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Introduction to MIC research in Japan

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Recently, some Japanese researchers reported novel iron-corrosive microorganisms such as iron-corrosive methanogens (Mori et al. 2010, Uchiyama et al. 2011), an iron-corrosive nitrate reducing bacterium (Iino et al. 2015), iron-corrosive acetogen (Kato et al. 2015), and iodide-oxidizing bacterium (Wakai et al. 2014), and their corrosive mechanisms. Most recently, some Japanese microbiologists have studied in the view point of electrochemical-active microorganisms. On the other hands, many academic scientists have not collaborated with corporate researchers and engineers. To resolve MIC issues, we should collaborate beyond the boundaries between academic researchers and engineers. Now, I and coworkers involving company researchers and engineers have proceeded researches on corrosion in natural and artificial environments. I introduced overview of MIC researches in Japan and my research such as diagnosis of MIC based on combination of cultivation and microbial community analysis.

Dr. Satoshi Wakai

- He has a PhD in Microbiology from Okayama University. He worked in National Institute of Technology and Evaluation (NITE) as research staff in 2005-2009, Hiroshima University as research staff in 2009-2012, and then Kobe University as assistant Prof and associate Prof in 2013-2019. After that, he joined Japan Agency for Marine-Earth Science and Technology as scientist.
- Current research interests are development of diagnosis and anticorrosive method for MIC, metatranscriptomic analysis of corrosive behavior, biotechnological application of electrochemical active microorganisms.
- He published over 60 original and review papers in the field of microbiology, and has won some awards; JSBBA (Japan Society for Bioscience, Biotechnology, and Agrochemistry) Award for Young Scientists in 2018, JSCE (Japan Society of Corrosion Engineering) Award for Young Scientists in 2017, JSE (Japanese Society for Extremophiles) Award for Young Scientists in 2014, and so on.