

Curriculum vitae Akihiko TERADA, Ph.D.

Personal data

Gender: Male
Current position: Associate Professor
Professional address: Department of Chemical Engineering
Tokyo University of Agriculture & Technology (TUAT) (www.tuat.ac.jp)
Building 4-321 2-24-16 Naka Koganei Tokyo 184-8588
Phone: +81-42-388-7069 / Fax: +81-42-388-7731
Email: akte@cc.tuat.ac.jp
Membership: International Water Association (IWA), International Society for Microbial Ecology (ISME), Chemical Engineering of Japan, Japan Society on Water Environment (JSWE), Japan Society for Microbial Ecology (JSME), The Society for Biotechnology Japan
Researcher info: ResearcherID: C-5749-2012; [Google scholar](#); [Researchgate](#)

Education

	Waseda University	Tokyo, Japan
Ph.D.	Chemical Engineering	March 2006 (Advisor: Prof. Satoshi Tsuneda)
M.S.	Chemical Engineering	March 2003
B.S.	Applied Chemistry	March 2001

Research experience

Tokyo University of Agriculture & Technology, Tokyo, Japan

2012.4-Now Associate Professor of Environmental Bioengineering
2009.4-2012.3 Senior Assistant Professor of Environmental Bioengineering

National Institute of Advanced Industrial Science and Technology, Ibaraki, Japan

2013.4-2015.3 Adjunct Researcher in Environmental Microbiology Research Group

Waseda University, Tokyo, Japan

2014.4-Now Adjunct Researcher in Research Institute of Science and Engineering

Technical University of Denmark, Kgs. Lyngby, Denmark

2006.8-2009.3 Postdoctoral associate at Department of Environmental Engineering (Advisor: Prof. Barth F. Smets)

Waseda University, Tokyo, Japan

2006.4-2006.7 Research associate in Advanced Research Institute for Science and Engineering

Technical University of Denmark, Kgs. Lyngby, Denmark

2005.4-2005.11 Guest Researcher in Institute of Environment and Resources (Advisor: Prof. Barth F. Smets)

The Japan Society for the Promotion Science (JSPS), Japan

2003.4-2006.3 JSPS Research Fellow.

Research area

Expertise: Biochemical engineering, environmental biotechnology and microbiology

Topics: Elucidation of nitrous oxide production mechanism by ¹⁵N tracer; exploration of physiology and phylogeny of nitrous oxide-reducing bacteria; enhancement/prevention of initial bacterial adhesion and biofilm formation by surface functionalization; and biofilm reactor technology, e.g., membrane-aerated biofilm, for nitrogen removal from wastewater.

Selected publication (Published 72 papers in ISI publications, h-index 22)

- (1) **A. Terada**, S. Sugawara, K. Hojo, Y. Takeuchi, S. Riya, W. F. Harper Jr., T. Yamamoto, M. Kuroiwa, K. Isobe, C. Katsuyama, Y. Suwa, K. Koba, M. Hosomi, Hybrid nitrous oxide production from partial nitrifying bioreactor: Hydroxylamine interactions with nitrite. *Environ. Sci. Technol.* (2016) 51(5) 2748-2756
- (2) L. Xie, Q. Bao, **A. Terada**, M. Hosomi, Single-cell analysis of the disruption of bacteria with a high-pressure jet device: An application of atomic force microscopy. *Chem. Eng. J.* (2016) 306: 1099-1108
- (3) W. F. Harper, Y. Takeuchi, S. Riya, M. Hosomi, **A. Terada**, Novel abiotic reactions increase nitrous oxide production during partial nitrification: Modeling and experiments. *Chem. Eng. J.* (2015) 281 1071-1023
- (4) **A. Terada**, S. Sugawara, T. Yamamoto, S. Zhou, K. Koba, M. Hosomi, Physiological characteristics of predominant ammonia-oxidizing bacteria enriched from bioreactors with different influent supply regimes. *Biochem. Eng. J.* 79 (15) 153-161 (2013)

- (5) **A. Terada**, K. Okuyama, M. Nishikawa, S. Tsuneda, M. Hosomi, The effect of surface charge property on *Escherichia coli* initial adhesion and subsequent biofilm formation. *Biotechnol. Bioeng.* 109 (7) 1745-1754 (2012)
- (6) S. Lackner, **A. Terada**, H. Horn, M. Henze, B. F. Smets. Nitritation performance in membrane aerated biofilm reactors differs from conventional biofilm systems, *Water Res.* 44 (20) 6773-6084 (2010)
- (7) C. Pellicer-Nacher, S. P. Sun, S. Lackner, **A. Terada**, F. Schreiber, Q. Zhou, B. F. Smets. Sequential aeration of membrane-aerated biofilm reactors (MABRs) for high-rate autotrophic nitrogen removal: Experimental demonstration. *Environ. Sci. Technol.* 44 (19) 7628-7634 (2010)
- (8) **A. Terada**, S. Lackner, K. Kristensen, B. F. Smets, Inoculum effects on community composition and nitritation performance of autotrophic nitrifying biofilm reactors with counter-diffusion geometry. *Environ. Microbiol.* 12 (10) 2858-2872 (2010)
- (9) **A. Terada**, S. Lackner, S. Tsuneda, B.F. Smets, Redox-stratification controlled biofilm (ReSCoBi) for completely autotrophic nitrogen removal: The effect of co- versus counter-diffusion on reactor performance. *Biotechnol. Bioeng.* 97 (1), 40-51 (2007)
- (10) **A. Terada**, T. Yamamoto, S. Tsuneda, A. Hirata, Sequencing batch membrane biofilm reactor for simultaneous nitrogen and phosphorus removal: Novel application of membrane-aerated biofilms. *Biotechnol. Bioeng.* 94 (4), 730-739 (2006)

Miscellaneous

Invited lectures: 25; International Conference Presentation: 84

Selected Awards

- (1) Contribution award 2016 of Environment Division in Japan Society for Chemical Engineers (SCEJ) (December 2016)
- (2) Excellent Research Award 2016 in Kurita Water and Environment Foundation
- (3) Japan Society on Water Environment (JSWE) Excellent Paper Award (September 2014, Tokyo)
- (4) JSWE International Activity Awards (Japan Society on Water Environment) (March 2013)
- (5) SCEJ Young Researcher Award (The Society of Chemical Engineers, Japan) (December 2012)
- (6) Postdoctoral Fellowship for Research Abroad from Japan Society for the Promotion of Science (JSPS) (October 2008) *Declined*
- (7) Paper award at IWA Biofilm Technologies Conference (January 2008, Singapore)
- (8) Outstanding Paper Award of 2006 from SCEJ (April 2007)

Selected projects

- (1) JSPS, Grants-in-Aid for Challenging Exploratory Research, Exploration of novel N₂O-reducing bacteria, PI (April 2016-March 2018)
- (2) JSPS, Grants-in-Aid for Scientific Research for Young Scientists (A), Identification of N₂O emission pathways by ammonia-oxidizing bacteria, PI (April 2014-March 2017)
- (3) JSPS, Grants-in-Aid for Challenging Exploratory Research, Enrichment and isolation of N₂O-reducing bacteria (April 2014-March 2017)
- (4) Japan Science and Technology (JST), Adaptable and Seamless Technology transfer Program through target-driven R&D, Surface functionalization of filtration membrane for biofilm mitigation, PI (November 2012-October 2013)
- (5) New Energy and Industrial Technology Development Organization, Industrial Technology Research for Young Researchers, Cost-effective nitrogen removing bioreactor system, PI (October 2011-September 2015)
- (6) JST, Adaptable and Seamless Technology transfer Program through target-driven R&D, Anti-biofilm material, PI (October 2010-March 2011)
- (7) The Ministry of the Environment, The Environment Research and Technology Development Fund, Elucidating bacteria in rhizosphere of rice paddies contributing to nitrogen removal, PI (April 2010-March 2013)

Editorial Board

Microbial Biotechnology, Clean Technologies and Environmental Policy, Journal of Bioscience and Bioengineering Open Water Journal, Sustainable Environment Research

Supervision of postdocs and PhD students

Supervisor/Co-supervisor 2 completed Postdoc projects and 1 completed PhD project. 4 Ph.D. (main-supervision) and 2 Ph.D. (co-supervision) students currently

(as of 2017 1st of April)