

Name of Faculty Dr. Marepally Bhanu Chandra

Designation Assistant Professor

Nature of Job/Appointment Regular

Date of Joining 01-12-21

E-mail bhanuchandram_ece@cbit.ac.in



Education Qualifications

Name of the Degree

Class

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

11 Years

Teaching

4.5 Years

Research

3.5 Years

Industry

3 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)

Responsibilities held at Institution Level

- i. Associate Dean, R&D, K L University, Hyderabad (KLH)
- ii. Erasmus Mundus Assembly, Program Representative, Italy
- iii. Doctoral Committee Member, Anna University

Responsibilities held at Department Level

Research Progress Assessment Committee (RPAC) Chair & Member, KLH
R&D Coordinator & Co-Committee, CBIT, Hyderabad

Research Guidance

Ongoing - PhDs: 1

Awards Received

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

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

National Journals – --

International Journals – 10

National Conference – --

International Conference – 02

Projects Carried out

- i. *Principal Investigator: DST SERB – Core Research Grant – 56.3 Lakhs*
Title: Development of Nanofoam based Plasmonic structures towards Photo-Electro-Chemical Water-Splitting and CO₂ reduction.
- ii. *Principal Investigator: STRL BIO Systems, Consultancy – 3 Lakhs*
Title: Nano-UV based Air Filtration and Bio-Sterilization devices

Patents

- i. An apparatus for IOT based Healthcare monitoring, diagnosis and treatment using thir

- client communicating techniques, 202241007808 (Published).
- ii. Negative Ion Based Continuous Disinfection System, 202141019111 (Filed).

- Technology Transfer
Invited Speaker (Reviewer) 3rd SINCHEM Winter School, Bologna, Italy - 2016 (Speaker)
Topic: Production of Solar Fuels using CO₂
- No. of Books/Chapter Published with details
- i. 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).
 - ii. Book Chapter: Production of Solar Fuels using CO₂, "Studies in Surface Science and Catalysis", Elsevier, 9780444641274, 2019.
- Details of Short-Term Training Programs/Faculty Development Programs/Seminars/Workshops. Other Trainings (**Attended and/or Organized**).
- i. INUP-i2i Familiarization Workshop, IISc Bangalore, India – 2022.
 - ii. Training program on "Prospects for Start-ups in Solar Energy Technologies", National Institute of Solar Energy (NISE), India – 2020.
 - iii. National Seminar on "Bio Signal Processing for Health Care Applications", Dec. 17-19, 2019.
 - iv. The AI & ML – FDP by NIT Warangal, KLEF, Hyderabad, India - 2018.
 - v. The EPICS – Annual Symposium by Purdue Univ., Hyderabad, India - 2018.
 - vi. The I SINCHEM Autumn Sch. Green phys. Chem., Montpellier, France - 2016.
 - vii. The Ecole de Catalyse - ELITECAT, Lyon, France - 2015.
 - viii. The Biotic CO₂ Workshop and SCOT Workshop, Lyon France - 2014.
 - ix. The Latest Developments in Solar Photovoltaic Technology - Seminar, P.S.G. Institute of Advanced Studies, Coimbatore, India - 2013.
- Details of Journal Publications/ Conferences
- 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 CO₂." *Journal of CO₂ Utilization*, Vol. 50, pp. 101613, (2021). (IF – 7.1 ; citations – 2)
- Venumbaka, M. R., Akkala, N., Duraisamy, S., Saravanan, S., Poola, P. K., Rao, D. S., Shrivatsava, A. K., **Marepally, B.C.***, "Performance of TiO₂, Cu-TiO₂, and N-TiO₂ nanoparticles Sensitization with Natural Dyes for Dye Sensitized Solar Cells." *Materials Today: Proceedings*, Vol. 49, 2747-2751 (2022).
- 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)
- 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)
- Marepally, B.C.**, Ampelli, C., Genovese, C., Tavella, F. Quadrelli, E.A., Perathoner, S., & Centi, G. "Electrocatalytic reduction of CO₂ over dendritic-type Cu- and Fe-based electrodes prepared by electrodeposition." *Journal of CO₂ Utilization*, Vol. 35, pp. 194-204, (2020). (IF – 7.1 ; citations – 18)
- 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 – 23)
- 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 CO₂ 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 – 49)
- 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 CO₂." *Journal of CO₂ Utilization*, Vol. 21, pp. 534-542, (2017). (IF – 7.1 ; citations – 45)
- Ampelli, C., Genovese, C., **Marepally, B. C.**, Papanikolaou, G., Perathoner, S., & Centi, G. "Electrocatalytic conversion of CO₂ 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 – 54)
- Genovese, C., Ampelli, C., **Marepally, B.C.**, Papanikolaou, G., Perathoner, S., Centi, G. "Electrocatalytic reduction of CO₂ for the production of fuels: a comparison between liquid and gas phase conditions." *Chemical Engineering Transactions*, Vol. 43, pp. 2281-2286, (2015). (citations – 17)
- 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 – 6)
- Saranya, M.; Garg, Srishti; Singh, Iksha; Ramachandran, R.; Santhosh, C.; Harish, C.; Vanchinathan, T. Mudaliar; **Chandra, M. Bhanu**; Grace, A. Nirmala. "Solvothermal Preparation of ZnO/Graphene Nanocomposites and its photocatalytic properties." *Nanoscience and Nanotechnology Letters*, Vol. 5(3), pp. 349-354, (2013). (IF-1 ; cit. – 25)