

## Curriculum Vitae

### Dr.(Mrs).S.Shanmuga Priya

M.Tech(NIT-T),Ph.D(NIT-T)

Professor [MAHE0008019]

*Project Investigator, VGST Centre of Excellence  
in Solar fuels, Sponsored by VGST, Karnataka  
[2023-2025]*

Department of Chemical Engineering  
Manipal Institute of Technology,  
Manipal Academy of Higher Education,  
ManipalUdupi Dist, Karnataka. India.

Zipcode : 576104

Mobile : +91-9740730126

Mail : [shan.priya@manipal.edu](mailto:shan.priya@manipal.edu)

Web : [www.manipal.edu](http://www.manipal.edu)



**Scopus Author ID** : 57199407923     **h-index** : 11

**ORCID ID** : 0000-0001-5981-0559

#### Designation

**Professor**

: 6<sup>th</sup> Jan 2024 - Till date

**Additional Professor**

: 31<sup>st</sup> July 2019 - 5<sup>th</sup> Feb 2024

**Associate Professor**

: 5<sup>th</sup> Feb 2011 - 30<sup>th</sup> July 2019

**Assistant Professor**

: 30<sup>th</sup> Jan 2009 - 4<sup>th</sup> Feb 2011

#### Ph.D Guide/Co-Guide [Completed : 2, Ongoing : 2]

1. Ms.Ramyashree MS - Full time under TMA Pai Scholarship Reg No : 200900157 “Development of metal organic framework based ternary nanocomposite for photocatalytic reduction of carbon dioxide to solar fuels” (**Guide**) – 22 Feb 2021(Registration) – **Ongoing**
2. Ms.Thillai Lakshmi - Full time under TMA Pai Scholarship Reg No : 230900196 “Metal organic framework based MXene hybrids for enhanced photocatalytic reduction of CO<sub>2</sub> to solar fuels” (**Guide**) - **Ongoing**
3. Mrs.Vinayambika.S.Bhat - “Design and Validation of Robust Controller for a Binary Distillation Column”, Ph.D completed under MAHE,Manipal, 25 Aug 2018. (**Co-Guide**) - **Completed**
4. Mr.Edala Sarath Yadav - “Design,Implementation and Validation on control schemes on the Batch Distillation Column”, Ph.D completed under MAHE, Manipal, 5 Aug 2020. (**Co-Guide**) - **Completed**

#### Research Collaboration

1.Visiting Faculty: **Universiti Malaysia Pahang, Pekan, Pahang, Malaysia**, May- June 2019. (Energy department) Research collaboration with Dr.K.Sudhakar, Centre for Research in Advanced Fluid & Processes, Mechanical and Automotive Engineering Technology, **Universiti Malaysia Pahang, Pekan, Malaysia. (2019 – Till date)**

2. Research collaboration with Prof. Dr. Muhammad Tahir, School of Chemical and Energy Engineering, **Universiti Teknologi of Malaysia (UTM), Skudai, Johar, Malaysia.(2020 – 2022)**

3. Research collaboration with Prof. Dr. Muhammad Tahir, Chemical and Petroleum Engineering department,**United Arab Emirates University, Al Ain, United Arab Emirates (2022 – Till date)**

4. Research collaboration with Prof.Dr.Erdem Cuce, **Recep Tayyip Erdogan University, Rize, Turkey (2021 – Till date)**

## **Research Grant/Funding**

1. **“Development of low cost and bio-based MOF for photocatalytic reduction of carbon dioxide to solar fuels”** (Grant ID : VGST/CESEM/ VRN/000389/21-22) – Established a Centre of Excellence from the funding obtained from VGST, Govt of Karnataka. **(Rs 40.00 lakhs)**
2. **“Photocatalytic conversion of carbon dioxide to methanol using ZIF-8/BiVO<sub>4</sub>/GO and rGO-CuO nanocomposites as an adsorbent material”** (Grant ID : VGST/RGS-F/GRD-918/2019-20/2020-21/198)– Research grant from VGST, Govt. of Karnataka.**(Rs 3.00 lakhs)**
3. **“Carbon capture and conversion to methanol using a metal-organic framework as an adsorbent material”** (Grant ID: MAHE/00000191/2019) – Research seed money from MAHE, Manipal **(Rs 0.50 lakhs)**
4. **“Received ATAL – AICTE FDP grant for organization of 5 days FDP in Energy storage thrust area titled “Recent advancements in sustainable energy storage and conversion”** **(Rs 0.93 lakhs)**
5. Received **ATAL – AICTE FDP grant** for organization of 5 days FDP in Artificial Intelligence thrust Area titled **“Recent developments in Artificial Intelligence for smart and sustainable energy systems”** **(Rs 0.93 lakhs)**
6. Received **CSIR funding** for organizing Two days Workshop on **“Solar Energy Harnessing for a low carbon future”** in 2013 **(Rs 0.30 lakhs)**
7. Received **CSIR funding, Oil India Limited funding and MRPL funding** for the organization of **“Two days National Workshop on “Energy Efficiency and Environmental Impact”**, Chemical Engineering department, MIT, Manipal. **(Rs 0.65 lakhs)**
8. Received **Post-doctoral research fund** for the project titled **“Design of Coupled Solar Biosorption process for degradation of industrial effluent”** Dec 2012 **(Rs 4.25 lakhs)**
9. Received **research seed money from MAHE, Manipal** for a project titled **“Experimental studies on coupled solar bioprocess for industrial effluent treatment”** 2010 **(Rs 0.25 lakhs)**

## **Qualifications**

Post-Doctoral Research – **Integrated Solar Bioprocess for Industrial Waste Water Treatment**, MIT, MAHE, 2013 - 2015. (Secured a grant of Rs 4.25 lakhs from MAHE, Manipal)

Ph.D. (Chemical Engineering), NIT, Trichy, 2010.

M.Tech. (Energy Engineering), NIT, Trichy - First class with Distinction, 2005 (Secured First rank)

B.Tech. (Chemical Engineering), Bharathidasan University, Trichy – First Class with Distinction, 2003.(University rank holder)

## **Subjects Taught**

Energy Engineering, Heat Transfer, Introduction to Chemical Engineering, Chemical Process Industries, Advanced Transport Phenomena, Environmental Studies, Safety in Chemical Industries, Cryogenic Engineering, Bioenergy engineering, Industrial waste water engineering, Water treatment technology, Pollution control and Safety in Chemical Industries, Sustainable Engineering

**Teaching experience: 15 years**

## **Area of Specialization**

Photocatalytic reduction of carbon dioxide, Hydrogen storage, Solar Photocatalysis, Solar desiccant cooling, Renewable fuels, Solar thermal energy systems

### Guest Editor

- Guest Editor for Special issue on “Advanced Nano/Microporous Materials for Energy Storage” in International Journal of Energy Research in 2024 – till date,
- Guest Editor for Special issue on “Novel Materials for Photocatalytic Energy and Environmental Applications” in Frontiers in Chemistry 2024 – till date
- Guest Editor for Special issue on “Recent advances in sustainable solar energy technologies” in International Journal of Photo energy in 2021 – 2023
- Guest Editor for Special issue on “Recent advances in solar fuels” in Frontiers in Energy research in 2021-2023
- Guest Editor for Special issue on “Novel Materials and Technologies for CO<sub>2</sub> and Waste Management” in Journal of Chemistry” in 2021-2023

### Professional Membership

- Life member in Indian Institute of Chemical Engineers - LM-62556
- **Senior member of IEEE** - 97203282
- Life Member in Solar Energy Society of India - LM/1360/2009
- Associate Member in The Institution of Engineers - AM096909- 8
- Life member in Indian Society of Systems for Science and Engineering (ISSE) - LM 00360
- Member in ASHRAE India Chapter

### Journal Publications

1. BharoshKumar Yadav, Ramhit Yadav, Mehdi Jahangiri, **S.Shanmuga Priya**, TriRatna Bajracharya, K. Sudhakar, “**Decarbonizing airport using solar and wind farm: A case of Biratnagar, Nepal**”, e-Prime - Advances in Electrical Engineering, Electronics and Energy, Volume 8, June 2024, 100583.[Q3]
2. Ramyashree MS, Aparajita Nandy, Yash Rameshwar Bohari, Mahika Pramodh, S.Harish Kumar, S.Shanmuga Priya, K.Sudhakar “**Modelling and simulation of reactors for methanol production by CO<sub>2</sub> reduction: A comparative study**”, Results in Engineering 2024 Accepted In press, IF 5.00 [Q2]
3. Pushpendu Dwivedi, Sujay Ashwinraj Ganesh, Kumarasamy Sudhakar, Archana Soni, **S. Shanmuga Priya** “**Thermal and Electrical Performance of Uncooled, Nature-Cooled, and Photovoltaic Thermal Module**” International Journal of Photoenergy Volume 2023, Article ID 4720545, 12 <https://doi.org/10.1155/2023/4720545> IF 2.113 [Q2]
4. Dario Cyril Muller, **S.Shanmuga Priya**, Erdem Cuce, K.Sudhakar “**Hybrid solar, wind, and energy storage system for a sustainable campus: A simulation study**”, Science and Technology for Energy Transition (STET), 78(13) 2023, 1- 12 IF 1.5 [Q2]
5. Angel Francis, Ramyashree MS, **S.Shanmuga Priya**, S.Harish Kumar, K.Sudhakar, Wei Keen Fan, Muhammad Tahir “**Carbon dioxide hydrogenation to methanol: Process simulation and optimization studies**”, International Journal of Hydrogen Energy, 2022, 47 (86), October 2022, 36418-36432, IF 7.139 [Q1]
6. Shaswat Shrivastava, Sachin Shet, **S.Shanmuga Priya**, K.Sudhakar, Muhammad Tahir “**Molecular simulation of copper based metal organic frameworks for hydrogen adsorption**”, International Journal of Hydrogen Energy, 2022 47(35) IF 7.139 [Q1]
7. Erdem Cuce, Abhishek Saxena, Pinar Mert Cuce, Harun Sen, Hasan Eroglu, Shanmuga Priya S, Kumarasamy Sudhakar, Md Hasanuzzaman “**Performance assessment of solar chimney power plants with natural thermal energy storage materials on ground: CFD analysis with experimental validation**” International Journal of Low carbon technologies 17, 2022, 752–759. IF 3.071 [Q1]

8. Kirpichnikova, I.M., Sudhakar, K., Makhsomov, I.B., Martyanov, A.S., S.Shanmuga Priya **“Thermal model of a photovoltaic module with heat-protective film”**, Case Studies in Thermal Engineering, 2022, 30, 101744. IF 6.268 [Q1]
9. Ramyashree MS, Kshitij Kumar, **S.Shanmuga Priya**, K.Sudhakar **“Synthesis and Characterization of Indium Tin Oxide thin films for Dye-Sensitized solar cells using natural fruit extracts”**, International Journal of Automotive and Mechanical Engineering, 18 (4) 9284 – 9291[Q2]
10. Enyonam Ahadzi, RamyashreeM.S, **S. ShanmugaPriya**, K.Sudhakar, Muhammad Tahir, **“CO<sub>2</sub> to Green Fuel: Photocatalytic process optimization study”**, Sustainable Chemistry and Pharmacy, Vol. 24, 2021,100533 IF 4.508 [Q2]
11. Evgeny Solomin, S.Shanmuga Priya, Sudhakar Kumarasamy, Ramyashree M.S, **“The Comparison of Solar Powered Hydrogen Closed Cycle System Capacities for Selected Locations”**, Energies, MDPI Publications, Vol.14, 2722, 2021 IF 3.004 [Q1]
12. Evgeny Solomin, Sudhakar K , , Evgeny Sirotkin , S.Shanmuga Priya, Erdem Cuce, **“Hybrid Floating Solar Plant Designs: A Review”** Energies, MDPI Publications, Vol.14, 2751, 2021 IF 3.004 [Q1]
13. Ramyashree MS, **S.Shanmuga Priya**, Norman Carl Freudenberg, K.Sudhakar,Muhammad Tahir **“Metal–organic framework based photocatalysts for carbon dioxide reduction to methanol : A review on progress and application”**, Journal of CO<sub>2</sub> utilization, Vol:43, 101374, 2021, IF 5.993 [Q1]
14. Sachin P Shet, **S.Shanmuga Priya**, K.Sudhakar, Muhammad Tahir **“A review on current trends in potential use of metal-organic framework storage”**, International Journal of Hydrogen Energy, 46(21), 2021, 11782 – 11803 IF4.939 [Q1]
15. Angel Francis,**S.Shanmuga Priya**, S.Harish Kumar, K.Sudhakar,Muhammad Tahir **“A review on recent developments in Solar photoreactors for carbon dioxide conversion to fuel production”**, Journal of CO<sub>2</sub> utilization, Vol. 47, 2021, 101515. IF 5.993 [Q1]
16. Akhil Variar,Ramyashree MS, **S.Shanmuga Priya**, Veekshit Udayakumar Ail, K.Sudhakar,Muhammad Tahir **“Influence of various operational parameters in enhancing photocatalytic reduction efficiencyof carbondioxide in a photoreactor : A review”**, Journal of Industrial and Engineering Chemistry, Vol. 99, 25 July 2021, 19-47 IF 5.278 [Q1]
17. Gopi, A., Sudhakar, K., Keng, N.W., Krishnan, A.R., **Priya, S.S.** **“Performance Modeling of the Weather Impact on a Utility-Scale PV Power Plant in a Tropical Region”** International Journal of Photoenergy, 2021, 2021, 5551014 June 2021 IF 2.113 [Q2]
18. **Priya S.S**, Cuce E,Sudhakar K. **“A perspective of COVID 19 impact on global economy, energy and environment”**, International Journal of Sustainable Engineering, 14 (6), 1290 – 1305, 2021 [Q1]
19. Yadav E.S,Indiran T, Priya S.S. **“Optimal Energy Consumption of the Distillation Process and Its Product Purity Analysis Using Ultraviolet Spectroscopy”**, ACS Omega, Vol:6, Issue 2, 1697 - 170819 Jan 2021 .IF 2.584 [Q2]
20. Mohammad Salikandi, Benyamin Ranjbar Dizaj, **S.Shanmuga Priya**, I.Thirunavukkarasu, K.Sudhakar **“Recent trends in liquid desiccant materials and cooling systems: application, performance and regeneration characteristics**, Journal of Building Engineering, Vol : 33, Jan 2021, 101579 IF 3.379 [Q1]
21. Bharosh Kumar Yadav, Pankaj Kumar Rauniyar , K. Sudhakar, Tri Ratna Bajracharya , S. Shanmuga Priya **“Sustainable green campus in Nepal: 3E analysis”**, International Journal of Low- Carbon Technologies, 2021, 16(2) 531–542 IF 1.622 [Q1]
22. Reddy, S. **Shanmuga Priya**,S,Carollo, A.J.,Kumar, S.H. **“TRNSYS simulation for solar-assisted liquiddesiccant evaporative cooling”**, International Journal of Ambient Energy, Vol: 41, Issue:1, pp.105- 111, 2020, IF 0.830 [Q2]
23. K.Sudhakar,Matthew S.Jenkins, Shivy Mangal,**S.Shanmuga Priya** **“Modelling of a solar desiccant cooling system using a TRNSYS-MATLAB co-simulator: A review”**, Journal of Building Engineering, Vol: 24, July 2019, 100749.IF 3.379[Q1]
24. K.Sudhakar, Maximilian Winderla, **S.Shanmuga Priya** **“Net-zero building designs in hot and humid climates: A state-of-art”**, Case Studies in Thermal Engineering, Vol: 13, March 2019.100400.IF 1.554 [Q1]
25. Edala Sarath Yadav, Thirunavukkarasu I, S.Shanmuga Priya **“ Parameter Estimation**

- and an Extended Predictive- Based Tuning Method for a Lab- Scale Distillation Column**", ACS Omega, *ACS Omega* **2019**, 4, 25, 21230–21241 IF 2.584 [Q1]
26. **Shanmuga Priya, S., Balachandar, P., Wadhwan, S.** “**Comparison of liquid desiccants for air cooling systems using wetted wall column**”, International Journal of Mechanical and Production Engineering Research and Development, **2019**, 9(2), 677–684.
  27. **Priya, S.S., Ubbenjans, L.M., Thirunavukkarasu, I.** “**Artificial neural network and neuro fuzzy inference modelling of global solar radiation data using bayesian algorithm for design of solar energy conversion system**”, International Journal of Engineering and Technology(UAE), **2018**, 7(2), 88–93.
  28. **Shanmuga Priya, S., Premalatha, M., Thirunavukkarasu, I.** “**Indoor air quality optimization by thermal displacement air-conditioning methods**”, Indian Journal of Science and Technology, **2016**, 9(36), 100984
  29. **Shanmuga Priya, S., Rao, A., Thirunavukkarasu, I., Nayak, V.** “**Solar pebble bed reactor for treatment of textile and petrochemical industrial wastewater**”, International Journal of ChemTech Research, **2016**, 9(11), pp. 261–270
  30. **Shanmuga Priya, S., Ratna, M., Shrivastava, R., Thirunavukkarasu, I.** “**Design and performance evaluation of solar trickle down reactor for cypermethrin effluent treatment**”, International Journal of ChemTech Research, **2013**, 5(2), pp. 629–633
  31. **V.Kirubakaran, V.Sivaramakrishnan, S.Shanmuga Priya, M.Premalatha, P.Subramanian,** “**Autocatalytic kinetics and mechanism of Biogas generation**”, International Journal of Energy Sources, Part-A Recovery, Utilization, and Environmental Effects, Vol: 31, Issue 19, January 2009, pp. 1700 – 1707.
  32. **S.Shanmuga Priya, M.Premalatha, P.Subramanian** “**Elucidation of kinetics of photolysis of phenol**” Journal of The Institution of Engineers (Chemical Engineering division), Vol: 90, September 2009, pp.10-16.
  33. **S.Shanmuga Priya, M.Premalatha, I.Thirunavukkarasu,** “**Solar Photocatalytic treatment of phenol wastewater**”, Journal of Institution of Engineers (Chemical Engineering division), Vol : 89, March 2009, pp.31-35.
  34. **M.Premalatha, S.Shanmuga Priya, V.Sivamakrishnan,** “**Efficient cogeneration scheme for sugar industry**”, Journal of Scientific & Industrial Research/ S & T and Industrial Research, ISSN Print): 0022-4456, Vol: 67, No: 3, March 2008, pp.239-242.

### **Reviewer**

- Applied Energy
- International Journal of Hydrogen Energy
- Journal of Building Engineering
- Journal of Cleaner Production
- Desalination Journal
- Environmental Progress and Sustainable Energy Journal
- Progress in Photovoltaics : Research and Applications
- Environmental science and Pollution research
- International Journal of Ambient Energy

### **Foreign Universities visited**

- University Technology of MARA, Pulau Penang, Malaysia – 2008.
- Nanyang Technological University, Singapore - 2010.
- San Antonio, USA – 2013.
- Manipal University, Dubai – 2014.
- Saarbrücken University, Germany- 2015.
- University of Palermo, Italy- 2015.
- Chulalongkorn University, Thailand - 2016.
- University of Malaya, Malaysia - 2017.
- Universiti Malaysia Pahang, Malaysia – 2019.

### **Other Activities**

- Honorary Treasurer in Indian Institute of Chemical Engineers, Mangalore Regional Centre – 2019 to 2021
- Honorary Secretary in Indian Institute of Chemical Engineers, Mangalore Regional Centre – 2021 to till date

### **Guest Lectures Delivered**

1. Delivered an invited lecture on “**Recycling of Carbon Dioxide through synthetic fuel pathways**” in Two days Faculty development programme on Carbon capture and sequestration” organized by Department of Applied Sciences,CUIET, Chitkara University, Punjab held during 23<sup>rd</sup> – 24<sup>th</sup> May 2022.
2. Delivered an invited lecture on “**Sustainable Electric mobility : Opportunities and Challenges**”, organized by School of Engineering and Technology, Adamas University, West Bengal on 24<sup>th</sup> Jan 2022.
3. Delivered an invited talk on “**Design of solar photocatalytic biological process**” in HEAM Scientist 2014, National level Seminar on Hydrogen Energy and other Renewable Energy Sources organised by University of Kerala in association with MANIT Bhopal and IAHEAM on 17<sup>th</sup> – 18<sup>th</sup> Nov 2014.
4. Delivered a keynote lecture on “**Integrated Solar Bioprocess for environmental remediation**” International Conference on Agricultural, Biological and Environmental Sciences, Dubai, 15<sup>th</sup> – 16<sup>th</sup> Oct 2014.
5. Delivered an invited lecture on “**Computational Fluid Dynamics for Non –linear analysis**” in TEQIP sponsored one week Short term training programme on Applications of Fixed Point theory and Nonlinear Analysis for Engineering and Sciences organized by NIT Surat held during 30<sup>th</sup> June – 4<sup>th</sup> July 2014.
6. Delivered a keynote lecture on “**Energy conservation in Buildings**” in the National Workshop on Energy Efficiency and Environmental Impact EEEI2011 organised by MIT,Manipal held during 14<sup>th</sup> – 15<sup>th</sup> Oct 2011.

### **Conference Session Chaired**

1. Chaired Session in “**International Conference in Mechanical and Mechatronics Engineering**” Malaysia, 28<sup>th</sup> – 30<sup>th</sup> Nov 2017.
2. Chaired session in “**International Conference on Engineering, Technology and Applied Sciences**”, Germany, 13<sup>th</sup> June 2015.
3. Chaired session in “**International Conference on Agricultural, Biological and Environmental Sciences**”, Dubai, 15<sup>th</sup> – 16<sup>th</sup> Oct 2014.
4. Chaired a session in Energy Engineering in “**National Conference on Power, Instrumentation, Energy and Control**” (PICON2011), Aligarh Muslim University, Aligarh, 12<sup>th</sup> -13<sup>th</sup> Feb 2011
5. Chaired a session in Energy Engineering in “**International Conference on System Dynamics and Control**”, organized by MIT, Manipal, 19<sup>th</sup> – 22<sup>nd</sup> August 2012.

### **International Conferences**

1. Ramyashree MS, Anirudh K.S, S.Shanmuga Priya “**Photocatalytic reduction of carbon dioxide using ZIF-8@BiVO4/rGO nanocomposite**” INCEEE 2023, Warangal Andhra

Pradesh, 24<sup>th</sup> - 25<sup>th</sup> Nov 2023.

2. Ramyashree MS, S.Shanmuga Priya, Veekshit Udayakumar Ail “**Synthesis and characterization of TiO<sub>2</sub>-Cu<sub>3</sub>(BTC)<sub>2</sub> metal organic framework based advanced materials for photocatalytic CO<sub>2</sub> reduction**”, RAMMML 2023, Nagpur, Maharashtra, 2<sup>nd</sup> – 4<sup>th</sup> Feb 2023.
3. Thanmaya A, Ramyashree MS, S.Shanmuga Priya “**Synthesis, characterization and testing of ZIF-8 and Cu@ZIF-8 metal-organic frameworks for anti-bacterial properties**”, ETBCT 2022, SMVDU Katra, Jammu, 3<sup>rd</sup> – 5<sup>th</sup> Dec 2022.
4. Kshitij Kumar, Ramyashree MS, S.Shanmuga Priya, K.Sudhakar “**Synthesis and characterization of indium tin oxide thin films supported by glass substrates for the design of dye sensitized solar cells using natural fruit extracts**”, AIGEV 2020, Malaysia, 10<sup>th</sup> – 11<sup>th</sup> Nov 2020.
5. Z. Albadi, M. Salikandi, S. Shanmuga Priya “**Process simulation of the carbon dioxide conversion to methanol in ASPEN HYSYS**”, The 11<sup>th</sup> International Chemical Engineering Congress & Exhibition (ICChE 2020) Fouman, Iran, 15-17 April, 2020.
6. Edala Sarath Yadav, I.Thirunavukkarasu, S.Shanmuga Priya “**Online Implementation of Cascade predictive PI control for Nonlinear processes**”, ICCDN-2019, SMIT, Sikkim, 9<sup>th</sup> – 10<sup>th</sup> Dec 2019.
7. S.Shanmuga Priya, K.S.Sivaraman, Shivy Mangal “**Synthesis, characterization and testing of low cost adsorbents for carbon dioxide capture**”, International Conference and Electron Microscopy and Allied Analytical Techniques EMAAT 2019, Himachal Pradesh, 7<sup>th</sup> – 9<sup>th</sup> June 2019.
8. **S.Shanmuga Priya, Stijn Ruts, SVSR Krishna Bandaru “Organic solar photovoltaic cells: Synthesis of Indium Tin oxide using Sol-gel method**”, International Conference on Electrical, Electronics, Instrumentation and Computer communication, Coimbatore, 24<sup>th</sup> – 25<sup>th</sup> Jan 2019.
9. **S.Shanmuga Priya, Karan Ahuja “Performance Enhancement of solar still using Phase Change Materials**”, 2nd International Conference on Sustainable Energy Electronics & Computing Systems SEEMS-2018 technically sponsored by IEEE UP Section, Greater Noida, UP. 26<sup>th</sup> – 27<sup>th</sup> Oct 2018.
10. **S.Shanmuga Priya, Sneha Reddy, S.Harish Kumar “Performance evaluation of a solar aided liquid desiccant evaporative cooling system**” International Conference on Sustainable Engineering and Technology (IconSET 2018), ACS College of Engineering, Bengaluru, 19<sup>th</sup> – 20<sup>th</sup> April 2018.
11. **Priya, S.S, Reddy, S., Balachandar, P., Wadhwan, S. “Solar assisted liquid desiccant cooling using clay based membranes**”, International Conference on Research in Mechanical Engineering Sciences (RiMES 2017), MIT, Manipal, 21<sup>st</sup> – 23<sup>rd</sup> Dec 2017, MATEC Web of Conferences **144**, 04011 (2018)
12. **Priya, S.S, Borkataky, A., Reddy, S., Thirunavukkarasu, I. “Measurement of Global Solar Radiation data using Raspberry Pi and its estimation using Genetic Algorithm**”, 4<sup>th</sup> International Conference on Mechatronics and Mechanical Engineering (ICMME 2017) University of Malaya, Kuala Lumpur, Malaysia 28<sup>th</sup> – 30<sup>th</sup> Nov 2017, MATEC Web of Conferences **153**, 07004 (2018)
13. **Shreesha, C. Bhat, V.S, Thirunavukkarasu, I, S.Shanmuga Priya “Predictive Control Algorithm Based on Integral Action-Design and Implementation on a Conical Tank System**”, 4<sup>th</sup> International Conference on Mechatronics and Mechanical Engineering (ICMME 2017), University of Malaya, Kuala Lumpur, Malaysia 28<sup>th</sup> – 30<sup>th</sup> Nov 2017, MATEC Web of Conferences **153**, 06010 (2018)
14. **S.Shanmuga Priya, Sneha Reddy, S.Harish Kumar “Simulation of solar aided liquid desiccant cooling system in recirculation mode using TRSNYS**”, 4th International Conference on Computational Methods in Engineering and Health Sciences (ICCMEH 2017), MIT, Manipal, 19<sup>th</sup> – 20<sup>th</sup> Dec 2017.
15. **Janani, Vinayambika S.Bhat, S.Shanmuga Priya, I.Thirunavukkarasu “Design of Robust PI controller with Loop shaping for a pilot plant binary distillation column**” IEEE International Conference on Intelligent Computing, Instrumentation and Control Technologies ICICICT 2017, Vimal Jyothi Engineering College, Kerala 6 – 7 July 2017.

16. K.Sivaraman, S.Shanmuga Priya **“Synthesis of solid adsorbents for CO<sub>2</sub> capture using sugarcane bagasse, wood shavings and by alkali treatment of crude TiO<sub>2</sub>”** Shri Mata Vaishno Devi University Katra Jammu 20<sup>th</sup> – 21<sup>st</sup> March 2017.
17. S.Shanmuga Priya, Shivy Mangal **“Synthesis and characterization of Metal Organic Framework based photocatalyst for carbon dioxide conversion”** International Conference on Advanced Materials SCICON 16, Amrita Vishwa Vidyapeetham, Coimbatore 19<sup>th</sup> – 21<sup>th</sup> December 2016.
18. Vinayambika S.Bhat, S.Shanmuga Priya, I.Thirunavukkarasu **“Local Transient Model of a Pilot plant Distillation response”** 2<sup>nd</sup> International Conference on Frontiers in Automobile and Mechanical Engineering FAME 2016, Sathyabama University, Chennai 7<sup>th</sup> – 9<sup>th</sup> July 2016.
19. S.Shanmuga Priya, Norman Carl Freudenberg, Arunabh Borkataky **“Solar radiation measurement using Raspberry Pi”** International Conference on Power, Energy and Mechanical Engineering (ICPEME 2016), Bangkok, Thailand 18<sup>th</sup> – 20<sup>th</sup> June 2016.
20. S.Shanmuga Priya, M.Premalatha, I.Thirunavukkarasu **“Indoor Air quality optimization by thermal displacement Air-conditioning Methods”** 2<sup>nd</sup> International Conference on Design, Analysis, Manufacturing and Simulation ICDAMS 2016, Saveetha University, Chennai. 7<sup>th</sup> – 8<sup>th</sup> April 2016.
21. S.Shanmuga Priya, Vinayambika S.Bhat, Majaaz, I.Thirunavukkarasu **“Centralized Controller Tuning for MIMO Process with Time delay”** International Conference on Renewable Energy Research and Applications (ICRERA), Palermo, Italy, 22<sup>nd</sup> – 25<sup>th</sup> Nov 2015.
22. S.Shanmuga Priya, Joanna Migdalska **“Cooling degree day analysis as a climate impact indicator for different locations of Poland and India”** “International Conference on Engineering, Technology and Applied Sciences” Berlin, Germany, 13<sup>th</sup> June 2015.
23. S.Shanmuga Priya, Rashmi Deshpande **“Distillery Effluent Treatment Using Parabolic Trough Solar Collector Coupled With Biological Process”**, International Conference on Agricultural, Biological and Environmental Sciences, Dubai, 15<sup>th</sup> – 16<sup>th</sup> Oct 2014.
24. S.Shanmuga Priya, Rashmi Deshpande **“Studies on reduction in TOC and COD level by Coupled Solar Bio Treatment Of Pharmaceutical Effluent”**, International Conference on Green Technology for Environmental Pollution Prevention and control (ICGTEPC 2014), NIT, Trichy, 27<sup>th</sup> – 29<sup>th</sup> Sep 2014.
25. S.Shanmuga Priya, Amit Anand **“Design of Coupled Solar Biosorption process for degradation of dairy effluent”**, International Conference on Petrochemistry and Chemical Engineering, San Antonio, Texas, USA, 18<sup>th</sup> – 20<sup>th</sup> November 2013.
26. S.Shanmuga Priya, Manish Ratna, Rahul Shrivastava **“Design and Performance Evaluation Of Solar Trickle Down Reactor For Cypermethrin Effluent Treatment”**, International Conference on Global Scenario in Environment and Energy, NIT, Bhopal, 14<sup>th</sup> – 16<sup>th</sup> March 2013.
27. I.Thirunavukkarasu, V.I.George, S.Shanmuga Priya **“PID Controller design for a real time ball and beam system-A double integrating process with dead time”**, ISTE sponsored Proc. of Int. Conf. on Advances in Signal Processing and Communication. Lucknow 21<sup>st</sup> June 2013. P. No. 96-99 DOI: 03.LSCS.2013.3.
28. S.Shanmuga Priya, M.Premalatha **“Heat transfer analysis of tube tanks using CFX software”**, 6<sup>th</sup> International Conference on Advanced Computing and Communication Technologies, Panipat, Harayana, 3<sup>rd</sup> Nov 2012.
29. I.Thirunavukkarasu, S.Shanmuga Priya **“Enhancement of servo response of the integrating process with two degree of freedom control structure”**, 6<sup>th</sup> International Conference on Advanced Computing and Communication Technologies, Panipat, Harayana, 3<sup>rd</sup> Nov 2012.
30. S.Shanmuga Priya, Seung Hoon Lee **“Artificial Neural network analysis of effect of path length in photolytic reactor”**, International Conference on Emerging trends in communication, Kanyakumari, 8<sup>th</sup> – 9<sup>th</sup> March 2012.
31. S.Shanmuga Priya, M.Premalatha **“Design of solar heat sheet for air heaters”**, 2<sup>nd</sup> International Conference on Methods and Models in Science and Technology organized



- by Institution of Engineers, Technocrats and Academician Network(IETAN), Jaipur, 1<sup>9</sup><sup>th</sup> – 2<sup>0</sup><sup>th</sup> Nov 2011.
32. I.Thirunavukkarasu, S.Shanmuga Priya “**Design of PID controller for Non-square MIMO system**”, 2<sup>nd</sup> International Conference on Methods and Models in Science and Technology organized by Institution of Engineers, Technocrats and Academician Network(IETAN), Jaipur, 19<sup>th</sup> – 20<sup>th</sup> Nov 2011.
  33. S.Shanmuga Priya, M.Premalatha “**Modeling the kinetics of photolysis of phenol by Artificial Neural Network**”, International Conference on Chemical Engineering and Applications (CCEA2010), Singapore, 26<sup>th</sup> – 28<sup>th</sup> February 2010.
  34. S.Shanmuga Priya, M.Premalatha “**CFD Simulation of diluents effect on NO<sub>x</sub> emission in premixed methane flames**”, International Conference on System Dynamics and Control (ICSDC2010), MIT,Manipal, 19<sup>th</sup> – 22<sup>nd</sup> August 2010.
  35. I.Thirunavukkarasu, S.Shanmuga Priya “**Determination of the Region of Fixed-order Stabilizing Controller for the Dynamically Varying Systems**”, International Conference on Applied, Materials and Manufacturing (ICAMM2011),Department of Mechanical and Industrial Engineering, Sultan Qaboos University, Muscat, Oman. 13<sup>th</sup> – 15<sup>th</sup> Dec 2010.
  36. S.Shanmuga Priya, M.Premalatha “**Studies on Photocatalytic degradation of Phenol effluent**”, International Conference on Science and Applications in Industry and Education (ICSTIE 2008), Pulau Pinang, Malaysia, 12<sup>th</sup> – 13<sup>th</sup> December 2008.
  37. S.Shanmuga Priya, M.Premalatha “**Solar Photocatalytic degradation of phenol wastewater: Potential, Challenges and Opportunities - An Indian perspective**”, 17<sup>th</sup> International Conference on Photochemical Conversion and Storage of Solar Energy, Sydney, Australia Ref No: WC0357, 27<sup>th</sup> July – 1<sup>st</sup> August 2008.
  38. S.Shanmuga Priya, M.Premalatha “**Application of Nanotechnology in photocatalysis for treatment of phenol**” Proceedings of International Conference on Material Science and Nanotechnology, Kodaikanal, 27<sup>th</sup> - 29<sup>th</sup> February 2008.
  39. M.Premalatha, S.Shanmuga Priya “**Clean Development Mechanism and Nanotechnology: A perspective study**”, Proceedings of International Conference on Material Science and Nanotechnology, Kodaikanal, 27<sup>th</sup> - 29<sup>th</sup> February 2008.
  40. V.Sivaramakrishnan, S.Shanmuga Priya, M.Premalatha “**Elucidation of Kinetics of Bagasse Gasification in nitrogen and air environment**”, International Conference on Advances in EnergyResearch, ICAER2007, IIT, Mumbai, 12<sup>th</sup> – 14<sup>th</sup> December 2007.
  41. M.Premalatha,S.Shanmuga Priya “**Segregated Flow Modeling for Solar Flat Plate Collector**”, Proceedings of the 3<sup>rd</sup> International Conference on Solar Radiation and Day Lighting SOLARIS –2007 Conference at IIT, Delhi, P.16, Volume II, February 7<sup>th</sup> – 9<sup>th</sup>, 2007.
  42. V.Kirubakaran,M.Premalatha, S.Shanmuga Priya “**Experimental Investigation of gasification characteristics of biomass and the effect of bio oxygen**”, International Conference on Modeling and Simulation CITICOMS 2007 held at CIT, Coimbatore, 27<sup>th</sup> – 29<sup>th</sup> August 2007.
  43. S.Shanmuga Priya,M.Premalatha “**Coupled Solar Bio Process for Industrial Effluent Treatment**” in the Proceedings of t he International Conference on Cleaner Technologies and Environmental Management, Pondicherry Engineering College, Puducherry, India, P.308, No: 57, Allied Publishers Pvt.Ltd. 4<sup>th</sup> – 6<sup>th</sup> January 2007.
  44. S.Shanmuga Priya,M.Premalatha “**Tapioca - Renewable Energy Source of Bio-Fuel for India**” -Proceedings of the International Conference on Biofuels Vision – 2015 organised by Engineering College, Bikaner, Rajasthan, P 55, No: 006, 13<sup>th</sup> - 15<sup>th</sup> October 2006.

### National Conferences

1. **S.Shanmuga Priya, Sneha Reddy, S.Harish Kumar “Low cost cooling by using natural clay as desiccant and solar pebble bed as regenerator”**, CHEMCON 2017, Haldia Engineering College,Kolkata, 27<sup>th</sup> – 30<sup>th</sup> Dec 2017.
2. **S.Shanmuga Priya,Lisa Marie Ubbenjans, Thirunavukkarasu.I. “Artificial neural network and neuro fuzzy inference modelling of global solar radiation data using**

**bayesian algorithm for design of solarenergy conversion system”, CISCON 2017, MIT, Manipal, 3<sup>rd</sup> – 4<sup>th</sup> Nov 2017.**

3. S.Shanmuga Priya, Stefan Bauregger, I.Thirunavukkarasu **“Modeling of a Single Pass Solar Air heater”** CISCON 2015, MIT,Manipal, 2<sup>nd</sup>- 4<sup>th</sup> Nov 2015.
4. Vinayambika S.Bhat, S.Shanmuga Priya, I.Thirunavukkarasu **“A Comparitive study on control techniques of Non-Square matrix distillation column”** CISCON 2015, MIT Manipal, 2<sup>nd</sup> – 4<sup>th</sup> Nov 2015.
5. S.Shanmuga Priya, Siddharth Bishnoi **“Performance improvement of solar photovoltaic panels”**, CISCON 2014, MIT,Manipal, 7<sup>th</sup> – 8<sup>th</sup> Nov 2014.
6. S.Shanmuga Priya, Rajesh Gurjar **“Experimental studies on design of efficient solar detoxification system for treatment of high turbid paper mill wastewater”** National Conference on Emerging Trends For Sustainable Development In Engineering & Technology, Udaipur,Rajasthan, 30<sup>th</sup> -31<sup>st</sup> Jan 2014.
7. S.Shanmuga Priya, M.Premalatha, Katyayani Prabhu **“Validation of photolysis of phenol and performance evaluation of photolytic reactors”**, National Conference on Environmental Pollution , Restoration and Management(NCEPRM-2011), organized by Govt. college of Engineering and Technology,Bikaner,Rajasthan, 20<sup>th</sup> Nov 2011.
8. I.Thirunavukkarasu, S.Shanmuga Priya **“Design of PID Controller based on Maclaurin series with Impulse Response as an Input”**, National Conference on Power, Instrumentation, Energy and Control (PICON2011), Aligarh Muslim University, Aligarh, 12<sup>th</sup> -13<sup>th</sup> Feb 2011.
9. I.Thirunavukkarasu, S.Shanmuga Priya **“Lower Order Controller design using GA”**, NCRCA2009, Jamia Hamdard University, New Delhi. sponsored by CSIR and DIT, Govt of India, 12<sup>th</sup> -13<sup>th</sup> August 2009.
10. I.Thirunavukkarasu, S.Shanmuga Priya **“Lower Order Controller using H-Infinity Principles for the Unstable Process with Dead Time”**, National Conference on Advances in Energy Conversion Technology(AECT 2009), Dept of EEE,MIT, Manipal University, Manipal, 2<sup>nd</sup>- 4<sup>th</sup> April 2009.
11. S.Shanmuga Priya, M.Premalatha **“Studies on Photo degradation of phenol by using solar light”**, Proceedings of the National Conference on Energy Security for Rural Development (ESRD 2009),Rural energy Centre, Gandhigram Rural University, Dindugal, 26<sup>th</sup> March 2009.
12. M.Premalatha, K.K.Vasumathi,S.Shanmuga Priya **“Growing Fuel from Algae”**, ,National Conference on Renewable Energy Through Microbes, (ADREM 2009), BITS-GOA Campus, 12<sup>th</sup> – 15<sup>th</sup> Jan 2009.
13. S.Shanmuga Priya, M.Premalatha **“Studies on Solar Photo degradation of Phenol”**, Proceedings on 2<sup>nd</sup> National Conference on Advances in Energy Conversion Technologies (AECT 2008),Manipal Institute ofTechnology, Manipal,Karnataka, 18<sup>th</sup> – 19<sup>th</sup> April 2008.
14. M.Premalatha,S.Shanmuga Priya **“Building Energy Conservation by Cooling degree-days analysisfor Tiruchirappalli”**, Proceedings on 2<sup>nd</sup> National Conference on Advances in Energy Conversion Technologies (AECT 2008),Manipal Institute of Technology, Manipal, Karnataka, 18<sup>th</sup> – 19<sup>th</sup> April 2008.
15. I.Thirunavukkarasu,S.Shanmuga Priya**“Comparison of various PID Controller tuning methods for pure integrating process”**, Proceedings on 2<sup>nd</sup> National Conference on Advances in Energy Conversion Technologies (AECT 2008),Manipal Institute of Technology, Manipal, Karnataka, 18<sup>th</sup> – 19<sup>th</sup> April 2008.
16. M.Premalatha,S.Shanmuga Priya **“Simulation of Flow distribution through a Bubble Column”**, (TPH-16/40B), ISHMT2008 (Indian Society of Heat and Mass transfer), JNTUCEH, 19<sup>th</sup> National and 8<sup>th</sup> ASME-ISHMT Conference held at JNTU Hyderabad, 3-5 Jan. 2008.
17. S.Shanmuga Priya, M.Premalatha **“Solar photocatalytic treatment of phenolic wastewaters”**, National Conference on Energy Efficiency: The Environmental Solution, CEESAT, NIT, Trichy P.171, 27<sup>th</sup>-28<sup>th</sup> December 2007.
18. M.Premalatha,S.Shanmuga Priya **“A review on CO2 sequestration techniques”**, National Conference onEnergy Efficiency : The Environmental Solution, CEESAT, NIT, Trichy, P.21, 27<sup>th</sup>-28<sup>th</sup> December 2007.

19. S.Shanmuga Priya "**Solar Detoxification for treatment of industrial effluents**", Proceedings of National Conference on Recent Trends in Mechanical Engineering (RTME 2007) in Saranathan College of Engineering, Trichy, 10<sup>th</sup> February 2007.
20. S.Shanmuga Priya "**Experimental studies on effect of water injection on domestic and commercial LPG burners**", Proceedings of National Conference on Recent Trends in Mechanical Engineering (RTME 2007) in Saranathan College of Engineering, Trichy, 10<sup>th</sup> February 2007.
21. M.Premalatha, S.Shanmuga Priya "**Experimental Investigation of Inclination angle on Heat Transfer Characteristics of Wickless Solar Heat Pipes**" - Proceedings of the 1<sup>st</sup> National Conference on Advances in Energy Research (AER 2006), IIT Bombay, Mumbai, P 509, No: 85, 4<sup>th</sup> - 5<sup>th</sup> December 2006.

#### **Workshop/training programmes/ summer/winter schools attended**

1. Participated in one-week online FDP on "**Empowering educators: AI tools for Engineering and Technology**" organized by Department of Chemical Engineering, Chaitanya Bharathi Institute of Technology, Hyderabad, 29<sup>th</sup> Jan – 2<sup>nd</sup> Feb 2024.
2. Participated in one week high end workshop on "**Sophisticated Analytical and Testing Instruments**" organized by Department of Energy and Environment, NIT, Tiruchirappalli, 23<sup>rd</sup> – 27<sup>th</sup> Jan 2023.
3. Participated in 5 days Faculty Development Programme on "**Green Technologies towards sustainable future**" organized by GMR Institute of Technology, Rajam and NIT Warangal during 8<sup>th</sup> – 12<sup>th</sup> March 2022.
4. Participated in DST-SERB and ISSE Manipal chapter sponsored three days workshop on "**Machine learning concepts for modeling and control of non-linear systems**" organized by MIT, Manipal during 27<sup>th</sup> – 29<sup>th</sup> June 2022.
5. Participated in seven days Faculty Development Programme on "**Creativity, Problem Solving And Innovation**" organized by MIT, MAHE, Manipal during 20<sup>th</sup> – 27<sup>th</sup> July 2021.
6. Participated in Five days ATAL sponsored Faculty Development Programme on "**Novel Materials: Advances and Application**" organized by National Institute of Technology, Raipur during 24<sup>th</sup> – 28<sup>th</sup> Sep 2021.
7. Participated in One week AICTE sponsored Short term training programme on "**Synthesis, characterization and its application of nanomaterials**" organized by Centre for Nanoscience and Technology, Jawaharlal Nehru Technological University, Hyderabad during 24<sup>th</sup> – 29<sup>th</sup> Aug 2020.
8. Participated in Five days ATAL sponsored Faculty Development Programme on "**Energy Engineering**" organized by Shri Mata Vaishno Devi University, Katra, Jammu during 21<sup>st</sup> – 25<sup>th</sup> Sep 2020.
9. Participated in TEQIP Short Term Course on "**Modeling and Simulation of Micro and Macro Multiphase Systems**" organized by Department of Chemical Engineering, NIT, Surathkal during 8<sup>th</sup> – 12<sup>th</sup> Jan 2019.
10. Participated in GIAN course on "**Co-Product recovery from existing and future bio-refineries**" organized by Department of Civil Engineering, NIT, Surathkal during 17<sup>th</sup> – 21<sup>st</sup> Dec 2018.
11. Participated in One week Short Term Course on "**Waste Management**" organized by Department of Energy and Environment, NIT, Tiruchirappalli during 8<sup>th</sup> – 14<sup>th</sup> May 2016.
12. Participated in TEQIP Phase II sponsored Faculty Development Programme on "**Recent Developments in Measurement Science**" organized by NMAMIT, Nitte during 22<sup>nd</sup> – 23<sup>rd</sup> April 2016.
13. Participated in 1 week Short Term Training Programme on "**Applications of Fixed Point Theory and Nonlinear Analysis for Engineering and Sciences**" AFPTNAES 2014, conducted by National Institute of Technology, Surat, 30<sup>th</sup> June – 4<sup>th</sup> July 2014.
14. Participated in Two day workshop on "**ABET Accreditation and Outcome based Education**" organized by Nitte Mahalinga Adyanthaya Memorial Institute of

- Technology, Karkala, 11<sup>th</sup> – 12<sup>th</sup> March 2014.
15. Participated in one day workshop on **“Energy Conservation in Process Industries”** conducted by CEESAT, National Institute of Technology, Trichy, 30<sup>th</sup> Dec 2013.
  16. Participated in Faculty Development Programme on **“Effective Teaching Techniques”** organized by Dept of Management Studies, National Institute of Technology, Trichy, 10<sup>th</sup> – 11<sup>th</sup> Oct 2013.
  17. Participated in Three days hands on workshop on **“MATLAB and Simulink for Engineering Education”** organized by Electrical and Electronics Engineering department, MIT, Manipal, 11<sup>th</sup> – 13<sup>th</sup> September 2012.
  18. Participated in the Two day short term course on **“Engineering Optimization and Approaches”** organized by National Institute of Technology, Trichy, 24<sup>th</sup> – 25<sup>th</sup> August 2012.
  19. Participated in the 2 weeks ISTE workshop on **“Computational Fluid Dynamics”** conducted by Indian Institute of Technology, Mumbai from 12<sup>th</sup> – 22<sup>nd</sup> June 2012.
  20. Participated in the Indo-UK workshop on **“Current Development of Wastewater Treatment in India”** (Sponsored by DST, Govt of India, The Royal Society) organized by Dept of Chemical Engineering, NIT, Trichy, 29<sup>th</sup>-31<sup>st</sup> August 2011.
  21. Participated in the **“Entrepreneurship Awareness workshop on Renewable Energy”** (Supported by DST, Govt of India) organized by MUTBI, MIT, Manipal, 30<sup>th</sup> March 2010.
  22. Participated in the **“Induction Training Programme”** organized by Dept of Continuing Education, MIT, Manipal from 31<sup>st</sup> December – 2<sup>nd</sup> January 2010.
  23. Participated in the **AICTE-QIP Short term Course on Lean and Agile Manufacturing** organized by N.I.T, Trichy, 7<sup>th</sup> – 11<sup>th</sup> December 2009.
  24. Participated in the **UKIERI workshop on “Control of Smart Reliable and Adaptable Air Vehicles”** organized by N.I.T, Trichy, 4<sup>th</sup> – 6<sup>th</sup> December 2009.
  25. Participated in the **workshop on “Rural Development: Role of Renewable Energy Services”** under TEQIP, Community Services scheme organized by NIT, Trichy, 9<sup>th</sup> June 2008.
  26. Participated in the **Indo-UK Workshop on “Low Carbon Technologies for Decentralised Power Production”** held at Indian Institute of Technology, Chennai, 1<sup>7th</sup> – 1<sup>8th</sup> March 2008.
  27. Participated in the **All India Workshop on “Recent Trends in Energy Management”** held at The Institution of Engineers(India), Tiruchirappalli Local Centre, 12<sup>th</sup> – 13<sup>th</sup> October 2007.
  28. Participated in Indo-German Workshop on **“Major Aspects of Energy Research in India and Germany: The Challenges for the future (IGWS-2007)”**, organized by Institute for Energy Studies, Anna University, Chennai, 20<sup>th</sup> -21<sup>st</sup> June 2007.
  29. Participated in the short term course on **“Recent Advances in Environmental Engineering”** organized by Department of Civil Engineering, NIT, Trichy, 19<sup>th</sup> – 23<sup>rd</sup> February 2007.
  30. Participated in the one-day **training programme on “Instrumentation methods of Thermal Analysis and Data Interpretation”** under the sponsorship of Technical Education Quality Improvement Programme (TEQIP), 25<sup>th</sup> November 2006.
  31. Participated in the one day **State level seminar on “Renewable Energy & Energy Conservation for Rural Development”** organized by Rural Technology Centre, Gandhigram Rural Institute, Gandhigram under the sponsorship of UGC, New Delhi & MNES, New Delhi on 1<sup>st</sup> November 2006.
  32. Participated in **“Solar Energy for effluent / Drinking water treatment”** in **“RENET Renewable Energy Workshop”** organized by IIT, Madras, held on 27<sup>th</sup> - 28<sup>th</sup> September 2006.
  33. Participated in the **Inter-Collegiate Seminar on “Renewable Energy – Today and Tomorrow”** under the sponsorship of Ministry of Non-Conventional Energy Sources(MNES), New Delhi & Thailand Energy Development Agency (TEDA), Chennai, 18<sup>th</sup> August 2006.
  34. Participated in the one-day **Workshop on “Solar Passive Architecture”** under the

- sponsorship of MNES, New Delhi & TEDA, Chennai, 22<sup>nd</sup> July 2006.
35. Participated in the one-day **Workshop** on “**Renewable Energy - Energy of the Future**” under the sponsorship of MNES, New Delhi & TEDA, Chennai, 20<sup>th</sup> August 2005.
  36. Participated in one day **Workshop** on “**Instrumentation for Thermal Analysis**” conducted by CEESATNIT, Trichy sponsored by M/s Perkins-Elmer (India) P Ltd., Chennai on 30<sup>th</sup> April 2005.
  37. Participated in a two day **Workshop cum discussion** on “**Small Hydro Power Projects**” sponsored by Ministry of Non conventional Energy Sources, New Delhi, Jointly organized with Alternate Hydro Energy Centre, Indian Institute of Technology, Roorkee on 22<sup>nd</sup> - 23<sup>rd</sup> April 2005.
  38. Participated in one day **Workshop** on “**Solar Home Appliances**” conducted by CEESAT, NIT, Trichy on 5<sup>th</sup> March 2005.
  39. Participated in **Short Term Training Programme** on “**Emerging Energy Technologies**” Sponsored by AICTE - ISTE, New Delhi from 17<sup>th</sup> - 28<sup>th</sup> May 2004.

### Workshop/training programmes/summer/winter schools/conferences organised

As a Convener /Coordinator in

1. **Five days Faculty Development Programme on “Recent advancements in sustainable energy storage and conversion”** under the sponsorship of ATAL organized by Department of Chemical Engineering, MIT, Manipal, 25<sup>th</sup> – 29<sup>th</sup> Oct 2021.
2. **Five days Faculty Development Programme on “Recent developments in Artificial Intelligence for smart and sustainable energy systems”** under the sponsorship of ATAL organized by Department of Chemical Engineering, MIT, Manipal, 7<sup>th</sup> – 11<sup>th</sup> Dec 2020.
3. **Two day National Workshop on Energy Efficiency and Environmental Impact (EEEI2011)**, under the sponsorship of CSIR, New Delhi, Oil India Limited, Duliajan, Assam and MRPL Mangalore organized by Department of Chemical Engineering, MIT, Manipal, 14<sup>th</sup> – 15<sup>th</sup> October 2011.

As an Organizing committee member in

1. **Five days Faculty Development Programme on Recent Advancements in Sustainable Energy Storage and Conversion** under the sponsorship of AICTE Training and Learning Academy (ATAL), Department of Chemical Engineering, MIT, Manipal, 25<sup>th</sup> – 29<sup>th</sup> Oct 2021.
2. **Five days Faculty Development Programme on Recent Developments in Artificial Intelligence for smart and sustainable energy systems** under the sponsorship of AICTE Training and Learning Academy (ATAL), Department of Chemical Engineering, MIT, Manipal, 7<sup>th</sup> – 11<sup>th</sup> Dec 2020.
3. **Two day National Workshop on Energy Efficiency and Environmental Impact (EEEI2011)**, under the sponsorship of CSIR, New Delhi, Oil India Limited, Duliajan, Assam and MRPL Mangalore organized by Department of Chemical Engineering, MIT, Manipal, 14<sup>th</sup> – 15<sup>th</sup> October 2011.
4. One day **Workshop** on “**Rural Development : Role of Renewable Energy Services**” under the sponsorship of TEQIP, Community Services scheme, CEESAT, NIT, Trichy, 9<sup>th</sup> June 2008.
5. **National Conference** on “**Energy Efficiency: The Environmental Solution**” (EEES07), CEESAT, NIT, Trichy, 27<sup>th</sup> – 28<sup>th</sup> December 2007.
6. One-day **training program** on “**Instrumentation methods of Thermal Analysis and Data Interpretation**” NIT, Trichy under the sponsorship of Technical Education Quality Improvement Programme (TEQIP), 25<sup>th</sup> November 2006.
7. **Inter-Collegiate Seminar** on “**Renewable Energy – Today and Tomorrow**” NIT, Trichy under the sponsorship of MNES, New Delhi & TEDA, Chennai, 18<sup>th</sup> August 2006.
8. One day **Workshop** on “**Solar Passive Architecture**” NIT, Trichy under the sponsorship of MNES, New Delhi & TEDA, Chennai, 22<sup>nd</sup> July 2006.

### **Book Chapters**

1. **“Bagasse power in India: meeting challenges of energy, environment and sustainable development”**, Bio-Fuels: Marketing Strategies and Impact on Rural Development, Aavishkar Pub., 2008, xviii, pp.286, \$47. ISBN 81-7910-231-2.
2. **“Tapioca – renewable energy source of biofuel”** Biodiesel Production Technologies, 1<sup>st</sup> edition, Pointer Publishers, 2007, xviii, pp.206. ISBN: 8171325177 KK-53774.
3. **“Elucidation of Kinetics of Bagasse Gasification in Nitrogen and air”**, Proceedings of the First International Conference on Advances in Energy Research, IIT, Mumbai, MacMillan Publishers, 2009, pp.874, ISBN : 023063432X.
4. **“UV Photolysis of phenol”**, Lambert Academic Publishing , ISBN : 978-3-659-34339-1, 2014.
5. **“Metal Organic Frameworks for carbon capture”**, Sustainable Agriculture Reviews, Springer Book chapter 38 , Volume 2, 2019.
6. **“Designing Metal Organic Framework for clean energy applications”**, Metal-Organic Framework Composites - Volume II, Materials Research Forum LLC, 58 (2019) 85-106.

### **Best Paper Awards**

- **Received best paper award** for the paper titled **“Performance Enhancement of solar still using Phase Change Materials”**, 2nd International Conference on Sustainable Energy Electronics & Computing Systems SEEMS-2018 technically sponsored by IEEE UP Section, Greater Noida, UP. 26<sup>th</sup> – 27<sup>th</sup> Oct 2018.
- **Received best paper award** for the paper titled **“Simulation of solar aided liquid desiccant cooling system in recirculation mode using TRSNYS”**, 4th International Conference on Computational Methods in Engineering and Health Sciences (ICCMEH 2017), MIT, Manipal, 19<sup>th</sup> – 20<sup>th</sup> Dec 2017.
- **Received best paper award** for the paper titled **“Synthesis and characterization of Metal Organic Framework based photocatalyst for carbon dioxide conversion”** International Conference on Advanced Materials SCICON 16, Amrita Vishwa Vidyapeetham, Coimbatore 19 – 21 December 2016.
- **Received best paper award** for the paper titled **“Design of solar heat sheet for air heaters”** in 2<sup>nd</sup> International Conference on Methods and Models in Science and Technology organized by Institution of Engineers, Technocrats and Academician Network(IETAN), Jaipur, 19<sup>th</sup> – 20<sup>th</sup> Nov 2011.

### **Achievements**

- Reviewer for Elsevier journal and reviewer for SERB, DST project grant and CSIR project proposal reviewer.
- Guest Editor in International Journal of Energy research, International Journal of Photoenergy, Frontiers in
- Board of Studies Member for Department of Energy, Gandigram Rural Institute, Dindugal .
- PhD external examiner for Gandhigram Rural Institute, Gandhigram, Dindugal.
- Received VGST project grant from Govt of Karnataka, India under RGSF and CESEM scheme.

### **IAESTE students guided from foreign universities**

<b>Name</b>	<b>Country</b>	<b>Internship Duration</b>
Seung Hoon Lee	South Korea	15/05/2011 – 15/08/2011
Marte Bondo Augdal	Norway	01/07/2012 – 17/08/2012
Joanna Migdalska	Poland	15/07/2013 - 23/08/2013
Filip Simjanoski	Macedonia	05/07/2014 - 29/08/2014

Stefan Baueregger	Austria	14/07/2014 - 31/08/2014
Ali Shouman	Lebanon	08/06/2015 - 08/08/2015
Norman Carl Freduenberg	Germany	01/10/2015 - 30/12/2015
Diana Marcela Santamaria	Colombia	15/07/2015 - 15/09/2015
Lisa Maria Ubbenjans	UK	30/05/2016 – 05/08/2016
Martin Dohr	Austria	18/07/2016 – 23/09/2016
Maximilian Winderla	Germany	14/09/2016 – 14/12/2016
Mohammad Vahid Dastjerdi	Germany	01/10/2016 – 30/12/2016
Nishtha Tiwari	Belgium	01/07/2017 – 17/09/2017
David De Pauw	Belgium	01/08/2017 – 25/09/2017
Andrew Carollo	USA	19/06/2017 – 25/08/2017
Stijn Ruts	Belgium	07/02/2018 – 25/05/2018
Matthew S.Jenkins	UK	13/06/2018 – 17/08/2018
Dario Cyril Mueller	Switzerland	10/06/2019 – 17/08/2019
Zainab Albadi	Oman	01/07/2019 – 24/08/2019
Emiel Ongenae	Belgium	15/07/2019 – 17/08/2019
Mohammad Salikandi	Iran	20/08/2019 - 30/10/2019
Enyonam Ahadzi	Ghana	01/09/2020 - 30/10/2020
Musaab Abdulrahman Al-maidan	Turkey	01/08/2021 - 01/10/2021