

CURRICULUM VITAE OF SANDHYA BABEL



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PROFESSIONAL EXPERIENCE

More than 25 years of experience in teaching and research in Environmental Technology and Management. Research areas include water and wastewater treatment, membrane technology, solid waste management, environmental impact assessment, microplastics, adsorption, bioelectrochemical systems, microbial fuel cells, phytoremediation, photocatalysis, utilization of low-cost waste materials.

ACADEMIC QUALIFICATIONS

- D. Tech. Sc. in Environmental Technology and Management, Asian Institute of Technology (AIT), Thailand
- M. Sc. in Environmental Technology and Management, Asian Institute of Technology, Thailand
- M. Sc. in Biochemistry, University of Indore, India
- B. Sc. in Biology/Chemistry, University of Indore, India

AWARDS AND HONORS

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|------|-----------------------------------------------------------------------------------|
| 2023 | Distinguished Alumni Award by Asian Institute of Technology on November 25, 2023. |
| 2023 | Top 2% scientist in the world in the field of environmental science by |

- Stanford university and Elsevier BV for whole career and single year.
- 2023 - SIIT Research Achievement Awards (SIIT)
- Excellent Research Publication Awards (SIIT)
- High Quality Publication Awards in year 2022 [Publications in Top 10% Journal Percentiles by SJR (In top 10% of Scopus Sources) (SIIT)
- 2022 -SIIT Research Achievement Awards (SIIT)
- Excellent Research Publication Awards (SIIT)
- High Quality Publication Awards in year 2021 [Publications in Top 10% Journal Percentiles by SJR (In top 10% of Scopus Sources)]
- 2022 Top 2% scientist in the world in the field of environmental science by Stanford university and Elsevier BV for whole career and for single year
- 2021 - Excellent Research Publication Awards (SIIT)
- Citation Awards (SIIT)
- High Quality Publication Awards in year 2020 (Publications in Top 10% Journal Percentiles) (SIIT)
- Special Recognition (SIIT)
- 2021 Best paper award for paper entitled “Microplastic pollution in green mussels farming area in Si Racha Bay Chonburi province Thailand” at the 8th international symposium on Advances in Civil and Environmental Engineering Practices for Sustainable Development (ACEPS 2021), held on 7th October 2021 at the Faculty of Engineering, University of Ruhuna, Galle, Sri Lanka.
- 2021 Top 2% scientist in the world in the field of environmental science by Stanford university and Elsevier BV for whole career and single year
- 2020 Top 2% scientist in the world in the field of environmental science by Stanford university and Elsevier BV
- 2020 -Excellent Research Publication Awards by SIIT
-High Quality Publication Awards in year 2019 (Publications in Top 10% Journal Percentiles) by SIIT
- 2019 High number of publications with impact factor in Scopus/ISI data base award from Thammasat University Research Center awarded on Researcher day 22 November 2019, Thammasat University
- 2019 -Excellent Research Publication Awards in year 2018 by SIIT
-High Quality Publication Awards in year 2018 (Publications in Top 10% Journal Percentiles) by SIIT
- 2018 -Platinum Publication Achievement Awards by SIIT
- Excellent Research Publication Award in year By SIIT
- 2018 High citation award by Thammasat University Research Center awarded on research day December 6, 2018, Thammasat University
- 2017 Best paper Presentation Award for paper entitled “Influences of Waste to Inoculum Ratios and Temperature on Biogas Generation of Organic Solid Waste from Market” at the 5th International Conference on Environmental Research and Technology, held in Penang, Malaysia, during August 23 - 25, 2017
- 2016 Best paper award in the 6th International Conference on Solid waste management held at Kolkata, India from November 24-26, 2017.
- 2016 Citation Award in year 2013-2015 by SIIT
- 2013 High citation award by Thammasat University Research Center, Thammasat University.
- 2012 Best paper award in XIII RGJ-PhD Congress with Ms. Chayarat

- Tantansarit.
- 2007 Paper citation certificate (highly cited article) by Thomson (Web of Science)
- 1997-99 Awarded scholarship by the Japanese Government for pursuing D. Tech. Sc. (Environmental Technology and Management) studies at the Asian Institute of Technology, Bangkok, Thailand
- 1991-93 Awarded scholarship by the Norwegian Government for pursuing M. Sc. (Environmental Technology and Management) studies at the Asian Institute of Technology, Bangkok, Thailand
- 1979-81 Awarded merit scholarship by the Ministry of Human Resources of the Government of India for pursuing M. Sc. (Biochemistry) studies at the University of Indore, Indore, India
- 1981 Secured first position in order of merit in the University of Indore in Master of Science (Biochemistry) program
- 1979 Secured eighth position in order of merit in the University of Indore in Bachelor of Science degree amongst about one thousand students

TRAINING/WORKSHOP/SHORT COURSES ATTENDED

- 2010 Attended and participated in the summer course “Water and wastewater treatment technologies” held at Tubitak, Gebze, Kocaeli, Turkey from October 19 to 23, 2010.
- 2009 Attended and participated in course “Environmental analysis and Green Chemistry” organized by National Tsing Hua University, Taiwan from August 31 to September 5, 2009.
- 2001 Attended a seminar on “Environmental Technology and Management for Thai Industries” held at BITEC, Bangkok on May 18, 2001.
- 2001 Attended a National seminar on “Isotope Application in Hydrology” organized by “Office of Atomic Energy For Peace” held at AIT, Bangkok on April 9, 2001.
- 1997 Participated in an International Conference and Exhibition on Pollution Prevention and Control “*Pollution Control 97*” held at Bangkok from Nov 12-16.
- 1996 Participated in Asian Workshop on “Communication and Education Strategies for Ministries of Environment and Potential Partners” organized by IUCN at AIT, Bangkok from July 17-19.
- 1995 Attended a Workshop on “Industrial and Hazardous Waste Management for Asian Countries” organized by AIT at Rama Garden Hotel, Bangkok from November 27-28.
- 1994 Satisfactorily completed a ten days training course on “Environment Awareness” organized by CEC of AIT, Bangkok from April 20-29.

EMPLOYMENT AND EXPERIENCE

- June 2017 - present **Professor** in School of Bio-chemical Engineering and Technology of Sirindhorn International Institute of Technology (SIIT), Thammasat University, Thailand. Duties and responsibilities assigned included teaching undergraduate and graduate courses, supervision of student research projects and theses, conducting sponsored research projects and community services.

27 May 2019 – 26 May 2020	Visiting Professor , Ton Duc Thang University, Ho Chi Minh City, Vietnam
20 Nov 2018 - present	Distinguished Adjunct Professor , Asian Institute of Technology, Thailand
1 Dec 2012 - 31 Mar 2013	Visiting Professor at Kyoto University, Kyoto, Japan. Activities included delivering special seminars to students of Global Survivability Studies (GSS) program and also involved in other activities.
Since 2004	Affiliated faculty , Joint Graduate School of Energy and Environment, KMUTT, Thailand
Dec 2004 – May 2017	Associate Professor in School of Bio-chemical Engineering and Technology of Sirindhorn International Institute of Technology (SIIT), Thammasat University, Thailand. Duties and responsibilities assigned included teaching undergraduate and graduate courses, supervision of student research projects and theses, conducting sponsored research projects and community services.
Dec 2000 - Nov 2004	Assistant Professor in Environmental Technology Program of SIIT, Thailand. Duties and responsibilities assigned included teaching undergraduate and graduate courses, supervision of student research projects and theses, conducting sponsored research projects and community services.
Jan 2000 - Nov 2000	Research Scientist (Post Doc Fellow) in the Environmental Engineering Program of SERD at AIT, Bangkok. Worked on a research project entitled “Isolation of Copper Removing Bacteria from Activated Sludge Culture”.
May 1997 - Dec 1999	Doctoral Student in the Environmental Engineering Program of SERD of AIT, Bangkok. Completed coursework requirement and carried out research for dissertation on “Membrane Fouling due to Algal Attachment in Water Treatment Processes”.
Sep 1995 - Apr 1997	Research Associate-cum-Doctoral Candidate in the Environmental Engineering Program of SERD at AIT, Bangkok. Independently handled a capacity building project on “ Environmental Awareness ” funded under the Sida/AIT Environmental Program. Activities of the project included the demonstration of various measures on AIT campus to raise the environmental awareness among AITians, including waste recycling on campus and development of videos on environmentally sound practices and research projects carried out at AIT and on the AIT Nature. Duties and responsibilities also included the preparation of budget and quarterly and annual progress reports. In addition, pursued studies as an employee student for a doctoral degree.
Jan 1994 - Aug 1995	Research Associate in the Environmental Engineering Program of SERD of AIT, Bangkok. Independently handled a capacity building project on “Environmental Awareness” funded under the SIDA/AIT Environmental Program. Activities of the project and other duties and responsibilities were same as given above.
May 1993 - Dec 1993	Research Associate in the Water Resources Engineering Program of SCE of AIT, Bangkok. Involved in the analysis of water quality

May 1991 - Aug 1991	data and the environmental impact assessment of water resources projects in a project on “Study of Potential Development of Water Resources in the Mae Khong River Basin” for NESDB, Thailand. Research Associate in the Environmental Engineering Program of AIT, Bangkok. Involved in a project on treatment of industrial wastewater. Duties included laboratory analysis for physicochemical properties of wastewater and treated water.
1982-1990	Assistant Professor of Biochemistry at the Govt. Girls Post Graduate College, Indore, India. Duties and responsibilities assigned included teaching undergraduate and graduate courses and supervision of student research projects and theses.

AREAS OF INTEREST

Microplastics; Microbial Fuel Cells; Phytoremediation; Adsorption; Bio-hydrogen production; Nutrient Dynamics; Life cycle assessment; Membrane technology; GHG emission from solid waste; Photo-catalyst; Sanitation systems; and Emerging pollutants such as nano-waste.

LANGUAGES AND DEGREE OF PROFICIENCY

Language	Speaking	Reading	Writing
English	Excellent	Excellent	Excellent
Hindi	Excellent	Excellent	Excellent
Thai	Basic	-	-

RESOURCE PERSON IN TRAINING PROGRAMS/CONFERENCES

2024	Keynote speaker for PACCON 2024 held at BITEC, Thailand from Jan 26-27, 2024.
2023	Invited speaker and panelist (special session on microplastics) for IWA Sustainable Natural and Engineered Systems Management (SWSM2023) held on December 13-16, 2023 at Chulalongkorn University, Thailand.
2023	Invited speaker at Chulalongkorn University (Mako sensei)
2023	Invited speaker at International Conference on Connecting the Dots on Circular Economy for Sustainable Development held on 8-10 November 2023 organized by Ecosystem Research and Development Bureau, Manila, Philippines.
2023	Plenary speaker at The 4th International Conference on Environmental Technology and Innovations (ICETI 2023) to be held at Ton Duc Thang University, Ho chi Minh city, Vietnam on Nov 29-30, 2023.
2023	Invited speaker at International symposium on sustainable waste management (ISSWM 2023) held at Kolkata, India on Sep 22-23, 2023.
2023	Invited speaker at Membrane for Bio-Circular-Green Economy (BGC Economy) MST 2023 held at Duangjitt resort and spa, Phuket, Thailand from Sep 7-9 2023.
2023	Plenary speaker International Conference on Solid waste (ICSWHK 2023) held at Hong Kong from May 31 to June 3, 2023.
2023	Invited speaker at 5 th International Waste working Group – Asian regional

- branch held at Bali, Indonesia from March 6-8, 2023.
- 2023 **Invited lecture** at PARE spring school on “Biodiversity and Ecosystem services” held from February 15 to March 1, 2023 at Kasetsart University, Thailand.
- 2022 **Keynote speaker** at 9th International Conference Ground water conference (IGWC2022) held at Indian Institute of Technology, Roorkee, India from November 2-4, 2022.
- 2022 **Keynote speaker** at 12th International Conference on sustainable solid waste management and circular economy held at Sri venkateswara university, Tirupati India from 30 November to 3 December, 2022.
- 2022 **Keynote speaker** at 6th EurAsia Waste Management Symposium held at Istanbul, Turkey from October 26-28, 2022.
- 2022 **Organized** workshop on Microplastics in the Environment: Sampling and Analysis at Mahatma Gandhi University, Kottayam, India on October 7, 2022.
- 2022 **Organized** one day International Webinar on “Microplastics in Environment” on August 2, 2022 at SIIT, Thammasat University, Thailand.
- 2022 **Invited speaker** at the International Conference on State-of-the Art Catalysis and Surface/Interface Science for Sustainable Society - 11th Iwasawa conference entitled “Photosynthetic Microbial Fuel Cell to enhance electricity generation with simultaneous wastewater treatment” to be held on March 11, 2022.
- 2022 **Invited lecture** at PARE spring school on “Biodiversity and Ecosystem services” to be held from March 7-16, 2022.
- 2021 **Invited speaker** at international seminar on Issues of Ozone layer protection on International Ozone day held on Sep 16, 2021 organized by Government Polytechnic college, Dewas, India and Vigyan Parishad Prayag, MP, India entitled “Air pollution and Impacts on Ozone layer”.
- 2021 **Invited speaker** 1st International Symposium on Plastic Pollution at Korea held on Oct 28-29, 2021 entitled “Microplastics Contamination in a High Population Density Area of the Chao Phraya River: Abundance, characteristic and interaction with heavy metals”.
- 2021 **Keynote speaker** at the 3rd International Conference of Environmental Conference and Innovations (ICETI 2021) held at Ton Duc Thang University, Ho Chi Minh City, Vietnam, entitled “Incorporating an algal cathode chamber in microbial fuel cells to enhance electricity generation with simultaneous wastewater treatment”.
- 2021 **Keynote speaker** at International Conference on Recent Advances in Civil Engineering (ICRACE 2020) from April 16-18, 2020 held at Cochin University of Science and Technology, Kochi, India entitled “Release of Heavy Metals during Floods and Removal from Water Environment using Phytoremediation” (conference postponed)
- 2021 **Invited speaker** and chair session at International Conference on sustainable biowaste management 2021 held at Hong Kong from April 12-15, 2021 entitled “Cultivation of microalgae in a microbial fuel cell for enhanced bioelectricity generation treating wastewater: a comparative study of chlorella vulgaris and scenedesmus quadricauda”
- 2020 **Invited speaker** at Circular Economy and Waste Management business held on Oct 26, 2020 at Kolkota, India entitled “Solid waste management

- and microplastics pollution
- 2020 **Invited speaker** at Water Health and Ecosystems: Current challenges and opportunities held at AIT on Dec 17, 2020 entitled “Microplastics contamination in water and uptake by Green Mussels”
- 2020 **Key note speaker and chair session** at 5th EurAsia Waste Management Symposium held at Istanbul, Turkey from October 26-28, 2020 entitled “Situation of Plastics and Micro-plastic Pollution in Thailand”.
- 2020 **Invited speaker and chairperson** at Pure and Applied Chemistry International Conference (PACCON 2020) from Feb 13-14, 2020 held at Bangkok entitled “Bio-electrochemical technology for recovery of metals from aqueous solution”
- 2019 **Invited speaker** at seminar and workshop on Microplastic Pollution in the environment in Asia at Bandung, Indonesia on July 16, 2019 entitled “Microplastic pollution: Current status and impacts”
- 2019 **Invited lecturer** at Ton Duc Thanh University at HCMC Vietnam from May 30 to June 8, 2019 to teach course “Environmental Process Engineering”
- 2019 **Invited speaker** at workshop under the project “Investigations on Microplastics Pollution in Aquatic Environment in Selected Developing Countries from Southeast Asia” entitled “Microplastics Pollution” at Van Lang University, Ho Chi Minh City, Vietnam on May 29, 2019.
- 2019 **Invited speaker** at International Conference on “Sustainable design and climate change adaptation” held on 10 April, 2019 at Van Lang University titled “Microplastic contamination in freshwater environment: A case study in the Chao Phraya River, Bangkok”.
- 2019 **Invited speaker** at JAIST World Conference 2019 from 28 Feb to 2 March, 2019 held at Japan Advanced Institute of Science and Technology (JAIST), Japan entitled “Bio-electrochemical system design for recovery of metallic silver from wastewater”
- 2018 **Invited session speaker** at the 8th International conference on Sustainable Waste management “Bio-electrochemical system for recovery of silver and electricity production from different Ag(I)-containing solutions” held at Vijaywada, India from November 22-25, 2018.
- 2018 **Invited lecturer** at Populations-Activities-Resources-Environments (PARE) program held at SIIT, Thammasat University from Feb 16-26, 2018.
- 2017 **Invited session speaker** 7th International conference on Solid Waste Management entitled “Waste biomass derived solid acid catalysts for microwave assisted biodiesel production from waste palm oil” held at Hyderabad, India from December 15-17, 2017.
- 2017 **Invited speaker** for 3rd International Symposium on Natural and Technological Risk Reduction at Large Industrial Parks (NATECH 2017) workshop and symposium held at Kyoto and Osaka University, Japan, from March 13-14, 2017.
- 2017 **Invited lecturer** at Populations-Activities-Resources-Environments (PARE) program, Institut Teknologi Bandung, Indonesia from February 14-16, 2017.
- 2016 **Invited speaker** for Bio-waste Conversion Technology Conference 2016 (BioWC 2016) title “Development of composting in Thailand” held at Hong Kong Baptist university, Hong Kong from December 6-8, 2016.

- 2016 **Invited speaker** for International Symposium on Natural and Technological Risk Reduction at Large Industrial Parks (NATECH 2016) conference held at Osaka University, Osaka, Japan, from January 12-13, 2016.
- 2015 **Invited lecturer** at Populations-Activities-Resources-Environments (PARE) program, Hokkaido University, Japan from August 23-28, 2015.
- 2010 **Invited speaker** for "Sixth Thailand Materials Science and Technology (MSAT-6) Conference organized by MTEC, Thailand August 6-7, 2010 at Miracle Grand Hotel.
- 2008 **Resource person** for training program at AIT on "Construction Management Practices using ICT" for 8 officials from Local Government Engineering Department, Bangladesh from December 17-27, 2008. Topic - Environmental Impact Assessment.
- 2008 **Resource person** for training program at AIT on "IT Applications in Project Management; and Construction Management using ICT" for participants from Bhutan, Nepal, India and Thailand from 1-19 September, 2008. Topic - Environmental Impact Assessment.
- 2008 **Resource person** for training program at AIT on "Project Monitoring, Evaluation and Application of IT" for participants from Local Government Engineering Department, Bangladesh from July 21-31, 2008. Topic - Environmental Impact Assessment.
- 2007 Acted as **Chairperson and discussant** in International forum on water Environmental Governance in Asia held on March 14-16, 2007 in Bangkok.
- 2006 **Resource person** for Seminar on Solid Waste Landfill Technology in Asia at Kasetsart University, Thailand on August 3-4, 2006 as part of Asian Research Regional Program on Environmental Technology (ARRPET) supported by Swedish International Development cooperation Agency (SIDA).
- 2005 **Resource person** in Professional training program on the development of UEM proposals at Asia Airport Hotel, Bangkok from November 30 to December 2, 2005.
- 2005 **Resource person** in Professional Training Program on Solid Waste Management in South East Asia, Siam Reap, Cambodia, 4- 5 July 2005. Topic – Integrated Solid Waste Management: Technical Aspects.
- 2001 **Resource Person** for the training course on "Comprehensive Water Resources Management" for participants from Cambodia, India, Laos, Thailand and Vietnam, 01October – 12 October 2001 (Organized by Water Engineering and Management Program, SCE, AIT, Bangkok). Topic – Water Quality Management
- 2000 **Resource Person** for the training course on "Economic Analysis of Environmental Impact" for Government Officials from Nepal, 14 August – 25 August, 2000 (conducted by CEC at AIT, Bangkok). Topic – Environmental Impact Assessment

OTHER PROFESSIONAL ACTIVITIES

- Organizer, session chair at the 4th International Conference on Environmental Technology and Innovation (ICETI 2023) held on Nov 29-30, 2023 at Ton Duc

Thang university, Ho Chi Minh City, Vietnam.

- Program committee and panelist, (special session on microplastics) for IWA Sustainable Natural and Engineered Systems Management (SWSM2023) held on December 13-16, 2023 at Chulalongkorn University, Thailand.
- Scientific committee at International Symposium on Sustainable Waste Management – 2023 held on Sep 22-23, 2023 at Kolkata, India.
- Scientific committee of International Conference on Solid waste (ICSWHK 2023) held at Hong Kong from May 31 to June 3, 2023. Also chair the session.
- Scientific Organizing committee member at the 12th International conference on Sustainable Waste management & circular economy held at Tirupati, India from Nov 29 – Dec 4, 2022.
- Organized International webinar on “Microplastics in the Environment” on August 3, 2022 with 290 registered participants
- Scientific committee of 6th EurAsia Waste Management Symposium held at Istanbul, Turkey from October 26-28, 2022
- Organized International webinar on “Plastic/Microplastic Pollution and Management” on June 2, 2021 with 210 registered participants.
- Scientific Organizing committee member at the 11th International conference on Sustainable Waste management & circular economy held at Kolkata, India from Dec 1-4, 2021.
- International Scientific committee of 8th International Symposium on Advances in Civil and Environmental Engineering Practices for Sustainable Development (ACEPS-2021), Ruhuna, Galle, Sri Lanka.
- Scientific committee of 5th EurAsia Waste Management Symposium held at Istanbul, Turkey from October 26-28, 2020
- Co-organizer, co-chairperson, and scientific committee of the 3rd International Conference on Environmental Technology and Innovations (ICETI 2021) held at Ton Duc Thang University, Ho Chi Minh City, Vietnam from November 25-27, 2021.
- International advisory board and scientific committee of PACCON 2020 held at Impact Arena, Bangkok on Feb 13-14, 2020.
- Organized an Expert Workshop on “Microplastics in Water Environment” at Koh Samui, Thailand from August 19-21, 2019 with participants from 20 different countries including Government organization, UN agencies financially supported by DAAD-EXCEED project.
- Supervised three exchange students each for three months from Technical University, Braunschweig, Germany (2019).
- Scientific Organizing committee member at the 9th International conference on Sustainable Waste management held at Bhubaneshwar, Orissa, India from November 27-30, 2019.
- Scientific Organizing committee member at the 8th International conference on Sustainable Waste management held at Vijaywada, India from November 22-25, 2018.
- Scientific Organizing committee member in the BioWC 2016 International conference held at Hong Kong SAR from 6-8 Dec, 2016.
- Scientific Organizing committee member in the 6th International conference on Solid Waste Management held at Hyderabad, India from 24-26 Nov 2016.
- Scientific Organizing committee member in the 4th International conference on Solid Waste Management held at Hyderabad, India from 28-30 Jan, 2014. Acted

as one of the international expert on panel discussion with members from 17 countries (open house).

- Scientific Organizing committee member in the 7th International conference on Challenges in Environmental Science and Engineering, CESE 2014 held at Johor, Malaysia from 12-16 October, 2014.
- Associate Editor for special issue on “HEAVY METALS AND ORGANIC POLLUTANTS - Green remediation” in RASAYAN Journal of Chemistry, India.
- Editorial board member of Chemical Environment Research Journal, India.
- Reviewer for The 1st International Conference on Nuclear Power Plants, Environment and Sustainable Development held in 2008.
- Reviewer for Sustainable development to save the earth 2008 (SDSE 2008) Conference held at Bangkok, Thailand from 10-12 December 2008.
- Reviewer for “An International Perspective on Environment and Water Resources Conference (EWRI, ASCE)” held at AIT, Bangkok, Thailand from January 5-7, 2009.
- In organizing committee for ICCE 2005 International conference held at Indore, India from December 24- 26, 2005.
- Reviewer for research proposal for Research Grant Council, Hong Kong, China
- Reviewer for research proposal for Israel-German Program
- Reviewer for research proposal for Australian -Antarctic Science Program

SPONSORED AND CONTRACTED PROJECTS

1 April 2023 – 31 March 2024	Post-doctoral fellowship grant from Thammasat University. (760,000 Baht)
15 March 2023-15 March 2024	Analysis of Microplastics in water sample funded by The University of Zordan, Zordan.
23 Feb 2023 – 22 Feb 2025	Removal of Chloride Ions from Wastewater through Friedel’s Salt Chemical Precipitation Method with Combination of UV Irradiation and Electrocoagulation. Matching Fund between Thammasat University and the National Taipei University of Technology, Contract No. MF 4/2565. (500, 000 Baht)
9 December 2021 to 8 Dec 2022	Post-doctoral fellowship grant from Thammasat University (760,000 Baht).
June 2021- Dec 2022	Nanohybrid from layered double hydroxide and graphene oxide for the removal of metal ions from water funded by NANOTECH/NRTC
15 March to March 31, 2022	Microplastics in drinking water. Funding from Tokyo City University, Japan
1 May 2021 – 30 April 2022	Microplastics uptake by green mussels (<i>Perna Viridis</i>) cultured for human consumption in Thailand and Taiwan. Matching Fund between Thammasat University and the National Taipei University of Technology, Contract No. MF 3/2564.
2018-till present	Coordinator of consortium on Populations-Activities-Resources-Environments (PARE) program with Hokkaido University and partner universities from Thailand, Indonesia.
1 September 2018-31 August 2021	Investigations on Microplastics Pollution in Aquatic Environment in Selected Developing Countries from Southeast Asia supported

	by Asia Pacific Network (APN) for Global Change Research (ARCP), Japan.
August 2018 – July 2021	Microplastics pollution in Chao phraya river, Royal Golden Jubilee scholarship for ASEAN student.
1 January 2018-31 December 2018	Current Situation of Microplastics Pollution in the Lower Chao Phraya River, Thailand. A joint research proposal granted by EXCEED funded by DAAD (6615 Euro, travel to Germany and student exchange for 3 months at Technical University Braunschweig)
July 2017 – July 2019	Technical feasibility of anaerobic digestion for utilizing municipal solid waste from Talaad Thai market, Thailand, funded by Thammasat University Research Fund (Grant for Basic and Applied Research).
January 2017-2019	Coordinator for EXCEED-SWINDON project supported by DAAD (SIIT associate member for SEA regional network)
Feb 2015- Feb 2019	Establishment of Master program in Hydraulic Engineering at National University of Laos (NUoL), Laos funded by German Academic Exchange Service (DAAD) with partner from Germany, Vietnam and Laos.
13 Jan 2016-31 Jan 2018	Recovery of valuable products from waste “Waste Treatment and Management for Sustainable Development” funded by Thammasat University Research Fund (Grant for Basic and Applied Research).
Aug 2014- Nov 2015	Synthesis of novel porous nonmetal-doped ZrO ₂ spheres and its application for photodegradation of Acid Red 27, Thammasat University research fund (Grant for Basic and Applied Research.
Oct 2014- March 2018	Integrated solid waste management leading to zero waste for sustainable waste utilization in rapid urbanized areas in developing countries supported by Asia Pacific Network (APN) for Global Change Research (ARCP), Japan.
Jan 2012 - Dec 2016	Interdisciplinary consortium on Urban environment and health in Asia (UEHAS). University of Tokyo, Japan with partner universities from Thailand, Indonesia.
Nov 2011- Sep 2016	Leaching of nano particles from nano products existing in Thailand and their presence in simulated landfill funded by Thailand Research Fund.
1 Jun 2012 - 30 Jun 2015	Contribution as a researcher / investigator in the sub-contracted project offered by Asian Institute of Technology (AIT) based in Bangkok Thailand to SIIT in respect of Global Development Grant that is granted by Bill & Melinda Gates Foundation to AIT related to reinvention of the innovative decentralized systems and technologies. The sub-contracted project relates to Field monitoring, samplings, parameters analysis and Decentralized Wastewater novel technologies development.
Jul 2012 - Mar 2014	Fate and transport of nanoparticles from nanoproducts in Municipal Solid Waste Landfill. Funded by Thammasat University Research Fund.
Nov 2011- Feb 2013	The study of applying hybrid MF membrane system for the treatment of high color surface water in Thailand. Funded by Maezawa Industries, Japan and New Energy Development

	Organization (NEDO), Thailand.
Mar 2011 - Dec 2014	Capacity building in Environmental Engineering and Management in Southeast Asia, Funded by DAAD, Germany.
Sep 2010 - Aug 2014	Hazardous waste treatment and management for Industry. Funded by University grant, Higher Education Commission.
Jun 2009 - Jan 2011	Phytoextraction of cadmium contaminated soil by <i>Tagetes erecta</i> L. and <i>Cosmos sulphureus</i> : Effects of soil pH and Zn concentration. Funded by Thammasat University Research Fund.
Dec 2007 - Sep 2009	Community and stakeholder participation in water quality monitoring and pollution abatement in Bang Pa canal in a peri-urban area of Ratchaburi Province, Thailand, SEA-UEMA project funded by AIT-CIDA.
Jan 2006 - Mar 2009	Local Coordinator. Project title “Environmental Engineering and Management – Establishment of Master Program at the National University of Laos. Asia- Euro Link Project. A joint project by University of Siegen (Germany), University of Science and Technology (Krakow, Poland), National university of Laos (Vientiane, Laos) and Sirindhorn International Institute of Technology (Bangkok, Thailand). Funded by European Commission.
Dec 2005 - Mar 2006	Principal Investigator. Project title “Environmental Quality Promotion of Floating Food Vendors and the Slum Community on Klong Rangsit, Pathumthani, Thailand” SEA-UEMA project funded by AIT-CIDA.
2002-2003	Removal of Hexavalent Chromium from contaminated wastewater using low cost adsorbents and commercial activated carbon. Funded by South East Asian Center for Water Environment Technology, University of Tokyo, Japan.

GRANTS RECEIVED

- Asian Development Bank scholarship to support a master student from year August 2014 to July 2016
- Asian Development Bank scholarship to support a master student from year 2001 to 2003
- Support for a master’s student from JGSEE, KMUTT, Thailand from year 2005 to 2007 (Budget – 328,900 Baht)
- Presidential scholarship from Government of Sri Lanka to support a doctoral student from year 2003 to 2006 (Budget – 538,400 Baht)
- Support for a doctoral student from JGSEE, KMUTT, Thailand from year 2005 to 2008 (Budget – 538,400 Baht)
- Support for a doctoral student from JGSEE, KMUTT, Thailand from year 2007 (Budget – 538,400 Baht)
- Support for a doctoral student from JGSEE, KMUTT, Thailand from year 2008 (Budget – 538,400 Baht)
- Support for a doctoral student from Thailand Research Fund (Royal Golden Jubilee scholarship) from 2009. (Budget –1,550,000 Baht)
- Support for a doctoral student from Thailand Research Fund (Royal Golden Jubilee scholarship) from 2011. (Budget –1,375,000 Baht)

- Support for master student from Bangjak Ltd, Thailand from Nov 2010 to May 2012. (Budget 289,000 Baht)
- Support for a doctoral student from Thailand Research Fund (Royal Golden Jubilee scholarship) from 2014. (Budget –1,660,000 Baht)
- Support for master’s student from JGSEE, KMUTT from August 2016 to December 2017 (400,000 baht)
- Support for master’s student from JGSEE, KMUTT from August 2019 to December 2020 (340,200 baht)
- Support for master’s student from JGSEE, KMUTT from August 2020 to December 2021 (340,200 baht)
- Support for a doctoral student by Thailand Research Fund (Royal Golden Jubilee ASEAN scholarship) from 2018-2021 (1,298,000)
- Support for master’s student from JGSEE, KMUTT from January 2022 to July 2023 (340,200 baht)
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COURSES TAUGHT

Graduate Courses

- Aquatic Chemistry (few lectures taken at AIT)
- Biochemistry
- Physiology

Undergraduate Courses

- Pollution Control and Waste Treatment
- Environmental Chemical Engineering
- Water Quality Management
- Solid Waste Management
- Environmental Health and Sanitation
- Hazardous Waste Management
- Environmental Studies
- Environmental Quality Management
- Solid and hazardous waste management
- Biochemistry for Engineers
- Physiology
- Microbiology

STUDENT THESES SUPERVISED

STUDENTS	COMPLETED		IN-PROGRESS	
	Chair of the Committee	Co-Chair of the Committee	Chair of the Committee	Co-Chair of the Committee
Doctoral	15	-	04	-
Master’s	20	-	03	-

Doctoral Theses (advisor):

- 2023 Nguyen Hoang Dung. Simultaneous carbon and nitrogen removal Accompanied by energy recovery from Wastewater in a coupled microbial fuel cells.
- 2020 Chamath Dasun Yahampath Yahampath Arachchige Don. Optimization of photosynthetic microbial fuel cell for treating wastewater and simultaneous power generation.
- 2020 Anh Tuan Ta. Investigation of microplastic pollution in the lower Chao Phraya river, Thailand.
- 2020 Jakkapon Phanthuwongpakdee. Removal of inorganic contaminants in aqueous environment by bio-based materials.
- 2017 Ho Ngo Anh Dao. Recovery of silver from aqueous solution using by Bioelectrical chemical systems (BES) Technology.
- 2017 Pahalagedara Indika Thushari. Biodiesel production from waste palm oil using waste mass derived solid acid catalysts.
Outstanding thesis award by Thammasat University for year 2017 on TU Researcher day 22 November 2019.
- 2017 Jiraporn Yongpisanphop. Phytoremediation of lead contaminated soil using fast-growing trees inoculated with endophytic bacteria.
- 2016 Paweena Limpiteeprakan. The fate of nanosilver during in-use and disposal phase under landfill conditions – supported by Royal Golden Jubilee scholarship, Thailand Research Fund.
- 2016 Hanggara Sudrajat. Synthesis of nitrogen-doped metal oxides and their application in photocatalytic degradation of dyes
Outstanding Thesis award from Thammasat University for year 2016 awarded in 2017
- 2015 Nonglak Rungruang. Phytoextraction of Cadmium from Contaminated Soil – Supported by JGSEE, KMUTT, Thailand.
- 2013 Emmanuel P. Leano. Biohydrogen and Electricity Production from Agro-Industrial wastewater with and without pretreatment – Supported by JGSEE, KMUTT, Thailand.
- 2013 Chayarat Tantasarit. Effect of Green Mussels (*Perna viridis*) on nutrient dynamics in estuarine and coastal areas – supported by supported by Royal Golden Jubilee scholarship, Thailand Research Fund.
- 2009 Jenjira Saetang. Landfill leachate treatment by white rot fungi – Supported by JGSEE, KMUTT, Thailand.
- 2007 Dominica del Mundo Dacera. Extraction and removal of heavy metals from contaminated sludge using raw and fermented liquid from pine apple wastes – Supported by SIIT.
- 2006 Yasantha Abeysundara U. G. Environmental, Economic and Social Assessment of construction materials for greening the life of buildings in Sri Lanka – Presidential scholarship, Sri Lanka.
Outstanding postgraduate research award under the Hiran Tillekratne Research Fund from the University Grants Commission of Sri Lanka on October 22, 2008

Doctoral Theses (Co-advisor)

2015 The electronic waste management systems- A comparison of the E-waste management policies, processes and practices among selected countries in greater Mekong sub-region.

Doctoral Thesis (External Examiner)

2023 Anaerobic digestion characteristics of lignocellulosic feedstocks under solid-state stratified bed mode of fermentation, Indian Institute of Science, Bengaluru, India.

2023 Process Intensification for Acid Hydrolysis of Starch and Cellulose for the Nanoparticle Production and its Application (NIT, Varangal, India)

2021 Benign Engineering Practices for Processing of Natural Products (RMIT, Australia)

2021 Role of Solid Biofuels and Associated Factors in Exacerbation of Respiratory Disorders in Rural Microenvironment and Interventions for Abatement of Pollutants (MNIT, India)

2021 Development of Low-Cost Field Test Kit for Early Presence/Absence and Enumeration of Coliforms in Drinking Water (MNIT, India)

2019 Identification of Critical Pharmaceutical Contaminants in the Indian Scenario and Photocatalytic Degradation of Selected Contaminants in a Batch Reactor

2017 Treatment, recycle and reuse of waste from handmade paper industry

2013 Effect of leachate on the growth of selected fungi and bioremediation of leachate using ganoderma australe (fr.) Pat

2007 Development, characterization and evaluation of pervaporation membranes and biosorbents

2006 Adsorption of heavy metal cations by chitosan coated perlite and pervaporative separation of water from organic solvents

Masters Theses
(Advisor)

2023 Andika Wahyu Afrianto. Modification of Electrodes Material in a Microbial Fuel Cell (MFC) to Enhance the Electricity Production

2023 Rungpilin Jittalerk. Microplastic Contamination in Biota and the Surrounding Environment in The Bang Pu Mangrove Forests, Samut Prakan Province, Thailand

2021 Hewawasam Udumullage Erangi Imasha. Extraction and identification of microplastics in green mussels in Thailand.

2020 Dork Hakk. Micro-Plastics Contamination in Drinking Water: Case Study of Phnom Penh.

2020 Weligama Thuppahige Rasangika Thathsarane. Environmental Life Cycle Assessment of Organic Fraction of Municipal Solid Waste Treatment by Composting and Anaerobic Digestion: A Case Study in Sri Lanka. (**Outstanding Thesis award from Thammasat University for year 2020 awarded in year 2022**)

2019 Teshan Udayanga Habarakada Liyanage. Use of different pretreatment methods to enhance the methane production by anaerobic digestion of food waste.

- 2019 Dinuka Kankanige. Analysis of microplastics (MPs) in bottle water, tap water, and conventional water treatment plant in Thailand.
Outstanding Thesis award from Thammasat University for year 2019 awarded in 2021
- 2018 Dikshya Dhakal. Arsenic adsorption from ground water using non-toxic waste as adsorbents.
- 2017 Ta Tuan Anh. Technical feasibility of anaerobic digestion for utilizing municipal solid waste from Talaad Thai market, Thailand.
- 2017 Thiranan Leekroh. A study on removal of Pb(II) from synthetic wastewater by submerged aquatic plants.
- 2017 Subodh Luitel Estimating and forecasting the generation of E-waste in Nepal: An end of life approach
- 2016 Weetara Boontham. Removal of Lead from solution by using low-cost adsorbents from Apiceae family
- 2015 Manisha Poudyal. Investigations on the efficiency of low-cost adsorbents for the treatment of Fluoride contaminated water
- 2015 Putri Ardyarini Sekartaji. Photocatalytic degradation of humic acid (HA) in a water environment. (ADB scholarship)
- 2015 Oley Phearkeo. A study on removal of heavy metals from wastewater by floating plants. (SSNC scholarship)
- 2015 Tu Anh Nguyen Kieu. Application of microwave technology for treatment of human feces. (Supported by Bill and Milenda Gates foundation through AIT)
- 2014 Xaysackda Vilaysouk. Estimation of greenhouse gas emission from municipal solid waste management in Lao PDR, case study: Vientiane, Luang prabang and Xayabouri. (SSNC Scholarship)
- 2007 Einstine Opsio. Removal of Chromium (VI) from contaminated wastewater by Andisol – supported by JGSEE, KMUTT.
- 2003 Tonni A. Kurniawan. A Research study on Chromium (VI) removal from contaminated wastewater using chemically modified low cost adsorbents and commercial activated carbon – Supported by Asian Development Bank (ADB)
Awarded as Best Thesis by BioInfoBank (Poland) in 2008
- 1986 Mamta Dave. Effect of Food Supplementation on Marasmic Children
- 1985 Smita Bhargava. Consumer Acceptability of Parched Soybean and their Biochemical and Nutritional Assessment

REVIEWER FOR JOURNALS

- Journal of Hazardous Material
- Thammasat International Journal of Science and Technology
- Separation Science and Technology
- Separation and Purification Technology
- Chemical Reviews
- Carbohydrate Research
- Journal of Environmental Management
- International Journal of Health Care Technology Management
- Chemosphere
- Songklanakarin Journal of Science and Technology

- Bioresource Technology etc.

PUBLICATIONS

Dissertation/Thesis

- 1999 “Membrane Fouling due to Algal Attachment in the Water Treatment Processes”. Dissertation No. EV-99-6, Pages 163, Asian Institute of Technology, Bangkok, Thailand.
- 1993 “Laboratory Scale Studies for the Treatment of Solid Waste Landfill Leachate using Crossflow Microfiltration and Ozone”. Thesis No. EV-93-16, Pages 106, Asian Institute of Technology, Bangkok, Thailand.

Book

- 2023 Chongqing Wang, **Sandhya Babel**, Eric Lichtfouse (2023). Microplastic occurrence, Fate, Impact, and Remediation, Springer Nature (Edited book).
- 2023 Velma I Grover, Gail Krantzberg, Savitri Jetoo and **Sandhya Babel** (2023). Plastic Pollution: Nature based solutions and Effective Governance”, CRC press, Taylor and Francis (Edited book)
- 2019 **S. Babel**, A. Haarstrick, M. S. Babel, A. Sharp (editors) (2019). Water Perspectives in Emerging Countries, Focus Issue: Microplastics in water environment. Published by Cuvillier Verlag Gottingen, Germany.
- 2011 Jenjira Saetang and **Sandhya Babel** (2011). Landfill leachate treatment by white rot fungi. Lambert Academic Publishing.

Book Chapters

- 2023 Katekanya Tadsuwan and **Sandhya Babel** (2023). Occurrence and removal of microplastics in wastewater treatment plants in the book entitled Microplastic occurrence, Fate, Impact, and Remediation in series “Environmental Chemistry for a Sustainable World” by Springer Nature
- 2023 Yubraj Dahal and **Sandhya Babel** (2023). “Abundance, Source, and Factors Affecting Airborne Microplastics in Outdoor and Indoor Environments” in the book entitled “Microplastic occurrence, Fate, Impact, and Remediation” in series Environmental Chemistry for a Sustainable World” by Springer Nature.
- 2023 Chayarat Srisunont1 and **Sandhya Babel** (2023). Role of climate change in green mussel cultivation and underlying environmental limitations. A book chapter accepted for publication in “Advances in Marine Biology” by Nova Science Publishers.
- 2023 Andika Wahyu Afrianto, **Sandhya Babel** (2023). “Electrode materials and their effects on electricity generation and wastewater treatment in a microbial fuel cell” accepted in the book entitled “Wastewater Management (Technologies)” by Springer Nature.
- 2022 H.U.E Imasha and **S. Babel** (2022). Microplastics Analytical Techniques in Water, Sediments, and Biota. Chapter 13 in the book “Assessing the

- Effects of Emerging Plastics on the Environment and Public Health” IGI publisher, pp 306-327.
- 2023 Yubraj Dahal and **Sandhya Babel** (2023). Occurrence and Source of Microplastics Contamination in Drinking Water and Subsequent Performance of The Water Treatment Plants. A book chapter in the book “Plastic Pollution: Nature based solutions and Effective Governance”, CRC press, Taylor and Francis.
- 2023 H.U.E. Imasha and **S. Babel** (2023). Microplastics Sources, Contamination and Impacts on Aquaculture Organisms. A book chapter published in the book “Plastic Pollution: Nature based solutions and Effective Governance”, CRC press, Taylor and Francis.
- 2023 Chamath D.Y. Yahampath Arachchige Don and **Sandhya Babel** (2023). Integration of bioelectrochemical and algal systems for bioproducts generation. A book chapter accepted in the book “Algae-Based Bioelectrochemical Systems for Carbon Sequestration, Carbon Storage, Bioremediation, and Bioproduct Generation”, Elsevier publisher.
- 2022 Anh Tuan Ta and Sandhya **Babel** (April 2022). Sources, Occurrence, and Analysis of Microplastics in Freshwater Environments. Chapter 1 in the book “Plastic and microplastic in the environment: Management and health risks” pp 1-17. Edited by Arif Ahamad, Pardeep Singh, Dhanesh Tiwary. Publisher John Wiley and Sons (United Kingdom).
- 2020 Ngo Anh Dao Ho and **Sandhya Babel** (2020). “Functional components of a bio-electrochemical system for removal and recovery of metals: A review” in the book entitled “Bioremediation, Nutrients, and other valuable product recovery: using Bioelectrochemical systems” chapter 8, pp 153 -183, edited by Lakhveer Singh, Durga Madhab Mahapatra and Sveta Thakur, Elsevier publisher.
- 2020 Ngo Anh Dao Ho and **Sandhya Babel** (2020). “Roles of inoculum and substrate in bioelectrochemical system used for removal and recovery of metals from wastewater” in the book entitled “Bioremediation, Nutrients, and other valuable product recovery: using Bioelectrochemical systems” chapter 11, pp 231-246, edited by Lakhveer Singh, Durga Madhab Mahapatra and Sveta Thakur, Elsevier publisher.
- 2019 Anh Tuan Ta, **Sandhya Babel** (2019). Current status of microplastics in marine and freshwater environments. A book chapter published in “Water Perspectives in Emerging Countries, Focus Issue: Microplastics in water environment”. Published by Cuvillier Verlag Gottingen, Germany. Editors S. Babel, A. Haarstrick, M. S. Babel, A. Sharp, pp 1-13.
- 2019 Jakkapon Phanthuwongpakdee, **Sandhya Babel** and Tatsuo Kaneko (2019). A book chapter entitled “Natural Adsorbents for Removal of Different Iodine Species from Aqueous Environment: A Review” published in “Recent trends in wastewater treatment and water resource management publisher Springer Editors Sadhan Kumar Ghosh, Papita Das Saha and Maria Frances Di. pp 171-198, ISBN 978-981-15-0706-9 (eBook)
- 2019 **Sandhya Babel**, Anh Tuan Ta and Teshan Udayanga Habarakada Liyanage (2019). A book chapter entitled “Current Situation and Challenges of Waste Management in Thailand” published in book “Sustainable Waste Management Challenges in Developing Countries”, pp 409-440. Publisher IGI Global, USA.

- 2006 **S. Babel** and T. A. Kurniawan (2006) Various treatment technologies to remove arsenic and mercury from contaminated ground water: An overview. *South East Asian Water Environment 1* published by IWA Publishing (UK). Edited by Shinichiro Ohgaki et. al, pp. 214- 222.
- 2006 Tonni Agustiono Kurniawan and **Sandhya Babel** (2006). Cr (VI) removal from electroplating wastewater using coconut shell charcoal and coconut shell based activated carbon modified with oxidizing agents and/or chitosan. *Focus on Environmental Research*. Published by Nova Science Publishers, New York. Edited by Emma B. Davis, pp 211-234.

International Journals

- 2024 Nguyen Hoang Dung, **Sandhya Babel** (1 March 2024). Bioelectricity recovery through isolation and removal of nitrogen from wastewater by shortcut nitrification-denitrification in a coupled microbial fuel cell system. *Fuel*, Vol. 359, Article no 130497.
- 2024 Rungpilin Jittalerk, and **Sandhya Babel** (January 2023). Microplastic contamination in Thai vinegar crabs (*Episesarma mederi*), giant mudskippers (*Periophthalmodon schlosseri*), and their adjacent environment from the Bang Pu mangrove forests, Samut Prakan province, Thailand. *Marine Pollution Bulletin*, Vol 198, article no. 115849.
- 2023 Peritamby Agamuthu and **Sandhya Babel** (2023). Waste Management developments in the last five decades: Asian Perspective. *Waste Management and Research*, Vol 41, issue 12, pp 1699-1716. doi: 10.1177/0734242X231199938.
- 2023 Ngo Anh Dao Ho, Anh Kiet Bui, and **Sandhya Babel** (July- Sep 2023). Removal of Natural Organic Matter from Water by Coagulation and Flocculation to Mitigate the Formation of Chlorine Disinfection By-Products at the Thu Duc Water Treatment Plant in Vietnam. *Science & Technology Asia*, Vol 28, No 3 July – Sep 2023, pp 142-157.
- 2023 Anh Tuan Ta, **Sandhya Babel**, Nguyen Thi Phuong Loan, Emenda Sembiring (2023). Microplastic Pollution in High Population Density Zones of Selected Rivers from Southeast Asia. A paper submitted for possible publication in *Bulletin of Environmental Contamination and Toxicology*.
- 2023 Christian Orozco, **Sandhya Babel**, Somnuk Tangtermsirikul, Takafumi Sugiyama (2023). Comparison of environmental impacts of fly ash and slag as cement replacement materials for mass concrete and the impact of transportation. A paper submitted for possible publication in *Sustainable Materials and Technologies* (accepted).
- 2023 Thong Nguyen Tan, **Sandhya Babel**, Tanujjal Bora, Paiboon Sreearunothai, Kritapas Laohhasurayotin (2023). Preparation of heterogeneous cation exchange membrane and its contributions in enhancing the removal of Ni²⁺ by capacitive deionization system. A paper submitted for possible publication in *Chemosphere*.
- 2023 Christian Orozco, Somnuk Tangtermsirikul, Takafumi Sugiyama, **Sandhya Babel** (Dec 2023). Examining the endpoint impacts, challenges, and opportunities of fly ash utilization for sustainable concrete construction. *Scientific Reports* (Springer Nature), Vol 13, issue 1, article no 18254. DOI: 10.1038/s41598-023-45632-z

- 2023 Christian Orozco, **Sandhya Babel**, Somnuk Tangtermsirikul, Takafumi Sugiyama (2022). Environmental assessment of fly ash utilization on low, normal, and high strength mass concrete mixtures. A paper submitted for possible publication in Environmental Impact Assessment Review.
- 2023 Thong Nguyen Tan, **Sandhya Babel** (Dec 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. J of Water Process Engineering, Vol 56, Article no. 104268.
- 2023 Ngo Anh Dao Ho, Van Hieu Nguyen, and **Sandhya Babel** (1 Oct 2023). Application of Integrated Technologies for the Treatment of High-Strength Industrial Wastewater in Vietnam, Journal of Environmental Engineering (ASCE) vol 149, issue 10, article no 04023067.
- 2023 Ta Anh Tuan, **Babel Sandhya** (1 Nov 2023). Microplastics and heavy metals in a tropical river: Understanding spatial and seasonal trends and developing response strategies using DPSIR framework. Science of the Total Environment, Vol 897, Article number 165405.
- 2023 Christian R. Orozcoa, Somnuk Tangtermsirikul, Takafumi Sugiyama, **Sandhya Babel** (1 Oct 2023). Comparative Environmental Assessment of Low and High CaO Fly Ash in Mass Concrete Mixtures for Enhanced Sustainability: Impact of Fly Ash Type and Transportation. Environmental Research, Vol 234, Article number 116579.
- 2023 Christian R. Orozco, **Sandhya Babel**, Somnuk Tangtermsirikul, Takafumi Sugiyama (Oct 2023). Understanding the environmental, economic, and social impact of fly ash utilization on early-age high-strength mass concrete using life cycle analysis. Materials Today: Proceedings. DOI: 10.1016/j.matpr.2023.03.141
- 2023 Christian Orozco, Somnuk Tangtermsirikul, Takafumi Sugiyama, **Sandhya Babel** (2023). Unraveling the environmental and economic impacts of fly ash utilization on mass concrete considering industry practices. A paper submitted for possible publication in Journal of Materials Cycle and Waste Management.
- 2023 Yubraj Dahal and **Sandhya Babel** (2023). Abundance and Characteristics of Indoor Atmospheric Microplastics Deposition in Bangkok, Thailand. A paper submitted for possible publication in Water, Air & Soil pollution.
- 2023 Hewawasam Udumullage Erangi Imasha, **Sandhya Babel** (20 Dec 2023). Microplastics contamination in the green mussels (*Perna viridis*) cultured for human consumption in Thailand. Regional Studies in Marine Sciences, Vol 67, Article no 103203.
- 2023 Anh Tuan Ta and **Sandhya Babel** (June 2023). Occurrence and spatial distribution of microplastic contaminated with heavy metals in a tropical river: Effect of land use and population density. Marine Pollution Bulletin, vol 191, article no. 114919.
- 2023 Nguyen Hoang Dung and **Sandhya Babel** (Feb 2023). A novel coupled microbial fuel cell as a sequencing batch reactor for optimization of nitrogen removal and energy recovery from organic matter. Sustainable Energy Technologies and Assessments, Vol 55, article no. 102981.
- 2023 Nguyen Hoang Dung and **Sandhya Babel** (15 Aug 2023). Unravelling the power recovery and nitrogen removal mechanism from wastewater by isolating input nitrogen in a coupled MFC system. Environmental Research, Vol 231, article 116027.
- 2023 Saifon Kullyakool, Kazuto Hatakeyama, Pongtanawat Khemthong, **Sandhya**

- Babel** and Kritapas Laohhasurayotin (15 Feb 2023). Alternatively stacked 2D/2D hybrid via preferential intercalation of nitrate ions between layered double hydroxide and graphene oxide. *Material Chemistry and Physics*, Vol 296, article number 127203.
- 2022 Weligama Thuppahige Rasangika Thathsarane and **Sandhya Babel** (online 6 Dec 2022). Assessment of the Environmental Sustainability of Municipal Solid Waste Valorization by Anaerobic Digestion and by Composting in Sri Lanka. A paper accepted for publication in *Environmental Technology Journal*. <https://doi.org/10.1080/09593330.2022.2152733>
- 2022 Ngo Anh Dao Ho, Van Hieu Nguyen, and **Sandhya Babel** (2022). Operation of Different Reverse Osmosis (RO) Membrane Modules for the Treatment of High-Strength Wastewater to Enhance the Recovery of Clean Water-A Case Study in Bac Ninh, Vietnam. *Sustainability (MDPI)*, 14. Article 16105. <https://doi.org/10.3390/su142316105>
- 2022 Katekanya Tadsuwan, Sandhya Babel (Nov 2022). Unraveling microplastics removal in wastewater treatment plant: A comparative study of two wastewater treatment plants in Thailand. *Chemosphere* Vol 307, part 2, article no. 135733.
- 2022 Chayarat Srisunont, Treeranut Srisunont, **Sandhya Babel** (Nov 2022). Development of models for sustainable Green Mussel Cultivation under Climate Change Events. *Ecological Modelling journal*, Vol 473, 110141.
- 2022 Chayarat Srisunont, Treeranut Srisunont, Alongot Intarachart, **Sandhya Babel** (March 2022). Influence of climate on sea water quality and green mussel production. *Scientia Marine journal*, Vol 86, issue 1, pp1-16. <https://doi.org/10.3989/scimar.05232.027>
- 2022 Weligama Thuppahige Rasangika Thathsarane and **Sandhya Babel** (2022). Environmental Impact Assessment of Organic Fraction of Municipal Solid Waste Treatment by Anaerobic Digestion in Sri Lanka. *Waste Management and Research*, Vol 40, issue 2, pp 236-243.
- 2022 Indika Thushari and **Sandhya Babel** (15 May 2022). Comparative study of the environmental impacts of used cooking oil valorization options in Thailand. *J. of Environmental Management*, vol 310, article no. 114810.
- 2022 Weligama Thuppahige Rasangika Thathsarane, Shabbir H. Gheewala **Sandhya Babel** (2022). Environmental Impact of Organic Fraction of Municipal Solid Waste Treatment by Composting in Sri Lanka. *Journal of Material cycles and waste Management*, Vol 24, pp 189-199.
- 2022 T.U. Habarakada Liyanage, and **S. Babel** (Jan-Feb 2022). Enhancement of Methane Production in Anaerobic Digestion of Food Waste using Thermal Pretreatment. *Environment and Natural Resources Journal*, Vol 20, No 1, pp 10-18.
- 2022 Nguyen Hoang Dung and **Sandhya Babel** (2022). Insights on microbial fuel cells for sustainable biological nitrogen removal from wastewater: A review. *Environmental Research*, vol 204, 112095.
- 2022 Hanggara Sudrajat, Sri Hartuti, **Sandhya Babel** (2022). Mechanistic understanding of the increased photoactivity of TiO₂ nanosheets upon tantalum doping. *Physical Chemistry Chemical Physics (Royal Society of Chemistry)*, Vol 24, pp 995-1006.
- 2022 Yan Jhang Chen, Li Pang Wang, **Sandhya Babel** (2022). Sustainable Utilization of Sewage Sludge through the Synthesis of Liquid Fertilizer. *Sustainability (MDPI)*, vol 14, issue 1, article no 387.
- 2022 Katekanya Tadsuwan, **Sandhya Babel** (April 2022). Microplastic abundance

- and removal via an ultrafiltration system coupled to a conventional municipal wastewater treatment plant in Thailand. *Journal of Environmental Chemical Engineering*, Vol 10, Issue 2, Article no 107142.
- 2022 Anh Tuan Ta, Piyathida Pupuang, and **Sandhya Babel**, Li Pang Wang (Sep 2022). Bioaccumulation of microplastics by bivalves commercially harvested in Thailand. *Chemosphere*, vol 303, Part 1, Article no 134918.
- 2021 Chamath D.Y. Yahampath Arachchige Don and **Sandhya Babel** (Dec 2021). Effects of ammonium concentration in the catholyte on electricity and algal biomass generation in a photosynthetic microbial fuel cell treating wastewater. *Bioresource Technology Report*, Vol 16, article no 100867.
- 2021 H.U E Imasha and **Sandhya Babel** (29 Sep 2021). Microplastics contamination in commercial Green Mussels from selected wet markets in Thailand. *Archives of Environmental Contamination and Toxicology*, Vol 81, No 3, pp 449-459. DOI 10.1007/s00244-021-00886-4.
- 2021 Hanggara Sudrajat, **Sandhya Babel**, Sri Hartuti, Jakkapon Phanthuwongpakdee, Kritapas Laohhasurayotin, Truong K. Nguyen, and Hien D. Tong (3 Sep 2021). Origin of the overall water splitting activity over anatase Rh/Cr2O3@TiO2 following UV-pretreatment. *International J of Hydrogen Energy*, Vol 46, issue 61, 31228-31238.
- 2021 Jakkapon Phanthuwongpakdee, Toyohiro Haritmoto, **Sandhya Babel**, Sumant Dwivedi, Kenji Takada, Tatsuo Kaneko (April 5, 2021). Flame retardant transparent films of thermostable biopolyimide metal hybrids. *Polymer Degradation and Stability*, 188, Article No. 109571.
- 2021 Nguyen Thi Minh Trang, Ngo Anh Dao Ho, and **Sandhya Babel** (Dec 2021). Reuse of waste sludge from water treatment plants and fly ash for manufacturing of adobe bricks. *Chemosphere*, Vol. 284, Article No 131367. <https://doi.org/10.1016/j.chemosphere.2021.131367>
- 2021 Jiraporn Yongpisanphop and **Sandhya Babel** (Jan-Mar 2021). Screening of Pb-Tolerant Plant Growth-Promoting Rhizobacteria from Roots of Pb-Excluder, Grown on Pb Contaminated Soil. *Science and Technology Asia*, Vol 26, 1, pp 96-106.
- 2021 Bui Quoc Lap, Nguyen Hoai Nam, Bui Thi Kim Anh, Trinh Thi Thuy Linh, Le Xuan Quang, Vu Duc Toan, Bui Thi Thanh Hang, **Sandhya Babel**, Thi-Thu-Hong Phan (May 2021). Monitoring water quality in Lien Son irrigation system of Vietnam and identification of potential pollution sources by using multivariate analysis. *Water, Air, & Soil Pollution*, Vol 232, 5, Article No. 187.
- 2021 Chamath D.Y. Yahampath Arachchige Don and **Sandhya Babel** (Sep 2021). Circulation of anodic effluent to the cathode chamber for subsequent treatment of wastewater in photosynthetic microbial fuel cell with generation of bioelectricity and algal biomass. *Chemosphere*, Vol. 278, Article No. 130455.
- 2021 **Sandhya Babel** and Hakk Dork (2021). Identification of Micro-plastic Contamination in Drinking Water Treatment Plants in Phnom Penh, Cambodia. *J. of Engineering Technological Sciences*, Vol 53, No 3, 210307.
- 2021 Jakkapon Phanthuwongpakdee, **Sandhya Babel**, Tatsuo Kaneko (April 2021). Screening of New bio-based materials for radioactive iodide adsorption from water environment. *J. of Water Process Engineering*, Vol 40, article no 101955.
- 2021 **Sandhya Babel**, Putri A. Sekartaji and Hanggara Sudrajat (17 Feb 2021). ZnO nanoparticles for degradation of humic acid in water environment.

- Environmental Science and Pollution Research, vol. 28, pp 31163-31173.
<https://doi.org/10.1007/s11356-021-12977-9>.
- 2021 Chamath D.Y. Yahampath Arachchige Don and **Sandhya Babel** (5 May 2021). Comparing the performance of microbial fuel cell with mechanical aeration and photosynthetic aeration in the cathode chamber. International Journal of Hydrogen Energy, Vol 46, Issue 31, pp 16751-16761.
- 2021 Hanggara Sudrajata, Sri Hartuti, **Sandhya Babel**, Truong Khang Nguyen, and Hien Duy Tong (Feb 2021). SnO₂/ZnO heterostructured nanorods: Structural properties and mechanistic insights into the enhanced photocatalytic activity. J of Physics and Chemistry of Solids, 149, Article number109762.
- 2021 Chamath D.Y. Yahampath Arachchige Don and **Sandhya Babel** (Feb 2021). Effects of organic loading on bioelectricity and micro-algal biomass production in microbial fuel cells using synthetic wastewater. J of Water Process Engineering, 39, Article number 101699.
- 2021 Tadsuwan, Katekanya and **Babel, Sandhya** (2021). Microplastic contamination in a conventional wastewater treatment plant in Thailand. Waste Management and Research, vol 39, issue 5, pp 754-761.
- 2021 Kankanige, D., **Babel, S.**, (April 2021). Contamination by ≥ 6.5 μm -sized microplastics and their removability in a conventional water treatment plant (WTP) in Thailand. J of Water Process Engineering, Vol 40, Article no. 101765.
- 2021 Ho, N.A.D., Babel, S. (2021). Bioelectrochemical technology for recovery of silver from contaminated aqueous solution: a review. Environmental Science and Pollution Research, Vol 28, pp 63480–63494.
- 2020 Jiraporn Yongpisanphop, **Sandhya Babel**, Futoshi Kurisu, Maleeya Kruatrachue and Prayad Pokethitiyook (December 2020). Isolation and characterization of Pb-resistant plant growth promoting endophytic bacteria and its role in Pb accumulation by fast-growing trees. Environmental Technology, 41, issue 27, pp 3598-3606.
- 2020 Anh Tuan Ta and **Sandhya Babel** (Dec 2020). Microplastics pollution with heavy metals in the aquaculture zone of the Chao Phraya River Estuary, Thailand. Marine Pollution Bulletin, 161, article number 111747.
- 2020 N. A. D. Ho and **S. Babel** (Oct 2020). Spontaneous reduction of low-potential silver(I) dithiosulfate complex in bioelectrochemical systems for recovery of silver and simultaneous electricity production. Environmental Technology, Vol 41, No 33, pp 3055-3068.
- 2020 Dikshya Dhakal and **Sandhya Babel** (2020). Arsenic Adsorption from Ground Water using Non-Toxic Waste as Adsorbent. Desalination and Water Treatment, Vol 185, pp 209-225.
- 2020 Anh Tuan Ta and **Sandhya Babel** and Andreas Haarstrick (2020). Microplastics Contamination in a High Population Density Area of the Chao Phraya River, Bangkok. J. of Engineering Technological Sciences, Vol 52, No 4, 534-545.
- 2020 Indika Thushari and **Sandhya Babel** (1 Sep 2020). Biodiesel Production from Waste Palm Cooking Oil Using Solid Acid Catalyst Derived from Coconut Meal Residue. Waste and Biomass Valorization, Vol 11, No 9, pp 4941-4956.
<https://doi.org/10.1007/s12649-019-00820-9>.
- 2020 Ta, A.T., **Babel, S.** (October 2020). Microplastic contamination on the lower Chao Phraya: Abundance, characteristics, and interaction with heavy metals. Chemosphere, Vol 257, Article number 127234.

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