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CAREER SUMMARY

A Women Scientist in the Department of Applied Science and Technology, Environmental Management Lab, Anna University, Chennai, India. Having three years of Teaching experience with publications in national and international scientific journals. Seeking high-profile teaching and research chaired professorship that provides the opportunity to make significant scholarly contributions to the chemical engineering discipline. Excellent leadership, oral and written communication, interpersonal, intercultural and international travel skills. Background includes strong analytical, quantitative and research skills.

ACADEMIC QUALIFICATION

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|------------------|---|
| 2015-2020 | Ph.D. in Chemical Engineering, Dept. of Applied Science & Technology, A.C. Tech, Anna University, Chennai. |
| 2012-2014 | M.Tech. , in Chemical Engineering in Anna University, Chennai [86.4%] |

2002-2006	B.Tech. , in Chemical Engineering, Arunai Engineering College, Anna University, Chennai [81.33%]
2002	Higher Secondary Certificate (HSC), Government Girls, Higher Secondary School [91.5%]
2000	SSLC., Government Girls, Higher Secondary School [81.2%]

RESEARCH EXPERIENCE

Women Scientist

Jan 2020–Dec 2022

Currently working as Women Scientist (WOS-A) on, an integrated anaerobic digestion and microbial electrolysis system for the enhancement of methane production from waste funded by Department of Science and Technology (DST), New Delhi.

Total Project Cost 29, 09, 600

Doctoral Researcher

Jan 2015 – Nov 2020

5 years in Anna University, Chennai, **India**

- Characterization of municipal solid waste, lignocellulosic biomass, Tea powder waste for the production of biogas.
- Process optimization, Gas Analysis, Statistical analysis and Techno-economic analysis of biogas production.
- Developing new design package for small medium and large-scale AD.
- Optimized design for maximized biogas production and fertilizer recovery from Organic fraction of municipal solid waste.

ACADEMIC EXPERIENCE

Teaching Fellow

Dept. of Applied Science & Technology, A.C.Tech, Anna University **Jul 2014 to Jan 2016**

Dept. of Chemical Engineering, A.C.Tech, Anna University **Aug 2019 to Dec 2019**

- Subject handled, Chemical Reaction Engineering (CRE), Mass Transfer, Catalytic Reactor Design, water Technology and Disaster management for undergraduate and postgraduate students.
- Handled heat & mass transfer and Technical analysis laboratories for undergraduate students.
- Participated and organized in Department events including national and International conference, symposium and Workshop.
- Supervised faculty project and informed the supervisor of the project's improvement.
- Provided support in research activities and documented findings.

Test Engineer

May 2007 to Jun 2009

Worked as a Testing Engineer for banking project in Global Software Solutions (TVL) PVT LTD, Chennai, India.

AWARDS and HONORS

- ✚ Delivered expert talk in the national webinar conference on Eco-friendly waste management options for Sustainable agriculture at Centre for Environmental Studies, College of Engineering, Guindy, Chennai on 21st and 22nd October 2021.
- ✚ Received Best Oral presentation for the paper "Comparative Studies on Adsorption of Dye and Heavy Metal Ions from Effluents using Eco-Friendly Adsorbent" at NCCM 2019 conference to be held at Saveetha Engineering College, Chennai, India from 22nd March, 2019.
- ✚ Received "OUTSTANDING RESEARCHER of the year-2018" RULA International Innovation & Betterment awards 2018 for your excellence in, "Tea powder waste as

a potential co-substrate for enhancing the methane production in Anaerobic Digestion of carbon-rich organic waste” Awarded by International Journal for Research Under Literal Access. Accredited by World Research Council. November 12th, 2018.

- ✚ Reported the article “Tea powder waste as a potential co-substrate for enhancing the methane production in Anaerobic Digestion of carbon-rich organic waste” in 25th October 2018 issue in current science journal under the title **SCIENCE LAST FORTNIGHT**.

M.Tech Dissertation

2012 to Jun 2014

- Worked on, Thermo Kinetic estimation for the decomposition of Tri Butyl Phosphate in Central Leather Research Institute (CLRI), Guindy, Chennai.

B.Tech Dissertation

- Worked on, Removal of dye from effluent water in leather industry by Adsorption using leather buff waste as an adsorbent, Central Leather Research Institute (CLRI), Chennai.

SKILLS AND INTEREST

Chemical Engineering

- Pleasant personality to connect with colleagues and students.
- Strong interpersonal and leadership qualities.
- Skilled in programming language and mathematical package: MATLAB, C, C++.
- To develop biokinetic constants with biochemical reaction engineering tools for the large scale implementation of Biogas plants for power generation.

PUBLICATIONS

1. **Thanarasu, A.**, Periyasamy, K. and Subramanian, S., 2022, 'An integrated anaerobic digestion and microbial electrolysis system for the enhancement of methane production from organic waste: Fundamentals, innovative design and scale-up deliberation', *Chemosphere*, 287, p.131886. **(IF-7.08)** <https://doi.org/10.1016/j.chemosphere.2021.131886>
2. **Amudha T**, Karthik P, Kubendran D, Premkumar P, Shanmugam P, Sivanesan S, 'Tea powder waste as a potential co-substrate for enhancing the methane production in Anaerobic Digestion of carbon-rich organic waste' *Journal of Cleaner Production*, 2018, vol. 199, pp. 651-658. **(IF-11.07)** <https://doi.org/10.1016/j.jclepro.2018.07.225>
3. **Amudha T**, Karthik Periyasamy, Jason Thamizhakaran Stanley, Kubendran Devaraj, Premkumar Periyaraman, Sivanesan Subramanian, 2019, 'Anaerobic Codigestion of Alkaline Pretreated Prosopis juliflora biomass with Sewage Sludge for Biomethane production', *Energy and Fuels*, vol. 33, pp. 7357- 7365. **(IF-4.654)** <https://doi.org/10.1021/acs.energyfuels.9b00836>
4. **Thanarasu, A**, Periyasamy, K, Periyaraman, P.M, Devaraj, T, Velayutham, K and Subramanian, S, 2020, 'Comparative studies on adsorption of dye and heavy metal ions from effluents using eco-friendly adsorbent', *Materials Today: Proceedings*, vol.36, pp. 775-781.**(IF-1.46)** <https://doi.org/10.1016/j.matpr.2020.07.001>
5. Jason Thamizhakaran Stanley, **Amudha Thanarasu**, P Senthil Kumar, Karthik Periyasamy, Subramanian Raghunandhakumar, Premkumar Periyaraman, Kubendran Devaraj, Anuradha Dhanasekaran, Sivanesan Subramanian, 'Potential pre-treatment of lignocellulosic biomass for the enhancement of biomethane production through anaerobic digestion-A review', *Fuel*, Vol.318, pp.123593. **(I.F-6.609)** <https://doi.org/10.1016/j.fuel.2022.123593>
6. Ramya Thangamani, Premkumar Manickam Periyaraman, **Amudha Thanarasu**, Karthikeyan Velayutham, Anuradha Dhanasekaran, Sivanesan Subramanian, 2022,

- 'Electrooxidation of coragen-contaminated wastewater using graphite electrodes and sorbent nano-hydroxyapatite', *Environmental Technology*, vol.43, pp.1-10. **(IF-3.247)**
7. Kubendran Devaraj, Yuvarani Mani, Salma Aathika Abdur Rawoof, Amudha Thanarasu, Anuradha Dhanasekaran, Sivanesan Subramanian, 2020, 'Feasibility of biodiesel production from waste cooking oil: lab-scale to pilot-scale analysis', *Environmental Science and Pollution Research*, vol.27, pp.25828-25835. **(I.F. 4.223)**.
 8. Thangamani Ramyaa, Periyaraman Premkumarb, Amudha Thanarasub, Karthikeyan Velayuthamb, Anuradha Dhanasekaranc, Subramanian Sivanesan, 2019, 'Degradation of pesticide-contaminated wastewater (coragen) using electrocoagulation process with iron electrodes', *Desalination and Water Treatment*, vol.165, pp. 103-110. **(I.F. 1.254)**.
 9. Devaraj Kubendran, Manivasagan Veerasamy, Salma Aathika, Yuvarani Mani, **Amudha T**, Anuradha Dhanasekaran, and Sivanesan Subramanian, 2019, 'Study on Effectiveness of Activated Calcium Oxide in Pilot Plant Biodiesel Production', *Journal of Cleaner Production*, vol. 225, pp 18-26. **(IF-9.29)**
 10. Thiruselvi D, Yuvarani M, **Amudha T**, Sneha R, Mariselvam AK, Anil Kumar M, Shanmugam P, Sivanesan S, Synthesis of iron nano-catalyst using *Acalypha indica* leaf extracts for biogas production from mixed liquor volatile suspended solids, *Energy Sources, Part A: Recovery, Utilization, and Environmental Effects*, 2018, vol. 40, pp. 7, 772-779. (IF-3.44)
 11. Salma Aathika A. R, D Kubendran, M Yuvarani, D Thiruselvi, **T Amudha**, P Karthik, S Sivanesan, Enhanced biohydrogen production from leather fleshing waste co-digested with tannery treatment plant sludge using anaerobic hydrogenic batch reactor, *Energy Sources, Part A: Recovery, Utilization, and Environmental Effects*, 2018, vol. 40, pp. 586-593. **(IF-3.44)**
 12. Kubendran D, Salma A, Yuvarai M, **Amudha T**, Karthik P, Premkumar P, Karthikeyan V, Sivanesan S, Experimental investigation on cleaner process of enhanced fat-oil

extraction from alkaline leather fleshing waste, Journal of Cleaner Production, 2018, vol. 175, pp.1-7. **(IF-9.29)**

13. Karthikeyan V, Anil Kumar M, Mohanapriya P, **Amudha T**, Thiruselvi D, Karthik P, Sivanesan S, Biodegradation of Remazol Brilliant Blue R using isolated bacterial culture (Staphylococcus sp. K2204), Environmental technology, 2018, vol.39, pp. 2900-2907. **(IF-3.247)**
14. Kubendran D, Salma A, **Amudha T**, Thiruselvi D, Yuvarani D, Sivanesan S, Utilization of leather fleshing waste as a feedstock for sustainable biodiesel production, Energy Sources, Part A: Recovery, Utilization, and Environmental Effects, 2017, vol. 39;15, pp. 1587-1593. **(IF-3.44)**
15. Anil Kumar M, Zamana P A, Vinoth Kumar V, Baskaralingam P, Thiruvengadaravi KV, **Amudha T**, Sivanesan S, Achromobacter xylosoxidans strain APZ for phthalocyanine dye degradation: Chemo-metric optimization and canonical correlation analyses, 2017, Journal of water process engineering, vol. 18, pp. 73-82. **(IF-5.46)**
16. B Suresh, D Thiruselvi, **T Amudha**, D Nilavunesan, S Sivanesan, Treatment of landfill leachate by using sequential batch reactor and sand bed filter followed by Granular Activated Carbon (GAC), Journal of Chemical and Pharmaceutical sciences, 2016, vol. 93, pp. 1468-1471. **(IF-0.2)**
17. Sivakumar V, PD Gayathri, **T Amudha**, Ultrasound-assisted Acid red dye removal using leather fibre wastes as matrix: 'intra wastes interaction' approach, International Journal of Environmental Studies, 2013, vol. 70;4, pp.536-548. **(IF-1.26)**
18. Ramya Thangamani, Muthukumar Muthusamy, Premkumar Manickam Periyaraman, **Amudha Thanarasu**, Thiruselvi Devaraj, Anuradha Dhanasekaran, Subramanian Sivanesan, Advance electrochemical oxidation of fipronil contaminated wastewater by graphite anodes and sorbent nano hydroxyapatite, Energy Sources, Part A:

Recovery, Utilization, and Environmental Effects 2019, vol. 41, pp. 7,866-880. **(IF-3.44)**

19. Mariselvam Ammasi Krishnan, Karthikeyan Jawahar, Vasudevan Perumal, Thiruselvi Devaraj, **Amudha Thanarasu**, Devaraj Kubendran, Subramanian Sivanesan, Effects of Ambient Air Pollution on Respiratory and Eye Illness in Population Living in Kodungaiyur, Chennai, Atmospheric Environment, 2019,203,166-171. **(IF-4.02)**

CONFERENCE PUBLICATIONS

20. **Amudha Thanarasu**, Karthik Periyasamy, Premkumar Manickam Periyaraman, Thiruselvi Devaraj, Karthikeyan Velayutham, Sivanesan Subramanian, Comparative Studies on Adsorption of Dye and Heavy Metal Ions from Effluents using Eco-Friendly Adsorbent, 2021, 36, 775-781.
21. **Amudha Thanarasu**, Karthik Periyasamy, Kubendran Devaraj, Karthikeyan Velayutham, Thiruselvi Devaraj, Sivanesan Subramanian, Optimizing Biomethane Yield from Tannery Fleshing Waste and Organic Waste using Anaerobic Digestion, 2018,SALVATIO -18, ICEEIS WRR 14.

SEMINAR AND CONFERENCE

- Participated One-day awareness workshop on Intellectual Property Rights & Innovation conducted by Centre for Intellectual Property Rights (CIPR) held at AC Tech campus, Anna University, Chennai on 16.09.2022.
- Participated and exhibited our products in the “TECH EXPO 2022” held at Anna University, Chennai during 11-13th August, 2022.
- Presented paper on “Biomethane enhancement through integration of Anaerobic digestion and Microbial fuel cell: Interface between methane grid and electricity in two days national conference on Novel Innovations in Biotechnology, Bioengineering & its applications towards the next millennium held at Adhiyamaan College of Engineering, Hosur on 18 & 19th May 2022.

- Presented paper on “Biomethane Upgradation and Electricity Production through Integrated Anaerobic Digestion and Electromethanogenesis Process” at International Conference on Health, Energy and Materials (ICHEM 22) organized by Department of Chemical Engineering, Hindustan Institute of Technology and Science, Chennai during April 28-29,2022.
- Participated in the SICI sponsored online workshop on NEXT GEN FUELS: A SUSTAINABLE APPROACH organized by Department of Chemical Engineering, National Institute of Technology, Tiruchirappalli during March 16-20,2022.
- Participated in the one-day seminar on “Technologies for Energy from Municipal Solid Waste at Anna University, Chennai on March 19,2022.
- Presented paper on “Biomethane Upgradation and Electricity production via Integration of Anaerobic Digestion and Two-Chamber Microbial Fuel Cell Using Organic Wastes as Substrate” at 6th International conference on Recent advancements in Chemical, Environment & Energy Engineering (RACEEE -2022) Organized by the Department of Chemical Engineering, SSN College of Engineering on 24 & 25th February 2022.
- Participated in the one-day workshop on Digital Resources for learning Research Methodology: A Researcher’s Perspective on 25th February 2022 held at Anna University, Chennai – 600025.
- Participated in the webinar “Environmental and health impact of persistent organic pollutants (POPs) organized by Stockholm convention Regional Centre(SCRC), Asia region and CSIR-National Environmental Engineering Research Institute(NEERI), Nagpur, India on January 25, 2022.
- Invited Speaker on “Anaerobic Digestion and Electro-methanogenesis process: A Future Interaction between Methane and Electricity Distributions Grids” at National webinar conference on Eco-Friendly Waste Management Options for Sustainable Agriculture to be held at Centre for Environment Studies, Anna University, Chennai on 21.10.2021 to 22.10.2021.
- Presented paper on the “Anaerobic Digestion and Electro-methanogenesis process: A Future Interaction between Methane and Electricity Distributions Grids” at 2nd

International conference on ICWEE-2021 to be held at Sathyabama University, Chennai, India on 23.09.2021-24.09.2021.

- Presented paper on the “An Integrated Anaerobic Digestion and Microbial Electrolysis System for the Enhancement of Methane Production from Organic Waste: A future perspective” at International virtual conference on Recent trends in Clean Technologies for Sustainable Environment to be held at **6.**, India on 06 & 07nd May, 2021.
- Presented paper on the “Comparative Studies on Adsorption of Dye and Heavy Metal Ions from Effluents using Eco-Friendly Adsorbent” at NCCM 2019 conference to be held at Saveetha Engineering College, Chennai, India on 22nd March, 2019.
- Participated in the workshop on Directional Drilling conducted in Petrovision’ 19 held on 11th March 2019, at Alagappa College of Technology, Anna University.
- Presented paper on the title “Calorimetric Determination of Hg(II) sensor based on magnetic nanocomposite($\text{Fe}_3\text{O}_4@ZIF-67$) acting as peroxidase mimics, at ACBICON 2018 Conference to be held at Kala Academy, Goa, India on 24-27 October 2018.
- Participated in the “workshop on Research Methodology and Scientific Writing” held on 11 and 12th July 2018 at Anna University, Chennai, India.
- Participated in the seminar on “Sustainable Development and Clean Technologies” held on 3rd July 2018 at Anna University, Chennai, India.
- Presented paper on the title “Optimizing biomethane yield from tannery fleshing waste and organic waste using anaerobic digestion” in the International Conference on Energy, Environment and Industrial Safety held on 23 Feb 2018 at Anna University, Chennai, India.
- Participated in One day seminar on “Frontiers in Chemical Process Industries” held at A.C.Tech Campus, Anna University, Chennai on 19th March, 2018.
- Participated in World Environment Day Celebration-2016 held at Alagappa College of Technology, Anna University, Chennai on 18th June 2016.
- Presented paper on “Treatment of Landfill Leachate by using SBR and GAC in the IEEE Sponsored International Conference on Science, Technology, Engineering and Management held at Jeppiaar Engineering College on 30 and 31st March 2016.

- Participated in the conference “GREENTECH’2015” an International conference on Environment, Ecology and pollution during March 16-19, 2015 at Arunai Engineering College, Tamil Nadu, and India.
- Participated in the organization of ACENTS -2006 (Arunai Chemical Engineering National Technical Symposium).

INSTRUMENTS HANDLED

<ul style="list-style-type: none"> • Gas Chromatography and Mass Spectroscopy (GCMS) (Shimadzu, Japan) • High Pressure Liquid Chromatography (HPLC)(Shimadzu, Japan), • UV- Spectroscopy (Shimadzu, Japan), • Scanning Electron microscope (<i>ESEM-FEI Quanta 200</i>). 	<ul style="list-style-type: none"> • Fourier-Transform Infrared Spectroscopy (<i>Perkin-Elmer Spectrum 65, USA</i>), • Gas Chromatography (Agilent Technologies, USA). • Tubular and muffle Furnace. • Anaerobic chamber, COD digester, Laminar flow chamber and Autoclave.
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PERSONAL PROFILE

Female, Indian, Married, DOB: 14-05-1985

Linguistic proficiency: English, Tamil

Ability to lead and motivate staff work effectively as a team member, work to schedules / deadlines and be committed to quality provisions. To best of my knowledge above furnished details are true.

Yours sincerely,

T. Amudha

REFERENCES

Prof. S. Sivanesan	Prof. S. KalaiSelvam	Prof. B. Balasubramanian
Professor	Professor and Head	Professor
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