CURRICULUM VITAE

Mr. THONG NGUYEN TAN

Environmental Engineer | Ph.D. in Engineering and Technology

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I. RESEARCH INTERESTS

- Capacitive deionization: development of advanced CDI/MCDI architectures and membrane-integrated systems for selective removal and recovery of heavy metals from wastewater.
- Waste valorization & resource recovery: sustainable utilization, co-digestion, and resource recovery from household, food, and agro-industrial wastes.
- Environmental technology: conversion of organic waste into value-added products (bio-fertilizers, platform chemicals) and heavy metal recovery from wastewater.
- Advanced materials: synthesis of nanomaterials and biochar (e.g., from agricultural waste) for environmental remediation and water purification.

II. EDUCATIONAL QUALIFICATIONS

- Doctor of Philosophy in Engineering and Technology

  Graduation Date: December 2024

  Institution: Sirindhorn International Institute of Technology, Thammasat University, Thailand

  Thesis Title: Developing Different Architectures of Capacitive Deionization for Enhanced Removal of Heavy Metals from Wastewater

- Master of Engineering in Environmental Engineering

  Graduation Date: April 2018

  Institution: HCMC University of Technology, Vietnam National University HCMC, Vietnam

  Thesis Title: The Application of Anaerobic Membrane Bioreactors for the Co-Treatment of Household Organic Waste and Sewage

- Bachelor of Engineering in Environmental Engineering

  Graduation Date: November 2014

  Institution: HCMC University of Technology, Vietnam National University HCMC, Vietnam

III. PROFESSIONAL EXPERIENCE

1. Work Experience

- Faculty Member | August 2026 – Present

  Faculty of Environment and Labour Safety, Ton Duc Thang University, Vietnam

- Faculty Member / Researcher | January 2025 – July 2026

  Institute for Sustainable Development Studies, HCMC University of Natural Resources and Environment, Vietnam

- Junior Researcher | September 2019 – July 2021

  Institute for Sustainable Development Studies, HCMC University of Natural Resources and Environment, Vietnam

- Faculty Member | August 2018 – August 2019

  Faculty of Natural Resources - Environment, Kien Giang University, Vietnam

- Quality, Health, Safety & Environment (HSE) Staff | October 2014 – September 2015

  Mitsuba Vietnam Co., Ltd., Dong Nai, Vietnam

2. Practical Training/Exchange Program

- 2024: Completed the training course "Guidelines for Biosafety Practices: The Basic Course" organized by Thammasat University, Thailand (August 2024; Certificate valid through August 2027).
- 2023: Participated in the "Sakura Science Exchange Program" administered by the Japan Science and Technology Agency at the Center for Membrane and Film Technology, Kobe University, Japan (January 22 - 28, 2023).
- 2021: Participated in the Summer School 2021 training program "Environment and Sustainable Development" organized by Okayama University (Japan) and Nong Lam University (Vietnam) at the Faculty of Environment and Natural Resources, Nong Lam University, Vietnam (March 8 - 15, 2021).

IV. PUBLICATIONS

1. International Journal Articles

2026 : Rai, S., ***Tan, T.N.***, Tanboonchuy, V., Tulaphol, S., Damrongsiri, S., Chanpiwat, P., Minh, D.P., Vincent, O., Grisdanurak, N., Assawadithalerd, M. and Khamdahsag, P.*, (2026). "*Sustainable utilization of citrus peel waste: Biochar production, modification, and applications*". **Cleaner Waste Systems**, 13, 100450, https://doi.org/10.1016/j.clwas.2025.100450

2025 : ***Tan, T. N.***, & Babel, S. (2025)*. "*Grafting nanostructures of metal oxides onto activated carbon fiber felt for enhanced removal of divalent ions in capacitive deionization*". **Journal of Environmental Chemical Engineering,** 13, 118787, https://doi.org/10.1016/j.jece.2025.118787

2025 : ***Tan, T. N.***, & Babel, S. (2025)*. "*Integrating MnO2 nanostructures into activated carbon fiber felt for enhanced chromium ions removal in capacitive deionization*". **Process Safety and Environmental Protection**, 197, 106970. https://doi.org/10.1016/j.psep.2025.106970

2024 : ***Tan, T. N.***, Patcharanuruksakorn, A., Kerdchouay, A., Bunraksa, P., & Babel, S.* (2024). "*Enhancing copper removal through integrated capacitive deionization with heterogeneous cation exchange membrane*". **Suranaree Journal of Science and Technology**, *31*(2), p.030185. https://doi.org/10.55766/sujst-2024-02-e04938

2024 : ***Tan, T. N.***, Babel, S., Bora, T., Sreearunothai, P., & Laohhasurayotin, K. (2024)*. "*Preparation of heterogeneous cation exchange membrane and its contributions in enhancing the removal of Ni2+ by capacitive deionization system*". ***Chemosphere***, *350*, 141115. https://doi.org/10.1016/j.chemosphere.2024.141115

2023 : ***Tan, T. N.***, & Babel, S.* (2023). "*Unravelling the key contribution of a modified zinc oxide nanostructures on activated carbon cloth material for removal of Cu2+ in different configurations of capacitive deionization system*". ***Journal of Water Process Engineering***, *56*, 104268. https://doi.org/10.1016/j.jwpe.2023.104268

2. International Conferences

2024 : Ta, A.T.*, Promchan, N. and ***Tan, T. N.*** "*Plant-Based Solutions to Air Pollution in Bangkok: The Role of Urban Green Spaces*". In Proceeding of the ***5th Environment and Natural Resources International Conference (ENRIC 2024): Net Zero Now: Action for a Sustainable World***, held on November 14 - 15, 2024 at Bangkok, Thailand.

2023 : ***Tan, T. N.***, Patcharanuruksakorn, A., Kerdchouay, A., Bunraksa, P., & Babel, S*. "*Enhancing copper removal through integrated capacitive deionization with heterogeneous cation exchange membrane*". In Proceedings of the ***15th International Conference on Membrane Science and Technology 2023: Membrane for Bio-Circular-Green Economy***, held on September 7 – 8, 2023 at Phuket, Thailand

2017 : Ha, B.H., ***Tan, T. N.***, Son, T.M., Phuong, N.T.B., Y, N.T.N., Ludo Diels, Heleen De Wever, Dan, N.P.*. "*Co-digestion of household organic solid waste with sewage using Anaerobic Membrane Bioreactor"*. In Proceedings of the ***10th Annual Conference on the Challenges in Environmental Science and Engineering (CESE 2017)***, held on November 11 – 15, 2017, Kunming, China.

2017 : ***Tan, T. N.,*** Ha, B.H., Son, T.M., Phuong, T.H.C., Tan, L.V. Anh, H.M., Hang, V.T., Dan, N.P.*. "*Co-anaerobic treatment of urban biodegradable organic waste and sewage using anaerobic membrane bioreactor (AnMBR)".* In Proceedings of the ***5th International Symposium on Environmental Analytical Chemistry (ISEAC 5 – ASIA)***, held on May 16 – 20, 2017, Ho Chi Minh City, Viet Nam.

3. Book Chapters

2026 : Nivedita Panda, Rangabhatla Saishree, B. Anjan Kumar Prusty, Aishwarya Sharma, Angel Rodriguez, Sunanda Kodikara Arachchi, ***Thong Nguyen Tan***. Chapter 2: "*Food and agro-industrial wastes: environmental impacts and potential avenues for value addition*" in **Food and Agro-Industrial Wastes: Sustainable Impacts, Transformation and Added Value of By-products**. Academic Press, 2026. Pages 17 – 31. https://doi.org/10.1016/B978-0-443-31654-8.00012-6

2026 : Anh Tuan Ta, ***Thong Nguyen Tan***, Tran Tuyet Suong, Tran Vinh Thien. Chapter 14: "*Platform chemicals from food and agro-industrial wastes*" in **Food and Agro-Industrial Wastes: Sustainable Impacts, Transformation and Added Value of By-products**. Academic Press, 2026. Pages 215 – 224. https://doi.org/10.1016/B978-0-443-31654-8.00005-9

2026 : Thai Phuong Vu, Thien Duc Do, ***Thong Nguyen Tan***. Chapter 26: "*Case study on bio-based fertilizers derived from food and agro-industrial wastes*" in **Food and Agro-Industrial Wastes: Sustainable Impacts, Transformation and Added Value of By-products**. Academic Press, 2026. Pages 369 – 398. https://doi.org/10.1016/B978-0-443-31654-8.00029-1

2025 : Rakesh Choudhary; Laxmi Kant Bharadwaj; ***Thong Nguyen Tan***; Moharana Choudhury; Deepak Sharma; Prangya Rath; Viola Vambol; Sergij Vambol; Sushobhan Majumdar; Ajay Kumar; Kassian T. T. Amesho. Chapter 3: "*Spatial Intelligence Integration in Smart Wastewater Systems: Advancing Efficiency and Sustainability in Urban Sewer Networks*" in **Smart Wastewater Systems and Climate Change: Innovations Through Spatial Intelligence**. Royal Society of Chemistry, 2025. Pages 28 – 41. https://doi.org/10.1039/9781837676880-00028

2025 : ***T. Nguyen Tan***, A. T. Ta, N. D. T. Chi. Chapter 18: "*Closing the Circle: Advancements in Water Reuse and Integrated Wastewater Management for Sustainable Urban Environments*" in **Smart Wastewater Systems and Climate Change: Innovations Through Spatial Intelligence**. Royal Society of Chemistry, 2025. Pages 257 – 271. https://doi.org/10.1039/9781837676880-00257

2025 : ***Thong Nguyen Tan***, Palas Samanta, Moharana Choudhury, Kaleeswari Kalimuthu, Subhankar Dhar, and Janitha Kularajasingam. Chapter 2: "*Environmental Degradation of Plastics: Understanding the Mechanisms*" in **Micro-Nano Plastics Exposure, Environmental Degradation and Public Health Crisis: Perspectives and Concerns for Sustainable Development**. Springer Nature Singapore, 2025. Pages 17 – 26. https://doi.org/10.1007/978-981-96-5047-7_2

2024 : Biec Nhu Ha, ***Thong Nguyen Tan***. Chapter 8: "*Integration of bioremediation and physico-chemical methods for wastewater treatment and resource recovery*" in **Biotechnologies for Wastewater Treatment and Resource Recovery**. Elsevier, 2024, Pages 109 – 122. https://doi.org/10.1016/B978-0-443-27376-6.00002-5

V. PROJECTS MANAGED

2025 : Synthesis of ZnO nanorods on activated carbon fiber felt and its application for heavy metal removal via capacitive deionization.

Role: Project PI

Funding Agency: Ho Chi Minh City University of Natural Resources and Environment, Vietnam

Status: Completed

2025 - 2026 : Development of low-cost Zirconium-modified biochar for arsenic removal: a groundwater remediation study in the Mekong Delta, Vietnam.

Role: Project PI

Funding Agency: The University of Sydney Vietnam Institute, Vietnam

Status: Ongoing

2025 - 2028 : Nghiên cứu chế tạo vật liệu xúc tác dựa trên chấm lượng tử không chiều B, N-doped MXenes cho quá trình điện phân nước. (ID: 14129)

Role: Key research member

Funding Agency: National Foundation for Science and Technology Development (NAFOSTED), Vietnam

Status: Ongoing

2025 - : Nghiên cứu chế tạo điện cực PtM (M = Cu, W)/Ir-doped CeO2@C với hàm lượng kim loại quý platium

2028 (Pt) thấp cho pin nhiên liệu sử dụng axit formic trực tiếp. (ID: 12854)

Role: Key research member

Funding Agency: National Foundation for Science and Technology Development (NAFOSTED), Vietnam

Status: Ongoing

VI. AWARDS & ACHIEVEMENTS

2026 : Best Dissertation Award 2024 in Science and Technology

2022 - 2024 : Doctoral Research Scholarship, Thammasat University, Thailand.

2021 - 2024 : Excellent Foreign Students (EFS) Scholarship, Sirindhorn International Institute of Technology, Thailand.

2017 - 2018 : Young Talent Research Grant under the program “Towards Water Security”.

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