plant, *J. Clean. Prod.* 95:117-123

Conferences

- Multimodal influence of methanotrophic community on nitrous oxide emissions from soil denitrification.
Chang, J.; Semrau, J.D.; Yoon, S, 2019 6th International Conference on Nitrification and Related Processes (ICoN 6), Xiamen University, Xiamen, China, Oct 8-12, 2019 (Oral Presentation)
- Multimodal influence of methanotrophic community on nitrous oxide emissions from soil denitrification.
Chang, J.; Yoon, S, The Korea Society for Microbiology and Biotechnology 2019 46th annual meeting & international symposium, ICC Jeju, Jeju, Korea, Jun 23-25, 2019 (Oral Presentation)
- The Role of Alpha- and Gammaproteobacterial Methanotrophs as the Modulator of Nitrous Oxide Emissions from Soil Denitrifying Microorganisms
Chang, J.; Yoon, S, 2019 International Meeting of the Microbiological Society of Korea, ICC Jeju, Jeju, Korea, April 17-19, 2019
- Relevance of Alpha- and Gammaproteobacterial Methanotrophs to N₂O emissions from Denitrifying Microbial Consortia Enriched from Soils
Chang, J.; Yoon, S, 2018 International Meeting of the Federation of Korean Microbiological Societies, The K Hotel, Korea, Oct 11-12, 2018
- The role of Alpha- and Gammaproteobacterial methanotrophs as the modulator of N₂O emissions from denitrifying microbial consortia enriched from soils
Chang, J.; Yoon, S, 17th International Symposium on Microbial Ecology (ISME), Congress Center Leipzig, Leipzig, Germany, August 12-18, 2018
- The Effects of Methanobactin Secreted by *Methylosinus trichosporium* Strain OB3b on N₂O Reduction in denitrifiers
Chang, J.; Yoon, S, 2018 International Meeting of the Microbiological Society of Korea, Alpensia Resort Convention Center, PyeongChang, Korea, April 25 -27, 2018
- Microbial Competition for Copper Stimulates N₂O Production
Chang, J.; Park, D., Gu, W., Semrau, J.D., DiSpirito A.A., Yoon, S, 2017 International

Meeting of the Federation of Korean Microbiological Societies, Ilsan KINTEX, Korea, Nov 2-3, 2017 (Oral Presentation)

- Methanobactin secreted by *Methylosinus trichosporium* strain OB3b interferes with N₂O reduction in denitrifiers
Chang, J.; Park, D., Gu, W., Semrau, J.D., DiSpirito A.A., Yoon, S, Fifth International Conference on Nitrification and Related Processes (ICoN5), Vienna, Austria, July 23-27, 2017 (Oral Presentation)
- Microbial Competition for Copper Stimulates N₂O Production.
Chang, J.; Park, D., Gu, W., Semrau, J.D., DiSpirito A.A., Yoon, S, American Society for Microbiology microbe meeting 2017, New Orleans, USA, June 1-5, 2017 (Oral Presentation)
- Methanobactin Secreted by *Methylosinus trichosporium* Strain OB3b Interferes with N₂O Reduction in *Pseudomonas stutzeri* strain DCP-Ps1
Chang, J.; Park, D., Gu, W., Semrau, J.D., DiSpirito A.A., Yoon, S, 2017 International Meeting of the Microbiological Society of Korea, BEXCO, Busan, Korea, April 26 -28, 2017
- The effects of methanobactin excreted by *Methylosinus trichosporium* on N₂O reduction activity in *Pseudomonas stutzeri*
Chang, J.; Gu, W., Semrau, J.D., DiSpirito A.A., Yoon, S, 2016 International Meeting of the Federation of Korean Microbiological Societies, Ilsan KINTEX, Korea, Nov 3-4, 2016
- Estimation of GHG emissions from wastewater treatment plants and effect of biogas reuse on GHG mitigation.
Chang, J.; Kyung, D.; Sihm, Y.; Lee, W. The 23rd Joint KKNN Symposium on Environmental Engineering, Kyoto, Japan, July 3-4, 2014.
- Evaluation of greenhouse gas (GHG) emission from wastewater treatment plants and effect of biogas reuse on GHG reduction.
Chang, J.; Kyung, D.; Lee, W. 2014 Summer Symposium of Environmental and Energy Division in KCS, Gangneung KIST, August 21-23, 2014.

Patents

- Method of producing nitrous oxide in the sewage treatment process
Registration: 1020382290000 (10/23/2019), Application:10-2018-0096043 (08/17/2018)
PCT: PCT/KR2019/010422 (08/16/2019)