



Mohammad Sufian Bin Hudari

Microbiology, Biotechnology, Environmental Sciences

Singaporean citizen, resident of France

Education and Academic Experience

- Feb 2018 – ... **Research Assistant and PhD Candidate**, *Helmholtz Centre for Environmental Research - UFZ, Leipzig, Germany*
Biogeochemical effects of temperature changes on microbial communities and groundwater contaminations. Supervised by Dr. Carsten Vogt. Graduation expected 2024.
- Sep 2016 – **Erasmus Mundus Master's Chemical Innovation and Regulation, 2nd year (M. Sc. awarded with distinction)**, *Heriot-Watt University, Edinburgh, UK*
Sep 2017 **Top grade: A. 60 ECTS of research project: Investigating hydrocarbon-degrading bacteria associated with marine phytoplankton using DNA-based Stable Isotope Probing. Supervised by Prof. Tony Gutierrez.**
- Sep 2015 – **Erasmus Mundus Master's Chemical Innovation and Regulation, 1st year**, *University of Bologna, Italy*
Jul 2016 **Grade: 86/100. 60 ECTS of coursework, Environment study path.**
- Jul 2008 – **Bachelor of Science (2nd Upper Honors)**, *Nanyang Technological University, Singapore*
May 2012 **Grade: 4.02/5. Majors: Chemistry & Biological Chemistry** (elective courses in Forensics Science, Analytical Chemistry, Medicinal Chemistry, and Quantum Chemistry)

Further experience in Biotech & Environmental Sciences

- Sep 2017 – **Research assistant**, *Heriot-Watt University, Edinburgh, United Kingdom*
Dec 2017 *RealRiskNano project*
- Jun 2012 – **Research engineer**, *A*STAR Institute of Chemical and Engineering Sciences, Singapore*
Jul 2015 *Department of Industrial Biotechnology*
- Optimized the tolerance level of *Thermoanaerobacterium thermosaccharolyticum* NTU-7-30-1 in glucose and ethanol for future mutation experiments
 - Explored protocols to improve transformation efficiency in *Bacillus coagulans* and *Thermoanaerobacterium thermosaccharolyticum* in, respectively, D-lactic acid and ethanol production
 - Investigated effects of protoplast fusion of two mutants tolerant of higher concentration of, respectively, phenol and furfural, so as to ensure survival in both mediums
 - Supervised three batches of interns from Polytechnics and University for their final-year industrial project
 - Safety coordinator for a lab with 50 L fermenter, high-performance liquid chromatography machines (HPLC), and Parr reactors
- Jan 2012 – **Research intern**, *A*STAR Institute of Chemical and Engineering Sciences, Singapore*
Jun 2012 *Department of Industrial Biotechnology*
- Jun 2011 – **Research intern**, *Nanyang Technological University, Singapore, 10 weeks*
Aug 2011 *Chemical and Biological Chemistry Division*
10 week summer research under Assistant Professor Zhang Dawei

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Publications

Md Sufian Bin Hudari, Hans H. Richnow, and Carsten Vogt. **Sulfidic acetate mineralization at 45°C by an aquifer microbial community: Key players and effects of heat changes on activity and community structure.** *Environmental Microbiology*, 24(1):370–389, January 2022.

Md Sufian Bin Hudari, Hans H. Richnow, Carsten Vogt, and Iivonne Nijenhuis. **Effects of temperature on microbial dehalogenation of organohalides: A review.** *FEMS Microbiology Ecology*, 98(9):fiac081, September 2022.

Md Sufian Bin Hudari, Carsten Vogt, and Hans H. Richnow. **Effect of temperature on acetate mineralization kinetics and microbial community composition in a hydrocarbon-affected microbial community during a shift from oxic to sulfidogenic conditions.** *Frontiers in Microbiology*, 11:3183, 2020.

Shixiang Dai, Falk Harnisch, Md Sufian Bin Hudari, Nina Sophie Keller, Carsten Vogt, and Benjamin Korth. **Improving the performance of bioelectrochemical sulfate removal by applying flow mode.** *Microbial Biotechnology*, 16(3):595–604, 2023.

Qingxin Li, Md Sufian Bin Hudari, and Jin Chuan Wu. **Production of optically pure D-lactic acid by the combined use of *Weissella* sp. S26 and *Bacillus* sp. ADS3.** *Applied Biochemistry and Biotechnology*, 178(2):285–293, 2016.

Stephen Summers, Md Sufian Bin Hudari, Clayton Magill, Theodore Henry, and Tony Gutierrez. **Identification of the bacterial community that degrades phenanthrene sorbed to polystyrene nanoplastics using DNA-based stable isotope probing.** *Scientific Reports*, 14(5229), 2024.

Jerome Undiandeye, Daniela Gallegos, Maria L. Bonatelli, Sabine Kleinstaub, Mohammad Sufian Bin Hudari, Nafi'u Abdulkadir, Walter Stinner, and Heike Sträuber. **Medium-chain carboxylates production from plant waste: kinetic study and effect of an enriched microbiome.** *Biotechnology for Biofuels and Bioproducts*, 17(1):79, 2024.

Lidan Ye, Md Sufian Bin Hudari, Zhi Li, and Jin Chuan Wu. **Simultaneous detoxification, saccharification and co-fermentation of oil palm empty fruit bunch hydrolysate for L-lactic acid production by *Bacillus coagulans* J12.** *Biochemical Engineering J.*, 83:16–21, 2014.

Lidan Ye, Md Sufian Bin Hudari, Xingding Zhou, Dongxu Zhang, Zhi Li, and Jin Chuan Wu. **Conversion of acid hydrolysate of oil palm empty fruit bunch to L-lactic acid by newly isolated *Bacillus coagulans* J12.** *Appl. Microbiol. Biotechnol.*, 97(11):4831–4838, Jun 2013.

Lidan Ye, Xingding Zhou, Md Sufian Bin Hudari, Zhi Li, and Jin Chuan Wu. **Highly efficient production of L-lactic acid from xylose by newly isolated *Bacillus coagulans* C106.** *Bioresour. Technol.*, 132:38–44, Mar 2013.

Conference Presentations and Posters

- Sep. 2021 **Effects of temperature on trichloroethene dechlorination potential, methanogenesis, and microbial community in contaminated sediment,** M. S. Bin Hudari, S. Deb, A. Gargini, M. Filippini, H. H. Richnow, C. Vogt, I. Nijenhuis, **DehaloCon III 2021**, Rome, Italy (virtual)
Oral presentation.

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- Mar. 2020 **Biogeochemical effects of temperature changes on microbial communities and groundwater contaminations**, M. S. Bin Hudari, C. Vogt, H. H. Richnow, **Joint Conference of the DGHM & VAAM 2020**, Leipzig, Germany
Oral presentation.
- Jul. 2019 **Biogeochemical effects of temperature changes on microbial communities and groundwater contaminations**, M. S. Bin Hudari, C. Vogt, H. H. Richnow, **FEMS 2019**, Glasgow, United Kingdom
Poster.
- May 2019 **Biogeochemical effects of temperature changes on microbial communities and groundwater contaminations**, M. S. Bin Hudari, C. Vogt, H. H. Richnow, **TransCon 2019**, Monte Verità, Switzerland
Poster and Poster pitch.
- Aug. 2018 **Biogeochemical effects of temperature changes on microbial communities and groundwater contaminations**, M. S. Bin Hudari, C. Vogt, H. H. Richnow, **ISME17 2018**, Leipzig, Germany
Poster.

Awards

- 2015 Erasmus Mundus scholarship for studies in Europe (two-year scholarship)

Skills

Laboratory skills

- Anaerobic culture preparations, Cline reaction assay for sulfide measurement
- MiSeq library preparation for sequencing
- QIIME2 workflows
- DNA extraction
- DNA-based stable isotope probing
- Denaturing Gradient Gel Electrophoresis
- High-Performance Liquid Chromatography
- Gas chromatography isotope ratio mass spectrometry
- Biostat bioreactor
- Parr reactor

Languages

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|---------|--|---------|-----------------------------------|
| English | Fluent writer and speaker (all education was received in English; IELTS Academic July 2016, score 8.0/9.0; TOEFL iBT November 2014, score 102/120) | | |
| Malay | Mother tongue | French | B1 level (Intermediate) |
| German | A1 level (Beginner) | Italian | A1 level (Beginner, intro course) |
| Chinese | A1 level (Beginner, NTU course) | | |

Other professional experience

- Jun 2010 – Jul 2010 **Temporary call centre operator for Census of population 2010**, Ministry of Trade and Industry, Singapore
- Sep 2007 – Jun 2008 **Temporary admin-assistant & event-coordinator**, A*STAR Genome Institute, Singapore

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Sep 2005 – **Military policeman**, *Singapore Armed Forces*, Singapore
Sep 2007

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References

- Dr. Carsten Vogt, carsten.vogt@ufz.de
Senior scientist, Department of Isotope Biogeochemistry, Helmholtz Centre for Environmental Research - UFZ, Leipzig, Germany
<https://www.ufz.de/index.php?en=39668>
- Prof. Tony Gutierrez, tony.gutierrez@hw.ac.uk
Associate Professor, School of Engineering and Physical Sciences, Heriot-Watt University, Edinburgh, United Kingdom
<https://www.tony-gutierrez.com/>
- Dr. Ye Lidan, yelidan@zju.edu.cn
Associate Professor, Chemical & Biological Engineering, Zhejiang University, Hangzhou, China
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