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First Name: **Frank** Last Name: **Löffler**

Title: **Governor's Chair Professor**

Institution: **University of Tennessee & Oak Ridge National Laboratory**

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Education:

PhD: **University of Hohenheim/Technical University Hamburg-Harburg, 1994** MS: **University of Hohenheim, 1989** BS: **University of Hohenheim, 1986**

General Areas of Expertise:

Environmental Microbiology, biogeochemistry, bioremediation

Short Bio:

After performing doctoral studies in Technical Biochemistry at the Technical University Hamburg-Harburg, Dr. Frank Löffler was awarded a Feodor-Lynen fellowship from the Alexander von Humboldt-Foundation to conduct research in the Center for Microbial Ecology at Michigan State University. In 1999, he accepted a tenure-track faculty position at the Georgia Institute of Technology and was promoted to associate professor with tenure in 2004 and full professor in 2010. Since 2010, Dr. Löffler serves as a Governor's Chair Professor at The University of Tennessee and Oak Ridge National Laboratory.

Environmental microbiology research in the Löffler group explores the physiology, diversity, distribution, and ecology of microbes with the ultimate goal to assess, predict, and manipulate their functions in natural and managed habitats. Current focal areas include microbial and geochemical processes that control nutrient cycling, contaminant detoxification, and greenhouse gas emissions. He leads interdisciplinary teams that contribute new scientific discoveries and provide engineering solutions for tackling current and future grand challenges that impact human and environmental health. The basic premise of his research revolves around the idea that nature provides a blueprint for solutions to cope with anthropogenic perturbations. For example, research in his laboratory contributed to the discovery of organohalide-respiring bacteria, which play crucial roles for the turnover of naturally occurring organohalogens and in bioremediation.

Five Representative Publications:

Yan, J., M. Bi, A.K. Bourdon, A.T. Farmer, P.-H. Wang, O. Molenda, A. Quaile, Y. Yang, Y. Yin, B. Şimşir, S.R. Campagna, E.A. Edwards, and F.E. Löffler. 2017. Purinyl-cobamide, a novel native prosthetic group of reductive dehalogenases. Nat. Cem. Biol. | doi:10.1038/nchembio.2512.

Yang, Y., S.A. Higgins, J. Yan, B. Şimşir, K. Chourey, R. Lyer, R.L. Hettich, B. Baldwin, D.M. Ogles, and F.E. Löffler. 2017. Grape pomace compost harbors organohalide-respiring Dehalogenimonas species with novel reductive dehalogenase genes. ISME Journal. | doi: 10.1038/ismej.2017.127

Hallin, S., L. Philippot, F.E. Löffler, R.A. Sanford, and C.M. Jones. 2017. Genomics and ecology of novel N2O reducing microorganisms. Trends Microbiol. | doi: 10.1016/j.tim.2017.07.003

Adrian, L. and F.E. Löffler (Eds). Organohalide Respiration. 2016. Springer-Verlag, Berlin Heidelberg. ISBN 978-3-662-49873-6. | doi: 10.1007/978-3-662-49875-0 http://link.springer.com/book/10.1007/978-3-662-49875-0

Im, J., and F.E. Löffler. 2016. Fate of Bisphenol A in terrestrial and aquatic environments. Environ. Sci. Technol. 50:8403-8416 | doi: 10.1021/acs.est.6b00877

Sanford, R. A., D. D. Wagner, Q. Wu, J. C. Chee-Sanford, S. H. Thomas, C. Cruz-García, G. Rodríguez, A. Massol-Deyá, K. K. Krishnani, K. M. Ritalahti, S. Nissen, K. T. Konstantinidis, and F. E. Löffler. 2012. Unexpected non-denitrifier nitrous oxide reductase gene diversity and abundance in soils. Proc. Natl. Acad. Sci. USA. 109:19709-19714. | doi: 10.1073/pnas.1211238109

FEWSTERN Symposium 2017 Presentation Title and Abstract: