

Name of Faculty Dr. Mekala Mallaiah
 Designation Associate Professor
 Nature of Job/Appointment Contract
 Date of Joining 01 – 06 - 2022
 E-mail mallaiah_chem@cbit.ac.in



Education Qualifications	Name of the Degree	Class
Ph. D	Doctor of Philosophy (Chemical Engineering)	Awarded
PG	M. Tech (Chemical Engineering)	Distinction
UG	B.Tech (Chemical Engineering)	Distinction

Work Experience

Teaching	13 Years
Research	12 Years along with teaching
Industry	--
Others	--

Area of Specialization Reactive Distillation, Reaction Kinetics, Modeling and Simulation

Professional Memberships --

Responsibilities held at Institution Level --

Responsibilities held at Department Level

1. Community Engagement Coordinator,
2. Department IIC Coordinator
3. NAAC Coordinator
4. Internship Coordinator
5. Department research committee works
6. Department Library Coordinator

Research Guidance UG Students (10 Nos.)
 PG Students (03 Nos.)

Awards Received --

Courses Handled at Under Graduate / Post Graduate Level. Transport Phenomena, Chemical Engineering Thermodynamics, Numerical Methods, Membrane Technology, Fuel Cell Technology

National Journals – Nil International Journals – 27

No. of Papers Published

National Conferences – 03 International Conferences – 13

My research work is scale up studies on reactive distillation. Reactive distillation is one of the process intensification areas.

02

Projects Completed: 01

Projects Carried out
 Consultancy Projects

1. Project Title: Feasibility study on reaction kinetics
 Amount Sanctioned: **4, 08,500/-**
 Duration: 18 months (09-12-2019-31-03-2021)
 Organization: Sun Pharmaceutical Industries, Gurgaon, India

Ongoing projects: 01

2. Project Title: Scale up studies on reactive distillation.
 Amount Sanctioned: **14, 56,800/-** .

Duration: 18 months (23-09-2022-31-03-2023)
Organization: Sun Pharmaceutical Industries, Gurgaon, India

Patents

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Technology Transfer

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Invited Speaker

1. Delivered a guest Lecture on use of response surface methodology for the chemical , bio and pharmaceutical engineering problems, 2019, Department of Pharmaceutical Engineering, BVRIT Narsapur

Book Chapter Published: 2

No. of Books/Chapter Published with details

1. Published one book chapter "Comparison of Experimental and Simulations for Esterification Process for Recovery of Acetic Acid by Reactive Distillation", Book Titled "Advances in Chemical, Bio and Environmental Engineering", 2022, Environmental Science and Engineering, Springer, **ISBN No.1863-5539.**
2. Published one book chapter " Kinetic Studies for the Esterification of Propionic Acid with 1-Butanol Process with Ionic Resin Catalyst ", Book Titled " Advances in Chemical, Bio and Environmental Engineering", 2022, Environmental Science and Engineering, Springer, **ISBN No.1863-5539.**

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

1. Participated and completed STTP on "Mathematical Modelling & Numerical Techniques (MMNT)" organized by Department of Chemical Engineering, National Institute of Technology, Warangal during 17th January 2011-21st January 2011.
2. Participated in Workshop on "The Research Process in Engineering and Innovation: An Interactive Workshop for the Ph.D Scholars of NITW" by National Institute of Technology, Warangal on 13th February 2013.
3. Participated in Workshop on "Sono Process Engineering and Reactors for Nanomaterials" by National Institute of Technology, Warangal during 23th February 2013-24th February 2013.
4. Participated in Workshop on "Advanced flow Reactors " by National Institute of Technology, Warangal on 4th October 2013
5. Participated in Workshop on "Stepping into Advanced flow Reactors" by National Institute of Technology, Warangal on 4th October 2013
6. Participated in Workshop on "Advances in Electron microscopy" by National Institute of Technology, Warangal during 09th December 2013- 13th December 2013.
7. Participated in Workshop on "Research Methodology and Scholarly Writing Skills" by National Institute of Technology, Warangal during 25th January 2014- 26th January 2014.
8. Participated in a training program on "Instructional Design and Delivery Methods" by National Institute of Technology, Warangal during 12th November 2016- 14th November 2016.

Details of Journal Publications/ Conferences (National and International)

International Journal from the year 2017

1. **Mallaiah Mekala**, Sunil Kumar Thamida (2022) Modeling of a Batch Catalytic Reactive Distillation Process using Multi-scale Approach of Pore Diffusion and Non-equilibrium Rate Based Model, Iranian Journal of Chemistry and Chemical Engineering, **I.F.0.759.**, **In press, 2022.**
2. **Mallaiah Mekala**, Sunil Kumar Thamida (2022) Kinetic modelling and simulations studies for propionic acid esterification process, Materials today Proceedings, Scopus. **In press, 2022.**
3. **Mallaiah Mekala (2022)** Experimental and simulation studies of a continuous reactive distillation for an esterification process, International Journal of Chemical Reactor Engineering, **I.F.1.510.**, **In press, 2022.**
4. Ameer Khan Pathan, **Mallaiah Mekala**, Sunil Kumar Thamida (2022) Simulation of a Steady-State Continuous Catalytic Reactive Distillation Column by Using a Multiscale Capillary Model, Chemical Engineering & Technology, 45 (5), 878-889, **I.F.1.728.** 1521-4125.
5. **Mallaiah Mekala**, Bhoopal Neerudi, Padma Rao Are, Raviteja Surakasi, G Manikandan, Vighneswara Rao Kakara, Aditya Abhaykumar Dhumal (2022) Water Removal from an Ethanol-Water Mixture at Azeotropic Condition by Adsorption Technique, Adsorption Science & Technology, Volume 2022, Article ID 8374471, 10 pages, **I.F.4.232.**
6. Raju Kalakuntala, **Mallaiah Mekala**, Suman Chirra, Venkatathri Narayanan, Vighneswara Rao Kakara, Srinath Suranani (2022) Preparation of Ti Material Supported SBA-15 Functionalized with Sulfonic Acid Environmental Friendly Catalyst: Application for Esterification Process, Journal of Nanomaterials, Volume 2022, Article ID 6712464, 8 pages, **I.F.2.986.**
7. **Mallaiah Mekala (2021)** Kinetic studies on esterification of acetic acid with isopropyl alcohol in presence of novel solid catalyst, International Journal of Chemical Reactor Engineering, 19 (1), 87-95, **I.F.1.510.**
8. **Mallaiah Mekala**, K Rama Rao, Ch Venkateswarlu (2021) A simulated annealing optimization algorithm based nonlinear model predictive control strategy with application, Evolving Systems, 12 (1), 225-231, **I.F. 1.908.**
9. **Mallaiah Mekala**, Venkateswarlu Chimmiri (2020) Kinetic modelling and simulation studies for the esterification process with Amberlyst 16 resin, Indian Journal of Chemistry-Section A (IJCA), 59 (10), 1494-1503, **I.F.0.729.**
10. **Mallaiah Mekala**, Venkateswarlu Chimmiri (2019) Development of an Activity Based Kinetic Model for an Esterification Process with Indion 180 Catalyst, International Journal of Chemical Reactor Engineering, 17 (9), **I.F.1.510.**
11. **Mallaiah Mekala (2019)** Data on conceptual design and simulation of reactive distillation process, Data in brief, 27, 104262, Scopus.
12. Kishore Kumar Sriramoju, **Mallaiah Mekala**, Srinivas Gowrishetty, Venkateswarlu Chimmiri(2018) Kinetic Studies for the Esterification Process with Ionic Resin Catalyst: Optimization using Response Surface Methodology, International Journal of Engineering & Technology, 7 (3.29), 714-719, Scopus.
13. **Mallaiah Mekala**, Y. Pydi Setti, Srinivas Gowrishetty, Kishore Kumar sriramoju (2018) Determination of optimum conditions in a continuous wall heated fluidized bed dryer, International Journal of Pure and Applied Mathematics, 118 (24), 1-17, Scopus.
14. Anand Kishore Kola, **Mallaiah Mekala**, Venkat Reddy Goli (2018) Optimization studies on biosynthesis of citric acid by one-factor-at-a-time, Chemistry & Chemical Technology, 12 (4), 511-518, Scopus.
15. Ameer Khan Patan, **Mallaiah Mekala**, Sunil Kumar Thamida (2018) Dynamic Simulation of Heterogeneous Catalysis at Particle Scale to Estimate the Kinetic Parameters for the Pore Diffusion Model, Bulletin of Chemical Reaction Engineering & Catalysis, 13 (3), 420-428, Scopus.
16. **Mallaiah Mekala**, Venkat Reddy Goli(2018) Data on acetic acid-methanol-methyl acetate-water mixture analysed by dual packed column Gas Chromatography, Data in brief, 18, 947-960, Scopus.
17. **Mallaiah Mekala**, Venkateswarlu Chimmiri (2017) Kinetic Behaviour of Esterification of Acetic-Acid with Methanol over Solid Acid Catalysts, Austin Chemical Engineering, 4 (2), 1055, 1-5.
18. **Mallaiah Mekala**, Anand Kishore Kola, Venkat Reddy Goli (2017) Catalytic Reactive Distillation for the Esterification Process: Experimental and Simulation, Chemical and Biochemical

Engineering Quarterly, 31 (3), 293-302, **I.F.1.582**.

19. Anand Kishore Kola, **Mallaiah Mekala**, Venkat Reddy Goli (2017) Experimental design data for the biosynthesis of citric acid using Central Composite Design method, Data in brief, 12, 234-241, I.F.0.0. Scopus.

International /National Conferences from the year 2017

1. Raju Kalakuntala , Navpreet Kaur , Bhoopal Neerudi , Mallaiah Mekala , Srinath Suranani (2022) “ Kinetic modelling and simulations studies for propionic acid esterification process ”, NMTEEA, February 18-19, 2022, BITS Pilani, Hyderabad.
2. Mallaiah Mekala, Bhoopal Neerudi, AV Raghavendra Rao (2021) Comparison of Experimental and Simulations for Esterification Process for Recovery of Acetic Acid by Reactive Distillation, CHEMBIOEN-2021, August 20-22, 2021, NIT Jalandhar.
3. Raju Kalakuntla, Mallaiah Mekala, Bhoopal Neerudi, Srinath Suranani (2021) Kinetic Studies for the Esterification of Propionic Acid with 1-Butanol Process with Ionic Resin Catalyst, CHEMBIOEN-2021, August 20-22, 2021, NIT Jalandhar.
4. Mallaiah Mekala (2021) A review on pretreatment of lignocellulosic biomass, Challenges in the production of 2G Bioethanol-2021, August 09-10, 2021, IIT Tirupathi.
5. Sri Poojitha Bhandaru, Pravalika Ellenthala, Mallaiah Mekala (2019), Optimization studies on pectin extraction from waste peels, ARTCHE19, 22nd and 23rd March 2019, CBIT, Hyderabad.
6. Rukmini Rayannagari, Tirumalaiah Velivala, Mallaiah Mekala (2019), Kinetic studies on esterification of n-propanol with n-propionic acid, CHEMCON-2018, December 16-19, Punjab University.
7. Rukmini Rayannagari, Tirumalaiah Velivala , Mallaiah Mekala (2018), Adsorption and swelling studies for solid catalyst in binary liquid mixture, DIMS2018, 15th -16th December 2018, NIT, Warangal. Raju K, Mallaiah Mekala, Uday Bhaskar Babu, Srinath S. (2018), Kinetic studies on propionic acid with n-butanol using heterogeneous catalyst, ICRAAESCCT-2018, July 13-14 2018, BVRIT, Narsapur.
8. Ramarao Karri, Mallaiah Mekala, Venkateswarlu Chimmiri (2018), Simulated annealing based nonlinear model predictive control of runaway batch chemical reactor, ICRAAESCCT-2018, July 13-14 2018, BVRIT, Narsapur.
9. Mallaiah Mekala, Kishore Sriramoju, Srinivas G, Venkateswarlu Chimmiri (2018), Kinetic studies for the esterification process with ionic resin catalyst: Optimization using response surface methodology, ICRAAESCCT-2018, July 13-14 2018, BVRIT, Narsapur.
10. Ch. Venkateswarlu, Datta Sai Kalyan, K. Eshwar Rao, Kanaka Teja, Nani Kumar Reddy, Mallaiah Mekala (2018), Kinetic studies for the esterification process with ionic resin catalyst: Optimization using response surface methodology, CHEMCON-2018, December 27-30, NIT Jalandhar.