

Name of Faculty Dr. PRASANNA RANI REDAPANGU
 Designation ASSISTANT PROFESSOR
 Nature of Job/Appointment Regular
 Date of Joining 27 – 09 – 2021
 E-mail prasannarani_chem@cbit.ac.in



Education Qualifications	Name of the Degree	Class
Ph. D	Doctor of Philosophy - Chemical Engg. IIT Hyderabad (2014)	Awarded
PG	M. E - Chemical Engg. - Petrochemical MSU Baroda (2009)	Distinction
UG	B. Tech - Chemical Engg. Bapatla Engineering College (2007)	Distinction

Work Experience

Teaching 11 Years (10 years post PhD)

Research 4 years of Research experience as Research Scholar at IIT Hyderabad.

Area of Specialization Waste Management, Waste-to-Wealth, Fluid Dynamics, Nano Fluids, Multiphase Flows, CFD simulations

Professional Memberships

- ❖ Life Member, National Society of Fluid Mechanics and Fluid Power (NSFMFP) - LM659.
- ❖ Professional Member - IFERP - PROF-7490922
- ❖ Member, Society of Petroleum Engineers (SPE) - 4632870.
- Institute Committee Member – Academic Administrative Audit
- Institute Committee Member – Extra-curricular and Co-curricular activities
- Institute Committee Member – Institute Innovation Council (IIC)
- MoE’s IIC Innovation Ambassador since 2023

Responsibilities held at Institution Level

- Faculty Co-ordinator - World Entrepreneurs Day - 2024, 1-week celebrations - IIC-CBIT
- Faculty Coordinator - National Education Day - 2023 - IIC Calendar Activity
- Naac 7 criteria member 2022
- Technical committee member – Sudhee 2024 & Sudhee-2023
- Hospitality committee member – Sudhee-Shruthi-2022
- Coordinator - 4-week online training program on “Quantitative process Analysis: A MATLAB and ASPEN PLUS Approach” 16 - Oct 2024 to 16 Nov 2024
- Co-ordinator - Graduation Day - 2024
- FDP Coordinator - “Empowering Educators: AI Tools for Engineering and Technology”, 29 Jan 2024 - 02 Feb 2024.
- Incharge - Department Score Card
- AQAR Coordinator
- UG Project Co-ordinator - 2023-24

Responsibilities held at Department Level

- Co-ordinator - Chemspark-2023 (Sudhee-2023)
- NBA – Criteria-9 incharge
- Naac Criteria-7 incharge
- Dept. Incharge - Extra-curricular and Co-curricular activities
- ACIC Co-ordinator; IIC Co-ordinator
- Lab Incharge - IMC Lab
- Class Teacher - (2024-25 2nd Year, 2021-22 2nd Year, 2022-23 3rd Year)
- Internship Coordinator - 2021-22
- Activity points Coordinator
- Mentor

Research Guidance 8 UG projects
 Ongoing - 2 B.Tech major projects

- ❖ Received "Best Faculty" award at International Award Ceremony on Academic Achievers in Higher Educational Institutions (AAHEI 2023), Instituted by Knowledge Research Academy, Coimbatore, Tamil Nadu, India.

Awards/Achievements Received

- ❖ Our team received 1st prize in Business plan competition at BVRIT-2024.
- ❖ Our team received 1st prize in ACE-EPIC Idea exploration 3.0- 2024, Ambala.
- ❖ Our teams received best poster presentation and 1st prize in Idea presentation - Technosmania - 2024.

- ❖ Our 2 teams received the Best Presentation award for Chemspark – 2023 at CBIT, 31st Jan–1st Feb. 2023.
- ❖ Received the Best Presentation award for Research Day – 2022 at CBIT 18th Dec. 2022.
- ❖ Our team received the Merit prize with I2P grant of Rs. 75000/- in Sustainable Cities Ideathon-2023 conducted by ACIC-CBIT for the project “Human Hair to liquid Fertilizer”.
- ❖ Our team received the Merit prize with I2P grant of Rs. 15000/- in Agri-aavishkar Ideathon-2022 conducted by ACIC-CBIT for the project “Value Added Products from Floral Waste”.
- ❖ Our team received Merit prize with I2P grant of Rs. 15000/- in Agri-aavishkar Ideathon-2022 conducted by ACIC-CBIT for the project “Bioplastics production from Corn-husk”.
- Sustainable Engineering (2024-25 Sem V, 2023-24 Sem VII)
- Waste Management (Open Elective - 2023-24 Sem VIII)
- Petrochemical Technology (2023-24-SemVI)
- Mechanical unit operations (2023-24 Sem III)
- Material and Energy Balance Calculations (2021-22 Sem III, 2022-23 Sem III)
- Mass Transfer Operations-II (2022-23 Sem V)
- Process Modeling and Simulation lab (2022-23 Sem V)
- Universal Human Values (2022-23 Sem V)
- Mechanical Unit Operations lab (2022-23, 2021-22 Sem III)
- Food Processing Technology (2021-22, Sem IV)
- Petrochemical Technology (2021-22-SemV)
- Chemical Reaction Engineering lab (2022-23, 2021-22, Sem IV)

Courses Handled at Under Graduate / Post Graduate Level.

No. of Papers Published National Journals – Nil International Journals – 4
 National Conference – 20 International Conference – 14

Ongoing:

1. **PI** for In-house funded major project worth Rs. 1,57,854/- : “Valorization of fruit peel waste as a potential source to produce Cu nanoparticles for in situ trapping of nutrients for modern agricultural practices”.
Co-PIs: Dr. M.Mukunda Vani, Dr. P.V.Naga Prapurna
2. **PI** for In-house funded minor project worth Rs. 43,205/- : “Sustainable bio-plastic film from agriculture residues with egg shells as plasticizer for biodegradable bags”.
Co-PIs: Dr. P.V.Naga Prapurna, Dr. M.Mukunda Vani
3. **Mentor** for Turning trash into treasure: Plant and waste derived nanomaterials for agri-cultural advancement - Student seed grant project of Rs. 37, 100/-
Team: Mr. Sayeeduddin, Mr. S. Sai Kumar, Mr. S. Kalyan Sai, Mr. Dhanush
4. **Mentor** for Synthesis, characterization of biodegradable plastic films using RSM - Student seed grant project of Rs. 38,000/-
Team: Ms. Sailaja, Ms. Manvitha, Mr. Amay, Mr. Dhanush, Mr. Rupesh
5. **Co-PI** for In-house funded major project worth Rs. 50957/- : Harnessing natural value added products from floral waste: Sustainable approach towards zero waste.
6. **Co-PI** for In-house funded major project worth Rs. 238670/- : Green Synthesized Nanoparticle coated membranes for Microbial Fuel cell applications.

Projects Carried out

Completed: 3 under ACIC I2P cohort

1. Human Hair to liquid Fertilizer – 2023-24 I2P funding of Rs. 75, 000/- by ACIC-CBIT”.
Team: Chandrakanth, Ani, Rajitha, Nithesh
Co-mentor: Dr. M. Mukunda Vani
2. Value Added Products from Floral Waste – 2022-23 - I2P funding of Rs. 15000/- by ACIC-CBIT
Team - Mr. Aravind, Ms. Sathwika.
3. Bioplastics production from Corn-husk - – 2022-23 - I2P funding of Rs. 15000/- by ACIC-CBIT.
Team: Mr. Amay, Mr. Dhanush, Mr. Rupesh.

Invited Speaker/Session Chair/Resource Person

1. Delivered an Invited Talk in 1-week online FDP on “Empowering Educators: AI Tools for Engineering and Technology (AITET-2024)”, CBIT - 29th Jan - 2nd Feb 2024.
2. Delivered a talk on Youth Day - 2024, organized by IIC-CBIT.
3. Jury Member of Grassroots Innovation Program (GRIP) - ACIC-CBIT-2024.
4. Session Chair for INCEEE-2023, organized by NIT Warangal, 24-25 Nov 2023.
5. Session Chair for Technosmania - 2023, organized by University College of Technology, Osmania University, April 2023.

No. of Books/Chapter
Published with details

6. Session Chair for ChemBioEn-2022, organized by BVRIT Narsapur, Sept. 2022.
7. Invited speaker for Career Opportunities in Chemical Engg. For CIPET Hyderabad, 16th March 2023.

1. "From Farm to Fuel: Animal-Based Bioenergy and Bio-Products", Chapter 28 of the book "From Waste to Wealth", pp.247-279, Springer Nature,, May 2024. Scopus indexed.
2. "Converting Plastic Waste into Building Materials: Poly-Bricks", Chapter 62, "From Waste to Wealth", pp 739-751, Springer Nature,, May 2024. Scopus indexed.

Organized:

1. 4-week online training program on "Quantitative process analysis: A MATLAB and ASPEN PLUS Approach", 16 Oct – 16 Nov 2024, as Co-ordinator.
2. World Entrepreneurs Day - 2024, 1-week celebrations - IIC-CBIT as Co-ordinator
3. Poster Making competition - World Entrepreneurs Day - 2024, IIC-CBIT, as Event Co-ordinator
4. 1-week online FDP, "Empowering Educators: AI Tools for Engineering and Technology", 29 Jan 2024 - 02 Feb 2024 as Coordinator -.
5. Served as Faculty SPOC for TiE-Hyderabad Open Mic – 2023, 1st Dec, 2023.
6. National Education Day – 2023, IIC-CBIT as Faculty Co-ordinator.
7. Session talk – "ACIC-CBIT Orientation for Chemical Department", 14th Nov 2023 as Faculty co-ordinator.
8. Expert talk on "Appreciation of Rural Society" in association with ACIC-CBIT", 26th Sept. 2023 as Faculty co-ordinator.
9. "Rural Visit to Devuni Yerrapalli" as community outreach for 1st year students, Oct 3rd 2023 as Faculty co-ordinator
10. Shikshak Parv – 2022 – 1-week Teacher's day celebrations at CBIT as Faculty coordinator.
11. Served as SPOC for ACIC CBIT "Innovate 4 - Menstrual Waste" Hackathon 2022 as, organized by Telangana State Innovation Cell (TSIC) and Water-Aid India - June 2022.
12. In-House Workshop on "Basics of Matlab for Chemical Engineers", Jan 2022 as Faculty co-ordinator.
13. Guest lecture on "An Overview of Petroleum Refinery Industry and Job Opportunities" on 22/09/22 by Sri. S. Chiranjeevulu, Retired Chief Manager (QC, R&D) Mangalore Refinery and Petrochemicals Ltd., ONGC.

Attended:

1. Attended 1-week FDP on "Emerging Technologies and Innovations: Pioneering Environmental Sustainability (ETIPES-2024)", organized by K.K. WAGH INSTITUTE OF ENGINEERING EDUCATION AND RESEARCH, 30 Sept to 4th Oct, 2024.
2. Attended 1-Day workshop on Awareness Workshop on "Single Use Plastic and Alternative Material" on 13th March 2024 organized by Ni-MSME Hyderabad, in-association with TSPCB.
3. Attended 1-Day workshop on "Invest in Women for Acceleration of Progress", on 7th March 2024 organized by Ni-MSME Hyderabad.
4. Self-Sponsored One-week STC on "Water Quality Monitoring and Treatment" (WQMT-2023) April 27-May 1, 2023 (Online Mode) organized by Department of Chemical Engineering, Dr. B R Ambedkar National Institute of Technology Jalandhar, Punjab (India).
5. Participated in the AICTE Recognized Faculty Development Programme on "Smart Materials Processing and Applications", Conducted by Applied Science Department.
6. Completed FACULTY DEVELOPMENT PROGRAMME ON TECHNOLOGY MANAGEMENT IN EDUCATION - May 6 - 12, 2022 Organized by ScrollWell
7. Participated in Seminar on "Scope for Inter-disciplinary research", on 6th May 2022, Organized by R&D Center and Department of Information Technology, CBIT-Hyderabad.
8. Participated in Two Day Faculty in-house training program held on 23rd & 30th April, 2022, by IQAC - CBIT.
9. Completed Online FACULTY DEVELOPMENT PROGRAMME On "Women Entrepreneurship Development Program (WEDP) - held by Faculty of Management Studies, Udaipur, 11th - 16th April, 2022.
10. Participated and completed successfully AICTE Training and Learning (ATAL) Academy Online FDP on "WASTE TECHNOLOGY - ENERGY CONVERSION AND UTILIZATION" from 08/11/2021 to 12/11/2021 conducted by MOHAMED SATHAK ENGINEERING COLLEGE.
11. Participated and completed successfully AICTE Training and Learning (ATAL) Academy Online FDP on "Fluid Flow Analysis using Aspen Hysys and Aspen Plus for Chemical

**Details of Short-Term
Training
Programs/Faculty
Development
Programs/Seminars/
Workshops. Other
Trainings (Attended
and/or Organized).**

Engineers” from 13/09/2021 to 17/09/2021 at Vel Tech High Tech Dr. Rangarajan Dr. Shakuntala Engineering College.

Details of Journal Publications/ Conferences (National and International)

International SCI/Scopus Indexed Journals:

1. **P. R. Redapangu**, T. G. Kidan and K. Berhane (2021), “Three-dimensional numerical simulations of Buoyancy-driven flow of two immiscible liquids using a GPU based LBM approach”, J. of Applied Fluid Mechanics, 14(2), 601-613.
2. **P. R. Redapangu**, K. C. Sahu and S. P. Vanka, A lattice Boltzmann simulation of three-dimensional displacement flow of two immiscible liquids in a square duct, ASME Journal of Fluids Engineering, 2013, 135, 121202. (*Impact factor: 0.939*) DOI: 10.1115/1.4024998
3. **P. R. Redapangu**, K. C. Sahu and S. P. Vanka, A study of pressure-driven displacement flow of two immiscible liquids using a multiphase lattice Boltzmann approach, Physics of Fluids, 2012, 24, 102110. (*Impact factor: 1.942*)
4. **P. R. Redapangu**, S. P. Vanka and K. C. Sahu, Multiphase lattice Boltzmann simulations of buoyancy-induced flow of two immiscible fluids with different viscosities, European J. Mechanics-B/Fluids, 2012, 34, 105-114. (*Impact factor: 1.635*)

International Proceedings/Conferences:

5. **Prasanna R. Redapangu**, Vamsi Krishna Muvva, Alekhya P, Naga Prapurna P.V., Rajmohan Soundararajan, “Eggshell-derived Bioplastics: Nurturing Sustainability from Shell to Shelf”, 1st International Conference on Trends in Chemical, Energy, and Environmental Engineering (ChemEEE-2024), 19-21 February 2024, IPE, Visakhapatnam.
6. Kalyan Sai, Dhanush, **Prasanna R. Redapangu**, “Transforming Waste into Valuables: Harnessing Plant and Waste-Derived Nanomaterials for Agricultural Progress”, 1st International Conference on Trends in Chemical, Energy, and Environmental Engineering (ChemEEE-2024), 19-21 February 2024, IPE, Visakhapatnam.
7. P. Alekhya, MSV Krishna, **Prasanna R. Redpangu**, Ambika. S, “Sensing the Unseen: Sensing and Remediation of Pollutants in Aqueous Solutions,” International Conference on Science & Technology Integration for Circular Economy, 19-20 Jan 2024, BITS Pilani Hyderabad Campus.
8. C. Dhanush, S. Kalyan Sai, **Prasanna R. Redpangu**, Ambika. S, “Turning Trash into Treasure: Plant and Waste-Derived Nanomaterials for Agricultural Advancement”, International Conference on Science & Technology Integration for Circular Economy, 19-20 Jan 2024, BITS Pilani Hyderabad Campus.
9. Priyanka Santhi M, Preethi Bollam, **Prasanna R. Redapangu**, "Extraction of Natural Dyes and Oils from Floral waste: Way to Environmental Sustainability", International Conference on New Frontiers in Chemical, Energy and Environmental Engineering (INCEEE-2023) 24-25 Nov., 2023, NIT Warangal, India. Proceedings, ISBN – 978-81-963099-0-9, pg. 27.
10. **Prasanna. R. Redapangu***, Amay Vanneldas, G. Rupesh, C. Dhanush, K. Manvitha, N. Sailaja, Kiros Berhane, "Synthesis & Optimization of Biodegradable plastic films Production Parameters Using Response Surface Methodology", International Conference on New Frontiers in Chemical, Energy and Environmental Engineering (INCEEE-2023), 24-25 Nov., 2023, NIT Warangal, India. Proceedings, ISBN – 978-81-963099-0-9, pg. 139.
11. Suryadevara Kalyan Sai, **Prasanna R. Redapangu**, Ambika S, FROM SOURCE TO SOLUTION: A COMPREHENSIVE REVIEW ON METHODS AND MATERIALS FOR CO₂ REMOVAL FROM DIVERSE SOURCES, 5 th Asia-Oceania Sonochemical Society International Conference (AOSS-5) 28-30 September 2023, NIT Warangal, India. Proceedings, ISBN - 978 - 81-928314 - 9 - 7.
12. M. Priyanka Santhi, B. Preethi and **P. R. Redapangu**, “Value added products from floral waste”, 3rd International conference on Chemical, Bio & Environmental Engineering (CHEMBIOEN-2022) at BV Raju Institute of Technology Narsapur in collaboration with NIT Jalandhar on 4th-5th November 2022.
13. P. R. Redapangu, Tesgay G/Kidan and K. Berhane, (2019) “Characterization of Density-unstable downward displacement flow of two immiscible fluids – Lattice Boltzmann simulations”, International Conference on New Frontiers in Chemical, Energy and Environmental Engineering (INCEEE-2019), Feb’ 15-16, NIT Warangal. (**Received best paper award in oral presentation.**)

National Proceedings:

14. Amay Vanneldas, Gadde Rupesh, **P. R. Redapangu***, “Optimization of Ethylene Oxide Production from Ethylene and Air: A Process Flowsheet Design Approach with Aspen Plus and Sensitivity Analysis”, IChE Chemcon – 2023, Dec. 27-30, 2023.
15. Nissy, Mounisha, Dr P V Naga Prapurna, **Prasanna R. Redapangu**, “MEA Fabrication and testing for high temperature fuel cell”, 19th Annual Session of Students’ Chemical Engineering Congress - SCHEMCON 2023, Department of Chemical Engineering, Kongu Engineering College, Coimbatore, Sept.22-23, 2024.

16. S. Kalyan Sai , MSV Krishna, P. Alekhya, **Prasanna R. Redapangu**, "Kinetic Study of Esterification of Acetic Acid using Aspen Plus", 18th Annual session on Chemical Engineering Student Congress "SCHEMCON 2022 - Sustainable Technological Advancements in Chemical Industries (STAC) - 2022" at NIT Warangal, 23-24 September 2022.
17. Aluri Sai Sree Sarayu, G. Sai Teja Goud, **Prasanna Rani R***, "Biomedical Waste Management", Proceedings of SUDHEE-2023 (Nurture Natural Technologies) 31st Jan–1st Feb. 2023. ISBN: 978-93-91679-81-1, pg. 133.
18. Pranay Kumar T, Banoth Upendar and **Prasanna R. Redapangu***, "Hydro Char Application For The Adsorptive Removal Of Wastewater Pollutants", Proceedings of SUDHEE-2023 (Nurture Natural Technologies) 31st Jan–1st Feb. 2023. ISBN: 978-93-91679-81-1, pg. 135.
19. Sri Vardhini, Nishitha Reddy N, **Prasanna R. Redapangu***, Comparative Assessment On The Nutritional Composition Of Plant Based Milk And Dairy, Proceedings of Sudhee-2022, CBIT, March 23-24, 2022, ISBN: 978-93-91679-43-9, pg.59.
20. **P. R. Redapangu** and K. C. Sahu, Three-dimensional LBM simulations of buoyancy- driven flow using graphics processing units, *National Conference on Parallel Computing Technologies (PARCOMPTECH)*, *IEEE Xplore 2013*, 21-23 Feb.

Student Conferences as Mentor:

21. E.Usha sri, B. Harini, Dr. Prasanna Rani R, Shell to Shelf: Sustainable Bioplastics from Eggshells, presented in Research Day – 2023, CBIT, 18th Nov. 2023
22. Armaan Shaik, G.Venkat Pavan, Dr. Prasanna Rani R, The role of nanotechnology in advancing sustainable energy solution, Research Day – 2023, CBIT, 18th Nov. 2023
23. Amay Vanneldas, Gadde Rupesh, Dhanush Chengal and Dr. R. Prasanna Rani, A sustainable innovation model of Bioplastic from Banana Peel: An RSM design, Research Day – 2023, CBIT, 18th Nov. 2023.
24. Sheri Sai Kumar, Syed Sayeeduddin Ahmed, Birudu Sai Praneeth and Dr. R. Prasanna Rani, Blossoming Solutions: Floral Waste Bioadsorbents for Sustainable Environmental Management, Research Day – 2023, CBIT, 18th Nov. 2023.
25. Pranay Reddy, **P. R. Redapangu**, Production and Analysis of Immunity booster from Spirulina, presented in Technosmania - 2023, organized by University College of Technology, Osmania University, April 2023.
26. Satwika, Aravind, **P. R. Redapangu**, Characterization of Essential oils and dyes from Floral Waste – Research Day 2022.
27. Sai Pavan, **P. R. Redapangu**, Solvent Extraction Of Custard Apple Seeds Oil As Organic Pesticide, Research Day 2022.
28. R. V. Amay, S. S. KALYAN, **Prasanna R. Redapangu***, "Application of Nanotechnology in the COVID-19 Pandemic", Presented at National Conference on Emerging and Adaptable Technologies in Process Industries (EATPI2021), 14-15 December 2021 at University College Of Technology, Osmania University, Hyderabad.
29. Srivardhini, Srinika, **Prasanna R. Redapangu***, "Synthesis and Application of BioPlastics for Food Packaging", Presented at National Conference on Emerging and Adaptable Technologies in Process Industries (EATPI2021), 14-15 December 2021 at University College Of Technology, Osmania University, Hyderabad.
30. Sai Sriya, Laalasa, D. Anjali, **Prasanna R. Redapangu***, "Synthesis and Application of BioPlastics for Food Packaging", Presented at National Conference on Emerging and Adaptable Technologies in Process Industries (EATPI2021), 14-15 December 2021 at University College Of Technology, Osmania University, Hyderabad.
31. Vishnu Teja, Harsha Pradha, **Prasanna R. Redapangu***, "Nanomaterials for Water and Waste Water Treatment" Presented at National Conference on Emerging and Adaptable Technologies in Process Industries (EATPI2021), 14-15 December 2021 at University College Of Technology, Osmania University, Hyderabad.
32. I. Nissy, E. Sneegdha, **Prasanna R. Redapangu**, "Natural Coagulants for Treatment of Waste Water", Presented at National Conference on Emerging and Adaptable Technologies in Process Industries (EATPI2021), 14-15 December 2021 at University College Of Technology, Osmania University, Hyderabad.
33. Aman Dubey, Fareed Ahmed, **Prasanna R. Redapangu***, Synthesis and Application of Nano Fluids in Process Industries", Presented at National Conference on Emerging and Adaptable Technologies in Process Industries (EATPI2021), 14-15 December 2021 at University College Of Technology, Osmania University, Hyderabad.