

Thilina Rajeendre K., PhD

EDUCATION

Doctor of Philosophy (PhD) Engineering & Technology Thammasat University, Thailand	2025
Master of Science (MSc) Engineering & Technology (Chemical Engineering) Thammasat University, Thailand	2020
Bachelor of Science (BSc) in Biotechnology University of Mysore, India	2015

RELEVANT SKILLS


Research & Laboratory Skills	Digital & Technical Skills
<ul style="list-style-type: none">Wet lab techniques, DoE & formulationHydrothermal / microwave synthesisIR & UV-Vis spectroscopyX-ray crystallographyThermogravimetric analysis (TGA)Hands-on electron microscopyCross-functional scientific collaboration	<ul style="list-style-type: none">Data visualization - Excel, Power BIIntegrated sensor data logging (IoT)Reactor design & prototypingCAD modeling - FreeCAD, Shapr3D3D printing & rapid prototypingWeb design - WordPress, HTMLPython - Pandas, Matplotlib, OpenCV
Other Skills	
<ul style="list-style-type: none">Cognitive skills: Critical and Analytical thinking, Problem-solving, quick decision-makingCommunication skills: Scientific Writing, Public Speaking, Teaching, Scientific Illustrations, Bridging clients and R&DProfessional attributes: Team player, Leadership skills (<i>Founding members - Thammasat International Club (TIC)</i>)Languages: English (IELTS, TOEFL iBT Equivalent TUGET- 100)	

AWARDS

Best Young Scientist Oral Presentation Award - International Conference on Resource Sustainability (iCRS) Title: <i>Facile synthesis of Fe:Co bimetallic metal organic framework (MOF) for highly selective CO₂ capture</i>	2024
Best oral presentation award - MRS Thailand International Conference Title: <i>Synthesis and Characterizations of MXene/Magnetic Nanoparticles Composite Loaded Porous PLGA Microspheres</i>	2019
Full scholarships for Undergraduate, Master's Degree, and Doctoral Degree	

SELECTED SCIENTIFIC PUBLICATIONS

- Katugampalage, T. R., Waribam, P., Opaprakasit, P., Kaewsaneha, C., Hsu, S. H., Chooaksorn, W., ... & Sreearunothai, P. (2024). **Bimetallic Fe: Co metal-organic framework (MOF) with unsaturated metal sites for efficient Fenton-like catalytic degradation of oxytetracycline (OTC) antibiotics.** Chemical Engineering Journal. [🔗](#)
- Katugampalage, T. R., Waribam, P., Ratanatawanate, C., Shahid, M., Opaprakasit, P., Chooaksorn, W., & Sreearunothai, P. (2025). **Rapid Microwave-Assisted Synthesis of Fe/Co Bimetallic Metal-Organic Frameworks and Evaluating the Role of Coordinatively Unsaturated Sites for Selective CO₂ Capture.** Trends in Sciences. [🔗](#)
- Waribam, P., Katugampalage, T. R., Ogawa, M., Opaprakasit, P., Chooaksorn, W., Sooksaen, P., ... & Sreearunothai, P. (2025). **Magnetic Metal-Organic Frameworks (MOFs) from Waste: A Solvent-Free Rapid Synthesis of Green Catalyst for Environmental Cleanup.** ACS Sustainable Chemistry & Engineering. [🔗](#)
- Katugampalage TR, Ratanatawanate C, Opaprakasit P, et al. **A smart magnetically separable MIL-53(Al) MOF-coated nano-adsorbent for antibiotic pollutant removal with rapid and non-contact inductive heat regeneration.** Chemical Engineering Journal Advances. [🔗](#)

5. Waribam, P., Katugampalage, T. R., Opaprakasit, P., Ratanatawanate, C., Chooaksorn, W., Wang, L. P., ... & Sreearunothai, P. (2023). **Upcycling plastic waste: Rapid aqueous depolymerization of PET and simultaneous growth of highly defective UiO-66 metal-organic framework with enhanced CO₂ capture via one-pot synthesis**. Chemical Engineering Journal. 

PATENTS

1. Jong, C.-A., Siriawatwechakul, W., Hsu, S.-H., Cheng, Y.-F., Sreearunothai, P. and Katugampalage, T.R. (2022). **Nucleic acid detection chip and the method and detection equipment using the same**.
<https://patents.google.com/patent/US20240011079A1/en>

PROFESSIONAL WORK EXPERIENCE

- **Graduated Teaching Assistant (Instructor)** - Physics Laboratory (SCS-186) - Thammasat University 2023-2025
- Designed and developed detailed laboratory manuals to support student learning in applied physics.
- **Research Assistant** – Magnetic nanoparticle-based COVID-19 diagnosis - Thammasat University 2020 – 2022
- Synthesis of surface-coated magnetic nanoparticles for DNA/RNA adsorption.
- Training and teaching senior undergraduate students in the synthesis and characterization of nanoparticles.
- **Graduated Teaching Assistant (Instructor)** - Civic Engagement (TU-100) - Thammasat University Jan. – Jun. 2019
- Facilitated project-based learning on topics such as democracy, social responsibility, and civic leadership.
- Guided students through community engagement activities, critical thinking, and real-world problem solving.
- **Graduated Teaching Assistant** - Chemical Eng. Laboratory (CHS 362) - Thammasat University Aug. – Dec. 2019
- Fermentation Lab: HPLC and biosafety training, developing laboratory manuals, and evaluating exams.
- **Brand Executive** - Avon Pharms Chem (Pvt) Ltd, Sri Lanka. 2016 – 2017

HANDS-ON PROJECTS

1. **Automated Fluid Handling Device** – Developed an automated fluid handling system for COVID-19 diagnosis, in collaboration with Taiwan Semiconductor Research Institute (TSRI), microcontroller-based digital control, nanoparticle-based RNA capture, and a Slip-Chip device to reduce diagnosis (US/Taiwan Patent Pending).
2. **Microwave-assisted flow reactor** – Prototyped a continuous flow reactor system for lab-scale material synthesis.
3. **IoT-enabled gas flow reactor** - Fabricated an IoT-enabled gas flow reactor for real-time gas adsorption analysis and CO₂ conversion.
4. **Peristaltic pump and IoT setup for teaching** - Built an Arduino-based peristaltic pump and IoT-enabled lab module for teaching.

CONTACT DETAILS

Full Name: Thilina Rajeendre Katugampalage
Phone: +94789616280
Email: thilina.rajeendre@gmail.com
Address: 121/A/2, 1st Lane, Ranathisara Uyana, Siyambalagoda, Polgasowita, Sri Lanka, 10320
Google Scholar: <https://scholar.google.com/citations?user=aRwgvzEAAAAJ&hl=en>
LinkedIn: <https://www.linkedin.com/in/thilinarajeendre/>

REFERENCES

1. **Dr. Paiboon Sreearunothai**, (Doctoral supervisor)
Associate Professor, Sirindhorn International Institute of Technology, Thammasat University, Thailand.
paiboon@siit.tu.ac.th
2. **Dr. Wanwipa Siriawatwechakul**, Venture Partner - Vectors Capital
Former Assistant Professor, Sirindhorn International Institute of Technology, Thammasat University, Thailand.
wanwipa@vectors.earth, wanwipas@gmail.com
3. **Dr. Shu-Han Hsu**, (Project coordinator and dissertation committee member)
Associate Professor, Sirindhorn International Institute of Technology, Thammasat University, Thailand.
shuhanhsu@siit.tu.ac.th