

Faculty Profile



Dr. M. Kalpana , M.E., Ph.D
Associate Professor & HoD – CIVIL

HIGHLIGHTS

- Number of Journal Publications:16
- H-Index:05
- Project Funding Received: NIL
- Patents Published: 02

PROFESSIONAL LINKS

- Scopus ID: 57752226900
- Scopus Link: <https://www.scopus.com/authid/detail.uri?authorId=57752226900>
- Google Scholar ID: <https://scholar.google.com/citations?user=G0ik5pIAAAAJ&hl=en>
- Anna University Faculty ID: 261801 & 2122099 (COE ID)
- AICTE Faculty ID: 1-717031302
- Anna University Supervisor ID: NIL
- LinkedIn: <https://in.linkedin.com/in/kalpana-manoharan-a979a1199>

PROFESSIONAL BACKGROUND

- Teaching Experience till date: 23 years
- Industrial Experience: 1 year

INTERNATIONAL EXPOSURE

- Presented a research work titled “Development and Characterization of a Durable Anti-Corrosive Coating for Steel Bars”, ICSECE 2026, Erwari Engineering College, Chennai, on 9th Feb 2026.
- Presented a research work titled “Volarisation of Typha Ash in Eco-friendly Brick Manufacturing: Effects on Strength, Porosity and water Absorption”, ICISH 2025, Saveetha Engineering College, Chennai, on 14th August 2025.
- Presented a research work titled “Turning Waste into WATTS: A Sustainable MFC-Based Approach Food Waste Management”, ICISMT 2025, Aditya University, Andra Pradesh, on 19th July 2025.

- Presented a research work titled “Utilization of Transformer Bushing Waste as Coarse Aggregate Replacement in Concrete: A Strength Analysis”, ICISMT 2025, Aditya University, Andra Pradesh, on 16th July 2025.
- Presented a research work titled “Assessing the Effects of Industrial Effluents on Environment in Vellore”, 4th International Conference on Bio-energy, Environment & Sustainable Technologies, Arunai Engineering College.
- Participated in the First International Conference on "Instrumentation, Electrical, and Electronics Engineering" organized by Saveetha Engineering College, Chennai, on 31st March 2017.
- Organized International Conference in the Department of Civil Engineering, Saveetha Engineering College (RICE’18, RICE’19, ISCCE’20 ICETCE’22, ICETCE’23, ICETCE’24)

AREA OF SPECIALIZATION

- Water Supply Engineering
- Wastewater Engineering
- Concrete Technology
- Research Interests:
- Wastewater Management
- Waste Management
- Alternate Material for Construction
- Alternate Material for water treatment

Ph.Ds AWARDED WITH DETAILS: NA

Ph.Ds GUIDING: NA

SPONSORED RESEARCH / FUNDING APPLIED / CONSULTANCY

- Funding applied for CSIR-ASPIRE project scheme (2023)
- Funding applied for Tamil Nadu State Council for Science and Technology (TNSCST) project schemes
- Development and Optimization of Low-Cost Adsorbents for Sustainable Removal of Hexavalent Chromium from Industrial Effluents – ISGH (2025)
- Compact Greywater Reclaimer – A Mobile Sustainable Solution – MEME (2025)
- Portable Organic Waste Composting Bin – TNSCST:SPS (2025)
- Utilization Of Waste Gas Supply Pipe as Partial Aggregate Replacement And Micro-reinforcement In Concrete - TNSCST:SPS (2025)
- Compact Portable Greywater Treatment Unit – SASTRA-TCS (2025)
- Decentralized Conversion of Vegetable Market Waste into Biochar for Cleaner Madurai City – MANTHON: Low Carbon Earth (2025)
- Synthesis of carbon sequestered geopolymer matrix using invasive biomass for sustainable construction practices – ICSSR (2025)
- Thermo-Chemical Valorisation of Faecal Sludge: Biochar Production and Environmental Assessment - ICSSR (2025)
- Sustainable utilization of construction and demolition (C&D) waste derived recycled coarse aggregates (RCA) in conventional concrete and geopolymer binder systems to reduce aggregate import dependency in the Maldives - Villa College Research Grant (2026)
- Carbon sequestering sustainable concrete using invasive biomass biochar – TNSCST (2026)

- Comparative evaluation of Rare Earth Element Recovery from Fly Ash of Thermal Power Plants in Tamil Nadu – TNSCST (2026)
- AquaSave Unit - Mini Portable Greywater Treatment Unit – TNSCST (2026)
- Decentralized Conversion of Vegetable Market Waste into Biochar for Sustainable Waste Management in Madurai – TNSCST (2026)
- Circular Carbon Construction: Converting CETP Bio-Sludge into Biochar-Based Sustainable Concrete Blocks – MANTHAN: Center for Climate Tech (2026)

PATENTS PUBLISHED/GRANTED

1. Patent awarded to M.Kalpna by Intellectual Property India for “Automated Air Quality Monitoring System in Real Time Cabin Environment and Enhanced Driver Health”. Patent Number: 202341038755 (01-Sep-2023)
2. Patent awarded to M.Kalpna by Intellectual Property India for “Agriculture Drone with Pesticides Spraying Mechanism”. Patent Number: 62964 (22-Sep-2023). (Applied for Grant).

COURSES CERTIFIED

- Certified by NPTEL for the course “Accreditation and Outcome Based Learning” (Aug-Oct 2022)
- Certified by NPTEL for the course “Wastewater Treatment and Recycling” (Jul-Oct 2018)
- Certified by IUCEE in the International Engineering Educator Certification Program (IIEECP)

ACHIEVEMENTS AND AWARDS

- Received the "Best Teacher" award from Saveetha Engineering College in 2011.
- Honored with the "Best Teacher" award by Saveetha Engineering College in 2012.
- Awarded the "Best Teacher" recognition from Saveetha Engineering College in 2014.
- Achieved the "Best Teacher" award from Saveetha Engineering College in 2016.
- Received the "Best Teacher" award from Saveetha Engineering College in 2018.

SPECIAL SESSIONS DELIVERED

- Session Chairperson for 7th International Conference on Sustainable Environment & Civil Engineering organized by Thiagarajar College of Engineering, Madurai (10.04.2026).
- Session Chairperson for 2nd National Level Research Conclave 2026 organized by Thiagarajar College of Engineering, Madurai (26.03.2026).
- FDP Keynote Speaker in the Sustainable Practices and Emerging Trends in Civil Engineering FFDP organized by Saveetha Engineering College, Chennai (17.11.2025).
- Delivered lecture in the IEI Seminar on Remote Sensing & GIS Applications on Water Resources Engineering (March 03-04, 2023)
- Delivered a Guest Lecture organized by the Faculty Training Centre in association with the Department of Industrial Biotechnology and Department of Civil Engineering, Government College of Technology, Coimbatore (Date: 23.12.2021).

CONFERENCES/SEMINARS/WORKSHOPS ATTENDED

- Attended an International Talk Series – CFIA organized by Thiagarajar College of Engineering, Madurai from 23rd Feb to 27th Feb 2026.

- Attended a national workshop on “Intellectual Property Rights” organized by Thiagarajar College of Engineering, Madurai from 25th July to 26th July 2025.
- Attended a FDP on “Theory to Terrain: Bridge Design Concepts with MIDAS CIVIL” organized by Thiagarajar College of Engineering, Madurai from 12th June to 14th June 2025.
- Attended a national-level workshop titled "Recent Trend in AI Innovation & Solutions for Contemporary Challenges" organized by Saveetha Engineering College from 22nd to 27th January 2024.
- Participated in a national workshop on "Productivity Enhancement through Stress Management" organized by G.H. Raisonni Institute of Engineering and Technology, Nagpur, from 20th to 24th February 2023.
- Attended a national workshop titled "Futuristic Research Scope in Civil Engineering" organized by CK College of Engineering and Technology from 23rd to 27th August 2022.
- Participated in a national workshop on "Inculcating Universal Human Values in Technical Education" conducted by AICTE from 3rd to 7th January 2022.
- Attended a national-level workshop on "Internet of Things" organized by ATAL Academy from 17th to 21st January 2022.
- Participated in a national workshop titled "The Leaders Secret" conducted by Saveetha Engineering College on 5th January 2022.
- Attended a national workshop on "Assessment Planning for Outcome-Based Education" organized by IIT Madras on 21st February 2020.
- Participated in a national-level seminar titled "Quality Assessment on Pavement Materials and Bituminous Mix Design" conducted by SSE on 9th August 2019.
- Attended the 4th International Conference on "Bio-energy, Environment & Sustainable Technologies" organized by Arunai Engineering College on 28th January 2019.
- Participated in the IUCEE International Engineering Educator Pre-Certification Workshop held from January to July 2019.
- Attended a three-day International Engineering Educator Pre-Certification Workshop organized by IUCEE starting from 11th December 2018.
- Participated in a three-day Faculty Development Programme on "Teaching Learning Centre" organized by IIT Madras starting from 22nd November 2018.
- Attended a national workshop on "Engineering Instruments and Applications" conducted by Saveetha Engineering College on 31st August 2018.
- Participated in a pre-conference workshop on "Smart Structures and Systems" conducted by Saveetha Engineering College on 12th February 2018.
- Attended a national-level workshop on "Skill Development in Research, Projects and Patent Filing" organized by Saveetha Engineering College on 17th February 2018.
- Participated in a national workshop on "Outcome-based Education through ICT" conducted by NITTTR on 5th March 2018.
- Attended a national workshop on "Implementation of Industrial IoT" organized by NI on 3rd April 2018.
- Participated in the First International Conference on "Instrumentation, Electrical, and Electronics Engineering" organized by Saveetha Engineering College, Chennai, on 31st March 2017.
- Attended a one-day national seminar on "Recent Analytical Techniques in Research Areas of Chemistry" conducted by Saveetha Engineering College on 3rd March 2017.
- Participated in a one-day hands-on training on "LATEX" conducted by Saveetha Engineering College on 4th February 2017.
- Attended a two-day FDP on "Engineering Graphics" organized by Saveetha Engineering College from 4th to 5th August 2016.

- Participated in a two-day national-level workshop on "ANSYS for Civil Engineers" conducted by the Department of Civil Engineering, Saveetha School of Engineering, in March 2016.
- Attended an online workshop on "Education Technology for Engineering Teachers" organized by IIT Bombay in March 2016.
- Participated in the ISTE STTP Workshop on "Structural Engineering" conducted by IIT Kharagpur and Saveetha Engineering College from December 2015 to January 2016.
- Attended a one-day workshop on "Queueing Theory" conducted by the Department of Mathematics, Saveetha Engineering College, on 27th November 2015.
- Participated in a two-day Faculty Development Workshop on "Engineering Graphics" organized by Oxford University Press India and Saveetha Engineering College, Chennai, from 31st July to 1st August 2015.
- Attended a two-week ISTE STTP on "Environmental Studies" organized by IIT Bombay and Saveetha Engineering College, Chennai, from 2nd to 12th June 2015.
- Participated in an ISTE workshop on "Fluid Mechanics" held in May 2014.
- Attended a national workshop on "Hybrid Renewable Energy System" organized by DST from 19th to 21st February 2014.
- Participated in an FDP on "Engineering Mechanics" organized by IIT Bombay and Saveetha Engineering College from 26th November to 6th December 2013.
- Attended a short-term course on "Theory & Advanced Practices in Construction Project Management" conducted by ISTE on 4th March 2013.
- Participated in a national seminar on "Recent Trends in Seismic Resistant Design" held on 22nd February 2013.
- Attended a workshop on "BIM for Construction" organized by ICT Academy on 28th January 2013.
- Participated in an ISTE workshop on "Engineering Thermodynamics" organized by ICT (MHRD) from 11th to 21st December 2012.
- Attended a national seminar on "Opportunities and Challenges for Self-Consolidating Concrete in Highway Structures" conducted by Kongu Engineering College, Perundurai, on 22nd December 2012.
- Participated in a two-day national workshop on "Opportunities in Non-Destructive Testing" organized by Sathyabama University from 28th to 29th November 2012.
- Coastal Pollution Management Plan in Odisha Coast, International Conference on Recent Innovations in Civil Engineering, Saveetha Engineering College (2019).
- Assessing the Effects of Industrial Effluents on Environment in Vellore, 4th International Conference on Bio-energy, Environment & Sustainable Technologies, Arunai Engineering College.
- Productivity Improvement Study in a Manufacturing Enterprises by Implementing Agile Principles, National Conference on Recent Advancements in Mechanical Engineering, Rajalakshmi Engineering College.

PUBLICATIONS

- **Kalpana, M.,** Venkatesan, G., Padma, S. (2025). Analysing the Effect of using Waste Ceramic
- Aggregates as Coarse Aggregate and Concrete Dust as Filler in Pavement to the Permeability.
- *Journal of Advanced Research in Applied Sciences and Engineering Technology*, 54(1), pp. 123–137.
- **Manoharan, K.,** Govindaraj, V., Srinivasa Perumal, P., Lokeshwary, M., Annamalai, A. (2024).
- Analysing the Composition and Behaviour of Manufacturing Industry Effluents. *Asian Journal of Water, Environment and Pollution*, 21(6), pp. 181–188.

- Padma, S., Venkatesan, G., **Kalpana, M.** (2024). Assessing Environmental Impact of Shoreline
- Changes Along the Odisha Coast Using DSAS and Satellite Imagery. *Asian Journal of Water, Environment and Pollution*, 21(6), pp. 229–237.
- Srinivasa Perumal, P., Govindaraj, V., **Manoharan, K.** (2024). Accelerated urban river water quality assessment in Southern India using visible and near-infrared spectroradiometry. *Desalination and Water Treatment*, 319, 100548.
- **Kalpana, M.**, Venkatesan, G., Padma, S. (2024). Analysing the Effectiveness of Municipal Wastewater Sludge, Bagasse Ash, Rice Husk Ash and Plastic Waste Powder for Manufacturing Bricks. *Asian Journal of Water, Environment and Pollution*, 21(1), pp. 71–79.
- **Manoharan, K.**, Manimaran, G., Yerra, S.R. (2023). Effective removal of heavy metal: mercury concentration using natural adsorbents. *Environment, Development and Sustainability*, 25(6), pp. 5737–5752.
- **Manoharan, K.**, Srinivasaperumal, P., Murali, G., Manjuvardhan, N. (2023). Dye Industries are a Threat to the Environment: An Assessment of Groundwater Characteristics. *Asian Journal of Water, Environment and Pollution*, 20(3), pp. 47–55.
- Govindaraj, V., **Manoharan, K.**, Sakthivel, S., Guruchandran, K., Mathew, W. (2023). A Combined Approach for the Treatment of Textile Dye Bath Effluent Using CO₂ Gas. *Asian Journal of Water, Environment and Pollution*, 20(2), pp. 59–65.
- Perumal, P.S., **Manoharan, K.** (2022). Analysis of Industry-based Experiential Learning for Undergraduate Courses in Civil Engineering. *Journal of Engineering Education Transformations*, 36(Special Issue 1), pp. 82–88.

SUBMITTED

- Sustainable and Low-Cost Adsorbents for Hexavalent Chromium Removal: Process Optimization and Mechanism Evaluation
- Saprophytic Bacteria as Filtering Medium to Recycle the Greywater for Household Applications – A Comparative Study
- Quantitative Assessment of Concrete Crack Growth Parameters using Image Processing in Labview
- Automated Crack Detection and Quantitative Characterization of Concrete Surfaces Using MATLAB-Based Image Processing and Structural Correlation
- Utilization of Transformer Bushing Waste as Coarse Aggregate Replacement in Concrete: A Strength Analysis
- Turning Waste into WATTS: A Sustainable MFC-Based Approach Food Waste Management
- Volatilisation of Typha Ash in Eco-friendly Brick Manufacturing: Effects on Strength, Porosity and water Absorption
- Development and Characterization of a Durable Anti-Corrosive Coating for Steel Bars
- Sustainable Waste Management: Innovations, Challenges, and Future Directions for Urban and Rural Systems
- Biochar as a Functional Carbon Material: Production, Properties, and Applications

PROFESSIONAL MEMBERSHIPS

- Life Member in Indian Society for Technical Education

OTHER DETAILS (If any)

Working Papers:

- Heavy Metal Removal
- Sustainable Construction Material
- Biochar from Environmental Waste