Sri Sivasubramaniya Nadar College of Engineering Department of Chemical Engineering

Welcomes

The open day participants M. Tech (Environmental Science and Technology) Programme

18th July 2020



Department of Chemical Engineering



About Chemical Engineering Department

- The department was established in the year **2004**.
- The department offers B.Tech (Chemical Engineering) from the academic year 2004–2005, and M.Tech (Environmental Science and Technology) from the academic year 2014–2015.
- The department is recognized as a **Research Centre** by Anna University, Chennai to carry out the Ph.D. and M.S (by research).
- Total number of Faculty members: 14 (01 Professor and 13 Associate Professors). All are Ph.D. holders.
- Total number of scholars completed their Ph.D. degree : 22
- Total number of scholars pursuing their Ph.D. research works : 52 (33 Full Time; 19 Part Time)
- Most of the Full Time scholars are receiving SSN Junior Research Fellowship (SSN-JRF) of Rs. 17,000/- per month.
- The department is well equipped with ChemCAD, AspenPlus and MATLAB.

Core Courses Offered

- Unit Operations and Unit Processes in Environmental Technology
- Separation Processes in Environmental Applications
- Modelling of Environmental Systems
- Biological Wastewater Treatment
- Air and Noise Pollution Control
- Solid and Hazardous Waste Management
- Environmental Impact Assessment

Electives Offered

- Safety and Hazard Control,
- Environmental Policies and Legislation,
- Environmental Sustainability,
- Ecology and Environment,
- Energy Management,
- Marine Pollution and Control,
- Environmental Risk Assessment,
- Wastewater Engineering,
- Industrial Pollution Prevention,
- Climate Change and Adaptation,
- Membrane Technologies for Water and Wastewater Treatment,
- Environmental Reaction Engineering,
- Advanced Oxidation Processes and Technology,
- Pollution Abatement, Corrosion Engineering,
- Environmental Biotechnology,
- Soil Pollution Engineering

- Environment, Health and Safety in Industries, Remote Sensing and GIS
- Applications in Environmental Management,
- Hydrogen and Fuel Cells,
- Waste Management and Energy Recovery,
- Bio-Energy Conversion Techniques,
- Electrochemical Environmental Technology,
- Electronic Waste Management,
- Environmental Transport Processes,
- Principles of Green Chemistry and Engineering,
- Plastic Waste Management,
- Agricultural Waste Management,
- Monitoring of Air Pollutants,
- Carbon Capture and Storage

Major Research Area

- Advanced Oxidation Process
- Algal Research
- Air Pollution Abatement
- Carbon Capture
- Ionic liquids
- Green Solvents
- Nanobiotechnology
- Natural Product Extraction
- Water Research

SSN Chemical Engineering

SSN College of Engineering Verified email at ssn.edu.in - <u>Homepage</u>

Environmental Chemical En...

Cited by		VIEW ALL
	All	Since 2015
Citations h-index i10-index	8631 46 182	6753 41 162
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Research Publications

Year	Thomson Reuters IF Journals	Scopus Indexed Journals	Non-SCI Journals	Conference Proceeding	Book/ Book Chapters
2017	34	3	12	31	03
2018	30	1	1	31	31
2019	51	4	1	28	43
2020	42	1			25

Available Research Facilities

Available Research Facilities

Bubbling reactor for CO₂ absorption studies

Customized Experimental Setup

Conventional solvent regeneration set up Direct heating

Conventional solvent regeneration set up Indirect heating

Megasonics-assisted solvent regeneration set up

Microwave-assisted solvent regeneration set up

Available Research Facilities

Major Research Projects

Dr.B.Ambedkar, in collaboration with IIT-Madras has received a grant of **Rs.2.08 Crore** for the project entitled, **"Bench Scale Design and Development: Investigation of High-Frequency**, **High-Intensity Ultrasonics for Carbon Rich Solvent Regeneration in Solvent Based Post-Combustion CO**₂ **Capture Process for Reducing CO**₂ **Capture Energy Demand**" sponsored by <u>DST, Govt. of India</u>

Major Research Projects

Name of the Faculty	Project Title	Funding Agency	Amount in lakhs	Duration
Dr.R.Anantharaj	Solvent screening, synthesis, characterization and application of potential solvent for removal of endocrine disrupts chemicals from water matrices	DST - SERB	19.47	3 years Nov 2015 - Oct 2018
Dr.B.Ambedkar	Potential applications of mega - sonics (high frequency untrasound) in CO ₂ capture solvents regeneration: an initial approach	DST - SERB	21.36	3 years Dec 2016 - Nov.2019
Dr.J.Dhanalakshmi (PI) Dr.B.Ambedkar (Co-PI)	Potential applications of Ionic liquids in CO ₂ capture process for sustainable energy and environment	DST - SERB	26.52	3 years Jan. 2017 - Dec. 2020

Major Consultancy Projects

Name of the Faculty	Project Title	Funding Agency	Amount in lakhs
Dr.R.Anantharaj	Enhancements of Fuel Properties	Jayasakthi Chemicals Limited	3.54
Dr.R.Anantharaj	Production of Ally Alcohol from Glycerine using Green Chemical Process, Commercial production	Sheenlac Paints Limited	11.80
Dr.P.Senthil Kumar	Waste Plastic Conversion into Liquid Fuels	Paterson Energy (P) Ltd	3.00
Dr.K.P.Gopinath	Manufacturing of Algal and other Bio Products	Astamin Biotech	6.00

List of Patents

Patent Number	Title	Inventors	IPO Status
201741034675	Shrimp Shell Waste Into Biodegradable Grocery Bags	Dr. P. Senthil Kumar; S. Suganya	Application Published
201741039775	Microwave Assisted Carbon Rich Solvent Vacuum Regeneration: Continuous Process	Dr. B. Ambedkar	Application Published
201841021481	Megasonics for Carbon Rich Solvent Vacuum Regeneration in PCCC: Continuous Process	Dr. B. Ambedkar*, Dr. J. Dhanalakshmi, Ms. P. Muthumari	Application Published
201841042095	Box type modular photocatalytic reactor for removal of VOCs under normal fluorescent lamps	Dr. K. Jagannathan	Application Not Yet Published

International Research Collaboration

University of Nottingham

UNIVERSITI TEKNOLOGI MARA

United Nations Educational, Scientific and Cultural Organization

- Institute for
- Water Education
- in partnership with UNESCO

Why M.Tech at SSN?

- Walk-in Walk-out Scholarship to eligible students.
- Scholarship to GATE qualified students (in addition to AICTE stipend).
- Qualified and experienced research guides.
- Well equipped state-of-the-art laboratories.
- Funding for potential student research under SSN students internal funding scheme.
- Publications by students in international journals.
- International research collaborations.
- Free access to journal papers.
- Central library with a catalogue of over 84000 volumes and 20000 titles and an online journal database.
- Utilizing the research lab facilities of 24x7.

Why M.Tech at SSN?

- 200+ top industries visit for placements every year.
- Wide academia industry collaborations.
- Live industry projects / internships.
- Active student chapters of IIChE, IEI, etc.,
- SSN Incubation Foundation for incubating start-ups of those with entrepreneurial dreams.
- 250 acre green campus for ideal academic ambience.
- Excellent sports facilities.
- Spacious hostels with single room accommodation for postgraduate students.
- Finally, Admission is purely on Merit basis.

Opportunities after M.Tech?

- TNPCB and CPCB
- MoEF
- Environmental research laboratory
- Effluent treatment plants (Reusage)
- Engineering Procurement and Construction (EPC) sector
- Water Supply and sewerage boards
- Industries SHE Statutory position
- Finally, Admission is purely on Merit basis.

Thank you ...

