

Name of Faculty Dr. Marepally Bhanu Chandra  
 Designation Assistant Professor  
 Nature of Job/Appointment Regular  
 Date of Joining 01-12-2021  
 E-mail bhanuchandram\_ece@cbit.ac.in



**Education Qualifications**

	<b>Name of the Degree</b>	<b>Class</b>
Ph.D.	Erasmus Joint Doctorate (Nano Technology) 1) University of Claude Bernard, Lyon, France 2) University of Messina, Italy	Awarded (Full Time - Erasmus Mundus)
PG	M. Tech (Nano Technology) Vellore Institute of Technology, Tamil Nadu, India.	Distinction (Gold Medallist)
UG	B. Tech (ECE) International Institute of Information Technology, IIIT-Hyderabad, Telangana, India.	First

**Work Experience**

	12 Years
Teaching	5 Years
Research	3.5 Years
Industry	3.5 Years
Others	Scientific Consultant with STRL Bio systems

Area of Specialization Nano Technology, Solar Cells & Hydrogen Energy, Fuel Cells and Photonics.

Academic Identity Scopus ID: 56940935700  
 Researcher ID: C-5755-2018  
 Orcid ID: 0000-0001-5836-856X

Professional Memberships IEEE (ID: 98529210) ; EAI ; Erasmus Mundus Association (EMA)

Administrative Responsibilities held

- Associate Dean, R&D, K L University, Hyderabad (KLH)
- Erasmus Mundus Assembly, Program Representative, Italy
- Doctoral Committee Member, Anna University
- R&D Coordinator & Core-Committee member, CBIT, Hyderabad

Research Guidance Ongoing - PhDs: 1

- i2E Lab Start-Up Awardee, TSIC & Make Room India – 2022.
- STRL BIO Systems – Consultancy Grant – 2021.(3 Lakhs)
- DST SERB – Core Research Grant, India – 2019. (56.3 Lakhs)
- Start-Up India competition, India, Awarded in Top-200 – 2019.
- Erasmus Mundus Fellowship-Joint PhD on Sustainable Industrial Chemistry (SINCHEM) – 2013. (75 Lakhs)
- High Distinction certification on Fundamentals of Nano-Electronics by NanoHub, 'Purdue University' – 2012.
- CSIR NET'12 - Junior Research Fellowship in Physics (Rank - 100) and GATE'13 (Rank - 257) – 2012.
- GOLD medallist and member of the Honor's club for M. Tech Nanotechnology. (2011-13)
- Gate Fellowship from DST, India in Nano Tech. (2011-13)
- Mr. Susee Soundararajan Endowment Award and Meritorious scholarship at VIT University. (2011-13)
- IIT-JEE – AIR 900 in Screening AIR 3100 in Mains; AIEEE - AIR 759 - 2005.
- National Science Olympiad - Ranked 1st in Hyderabad and AIR 97<sup>th</sup> - 2004.
- Mathematics and Chemistry Olympiad - selected for state 2003.

**Awards Received**

Courses Handled at Under Graduate / Post Graduate Level. Electromagnetics and Transmission Lines and Applications, Principles and Applications of AI, Electrical Circuit Theory, Analog Electronics and Circuit Design, Electronics system design, Solar Photovoltaic Cells and Power arrays.

No. of Papers Published International Journals – 13 International Conference – 02

- Projects Carried out
1. Principal Investigator: DST SERB – Core Research Grant – 56.3 Lakhs
  2. Title: Development of Nanofoam based Plasmonic structures towards Photo-Electro-Chemical Water-Splitting and CO<sub>2</sub> reduction.
  3. Principal Investigator: STRL BIO Systems, Consultancy
  4. Title: Nano-UV based Air Filtration and Bio-Sterilization devices
- Patents
1. Modular Convertible Catalytic Cell, 202241066571, (Published, 2022)
  2. An apparatus for IOT based Healthcare monitoring, diagnosis and treatment using thin client communicating techniques, 202241007808 (Published, 2022).
  3. Negative Ion Based Continuous Disinfection System, 202141019111 (Published, 2022).

Invited Speaker (Reviewer) 3<sup>rd</sup> SINCHEM Winter School, Bologna, Italy - 2016 (Speaker)  
Topic: Production of Solar Fuels using CO<sub>2</sub>

- No. of Books/Chapter Published with details
1. Book Chapter: Graphitic Carbon Nitrides based Dye Sensitized Solar Cells and Perovskite Solar Cells for Energy Harvesting, "Energy Harvesting Trends for Low Power Compact Electronic Devices", Springer, 2022 (Accepted).
  2. Book Chapter: Production of Solar Fuels using CO<sub>2</sub>, "Studies in Surface Science and Catalysis", Elsevier, 9780444641274, 2019.

1. INUP-i2i Familiarization Workshop, IISc Bangalore, India – 2022.
2. Training program on "Prospects for Start-ups in Solar Energy Technologies", National Institute of Solar Energy (NISE), India – 2020.
3. National Seminar on "Bio Signal Processing for Health Care Applications", Dec. 17-19, 2019.

- Details of Short-Term Training Programs/Faculty Development Programs/Seminars/Workshops. Other Trainings (Attended and/or Organized).
4. The AI & ML – FDP by NIT Warangal, KLEF, Hyderabad, India - 2018.
  5. The EPICS – Annual Symposium by Purdue Univ., Hyderabad, India - 2018.
  6. The I SINCHEM Autumn Sch. Green phys. Chem., Montpellier, France - 2016.
  7. The Ecole de Catalyse - ELITECAT, Lyon, France - 2015.
  8. The Biotic CO<sub>2</sub> Workshop and SCOT Workshop, Lyon France - 2014.
  9. The Latest Developments in Solar Photovoltaic Technology - Seminar, P.S.G. Institute of Advanced Studies, Coimbatore, India - 2013.

**Details of Journal Publications/ Conferences**

1. Gengan, S., Gnanamuthu, R.M., Sankaranarayanan, S., Venumbaka, M. R., Marepally, B.C., Biroju, R.K., "Electrochemical modified Pt nanoflower @ rGO for non- enzymatic electrochemical sensing of glucose." Sensors and Actuators A: Physical, Vol. 353, pp. 114232, (2023). (IF – 4.3)
2. Biroju, R.K., Marepally B.C., Malik, P., Dhara, S., Gengan, S., Maity, D., Narayanan T.N., & Giri, P.K., "Defective Graphene/Plasmonic Nanoparticle Hybrids for Surface-Enhanced Raman Scattering Sensors." ACS Omega, Vol. 8(4), pp. 4344-4356, (2023). (IF – 4.1)
3. Marepally, B.C., Ampelli, C., Genovese, C., Sayah, R. Veyre, L., Dalverny, C., Thieuleux, C., Quadrelli, E.A., Perathoner, S., & Centi, G. "Supported metallic nanoparticles prepared by an organometallic route to boost the electrocatalytic conversion of CO<sub>2</sub>." Journal of CO<sub>2</sub> Utilization, Vol. 50, pp. 101613, (2021). (IF – 7.1 ; citations – 2)
4. Venumbaka, M. R., Akkala, N., Duraisamy, S., Saravanan, S., Poola, P. K., Rao, D. S., Shrivatsava, A. K., Marepally, B.C.\*, "Performance of TiO<sub>2</sub>, Cu-TiO<sub>2</sub>, and N-TiO<sub>2</sub> nanoparticles Sensitization with Natural Dyes for Dye Sensitized Solar Cells." Materials Today: Proceedings, Vol. 49, 2747-2751 (2022). (citations – 3)
5. Venumbaka, M.R., Raina, J.P.(Late), Marepally, B.C.\*, "Plasmonic E-field Enhancements and Coupling Effects of Metallic Structures using FDTD." Materials Today: Proceedings, Vol. 47, 1855-1861, (2021). (citations – 1)
6. Marepally, B.C., Ampelli, C., Genovese, C., Tavella, F. Quadrelli, E.A., Perathoner, S., & Centi, G. "Area Optimization of CMOS Full Adder Design Using 3T XOR." WISPNET, IEEE, 192-194, (2020). (citations – 16)

7. Marepally, B.C., Ampelli, C., Genovese, C., Tavella, F. Quadrelli, E.A., Perathoner, S., & Centi, G. "Electrocatalytic reduction of CO<sub>2</sub> over dendritic-type Cu- and Fe-based electrodes prepared by electrodeposition." *Journal of CO<sub>2</sub> Utilization*, Vol. 35, pp. 194-204, (2020). (IF – 7.1 ; citations – 22)
8. Saboo, T., Tavella, F., Ampelli, C., Perathoner, S., Genovese, C., Marepally, B.C., Veyre, L., Quadrelli, E.A., & Centi, G. "Water splitting on 3D-type meso/macro porous structured photoanodes based on Ti mesh." *Solar Energy Materials and Solar Cells*, Vol. 178, pp. 98-105, (2018). (IF – 7.3 ; citations – 24)
9. Marepally, B.C., Ampelli, C., Genovese, C., Saboo, T., Perathoner, S., Wisser, F.M., Veyre, L., Canivet, J., Quadrelli, E.A., & Centi, G. "Enhanced formation of >C 1 products in the electroreduction of CO<sub>2</sub> by adding a carbon dioxide adsorption component to a gas diffusion layer type catalytic electrode." *ChemSusChem*, Vol. 10, pp. 4442-4446, (2017). (IF – 9.1 ; citations – 52)
10. Marepally, B.C., Ampelli, C., Genovese, C., Tavella, F., Veyre, L., Quadrelli, E.A., Perathoner, S., Centi, G. "Ultrafine Cu nanoparticles onto nanocarbon-based electrodes for the electrocatalytic reduction of CO<sub>2</sub>." *Journal of CO<sub>2</sub> Utilization*, Vol. 21, pp. 534-542, (2017). (IF – 7.1 ; citations – 46)
11. Ampelli, C., Genovese, C., Marepally, B. C., Papanikolaou, G., Perathoner, S., & Centi, G. "Electrocatalytic conversion of CO<sub>2</sub> to produce solar fuels in electrolyte or electrolyte-less configurations of PEC cells." *Faraday Discussions*, Vol. 183, pp. 125-145, (2015). (IF – 4.0 ; citations – 57)
12. Genovese, C., Ampelli, C., Marepally, B.C., Papanikolaou, G., Perathoner, S., Centi, G. "Electrocatalytic reduction of CO<sub>2</sub> for the production of fuels: a comparison between liquid and gas phase conditions." *Chemical Engineering Transactions*, Vol. 43, pp. 2281-2286, (2015). (citations – 17)
13. Sarkar, Paramita; Parameswaran, Chithra; Harish, C.; Chandra, M. Bhanu; Grace, A. Nirmala. "Kinetics of silver nanoparticle growth using DMF as reductant – Effect of surfactants." *Advanced Materials Research*, Vol. 938, pp. 30-35, (2014). (citations – 8)
14. Saranya, M.; Garg, Srishti; Singh, Iksha; Ramachandran, R.; Santhosh, C.; Harish, C.; Vanchinathan, T. Mudali; Chandra, M. Bhanu; Grace, A. Nirmala. "Solvothermal Preparation of ZnO/Graphene Nanocomposites and photocatalytic properties." *Nanoscience and Nanotechnology Letters*, Vol. 5(3), pp. 349-354, (2013). (IF-1 ; ci 26)

