

Name: Desai Meghal Ashwinkumar

Date of Birth: 21st December, 1978

Qualification: Ph.D. in Chemical Engineering

Designation: Professor &
Former Head, DoChE

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Education Qualifications:

Degree	Subject	University/Institution	Year
B.E.	Chemical Engineering	South Gujarat University, Surat, Gujarat	2000
M.Tech.	Chemical Engineering	Institute of Technology, Banaras Hindu University, Varanasi, Uttar Pradesh	2004
Ph.D.	Chemical Engineering	Sardar Vallabhbhai National Institute of Technology, Surat, Gujarat	2012

Thesis title: Extraction of Essential Oil from *Cymbopogon flexuosus* using Novel Extraction Techniques (Ph.D.)

Dissertation title: Extraction of Limonoid Glucosides from Citrus Peels (M. Tech.)

Experience:

Designation	Name of the Institute	Period
Lecturer	Sarvajani College of Engineering and Technology, Surat	15/06/2005 – 17/10/2007
Assistant Professor	Sardar Vallabhbhai National Institute of Technology, Surat	18/10/2007 – 27/01/2019
Associate Professor	Sardar Vallabhbhai National Institute of Technology, Surat	28/01/2019 – 20/12/2023
Professor	Sardar Vallabhbhai National Institute of Technology, Surat	Since 21/12/2023

Area of Interest:

- Process-intensified approach in chemical and allied technology
- Chemicals derived from biomass (New materials and technology development, and engineering)
- Application of neoteric solvents
- Waste valorization using greener concepts
- Drug delivery systems
- Optimization of process parameters using statistical techniques – Design and Analysis of Experiments
- Life cycle assessment
- Lean six sigma

Courses involved with

- Postgraduate study:

Core:

Chemical Engineering Mathematics (2008 – 2012)

Elective:

Design of Experiments (2018 – 2020)

- Undergraduate study:

Core:

Mass Transfer Operations (MTO – I: 2014 – till date, MTO – II: 2009 – 2023)

Chemical Engineering Plant Design and Economics (2006 – 2008, 2011 – 2017)

Instrumentation and Process Control (2005 – 2007, 2010)

Chemical Engineering Materials (2008, 2009, 2011)

General Chemical Technology (2009, 2010)

Elective:

Sustainability and Green Chemistry (2012 – 2018)

Life Cycle Assessment (2025 –)

Lean Six Sigma (2025 –)

Course Development Project

Sr. No.	Name of the funding agency	Project Title	Year of Sanction of Grant	Amount Sanctioned	Status: Completed/ Ongoing	Course Developer
01	National Mission Project on Pedagogic Research, MHRD, Govt. of India	Project to develop a course on “Chemical Reaction Engineering – I”	2013	6,15,000/-	Completed	Dr. Jigisha K. Parikh, Dr. Meghal A. Desai, Dr. Girirajsinh C. Jadeja

Research Project

Sr. No.	Name of the funding agency	Project Title	Year of Sanction of Grant	Amount Sanctioned (Rs.)	Status: Completed/ Ongoing	Investigators
01	Department of Science and Technology, New Delhi.	FIST 2021	2022	1,68,00,000/-	Ongoing	Dr. Jigisha K. Parikh, Dr. Meghal A. Desai, Dr. Sanjay R. Patel, Dr. Girirajsinh C. Jadeja, Dr. Chetan M. Patel
02	Science & Engineering Research Board (SERB), DST, New Delhi.	Mango Waste Valorization through Biorefinery Concept: A Sustainable and Greener Approach	2018 (3.5 years) (25/9/2018 – 24/3/2022)	50,60,880/-	Completed	Dr. Meghal A. Desai, Dr. Girirajsinh C. Jadeja
03	Council of Scientific and Industrial Research, New Delhi.	Studies on Novel Techniques for Extraction of Essential oil from Patchouli	2013 (3 Years) (1/7/2013 – 30/6/2016)	12,06,940/-	Completed	Dr. Jigisha K. Parikh, Dr. Meghal A. Desai, Dr. Girirajsinh C. Jadeja
04	Institute Research Grant, SVNIT, Surat	Performance assessment of various hydrotropes and optimization of hydrotropic extraction of natural product	2014 (2 Years) (17/2/2014 – 30/6/2016)	10,00,000/-	Completed	Dr. Meghal A. Desai

Consultancy

- Sahajanand Medical Technologies Ltd., Surat

M.Tech. Dissertations Supervised

- Completed: 11

Student: Shaikh Mohsin Mohammad Ismail, Year: 2012-13
Dissertation Title: Extraction of natural dye from beetroot using novel techniques
Supervisors: Dr. Jigisha K. Parikh and Dr. Meghal A. Desai

Student: Sunny Arora, Year: 2013-14
Dissertation Title: Extraction of butein from *Butea monosperma* using novel techniques
Supervisor: Dr. Meghal A. Desai

Student: Sagar Deotale, Year: 2013-14
Dissertation Title: Solubility estimation of Telmisartan in pure and binary solvents
Supervisors: Dr. Sanjay R. Patel and Dr. Meghal A. Desai

Student: Sagar Kapadiya, Year: 2014-15
Dissertation Title: Novel approach towards extraction of essential oil from clove buds
Supervisor: Dr. Meghal A. Desai

Student: Snehal Ghule, Year: 2015-16
Dissertation Title: Ultrasound assisted extraction of clove bud oil using neoteric solvents
Supervisor: Dr. Meghal A. Desai

Student: Akshay Bageshwar, Year: 2016-17
Dissertation Title: Extraction of total phenolic content from *Borassus flabeliffer* using solvent extraction
Supervisor: Dr. Meghal A. Desai

Student: Suraj Patel, Year: 2018-19
Dissertation Title: Fractionation of valuable chemicals from industrial waste of turmeric rhizomes
Supervisor: Dr. Meghal A. Desai

Student: Jyotimala Jadhav, Year: 2019-20
Dissertation Title: Isolation of essential oil from clove buds using ultrasound assisted hydrodistillation
Supervisor: Dr. Meghal A. Desai and Dr. Girirajsinh C. Jadeja
Recognition: Ms. Jyotimal J. Jadhav (M.Tech.) secured First place and received Rs. 10,000/- towards research in cleaner production and clean technology by Gujarat Cleaner Production Centre, Government of Gujarat. Year of award: 2021-22.

Student: Shivangi Tripathi, Year: 2020-21
Dissertation Title: Extraction of valuable compounds from mango peel
Supervisor: Dr. Meghal A. Desai and Dr. Girirajsinh C. Jadeja

Student: Nirav Patel, Year: 2022-23
Dissertation Title: Extraction of curcuminoids and turmeric oil from turmeric rhizome
Supervisor: Dr. Meghal A. Desai and Dr. Sanjay R. Patel

Student: Vivek Vaishnani, Year: 2023-24
Dissertation Title: Water hyacinth based porous activated carbon for CO₂ capture: Mathematical model and breakthrough curve study
Supervisor: Dr. Meghal A. Desai

Ph.D. Supervision

- Completed: 07

Student: Thakker Miral Rajendrakumar, Year: 2013-14 (July)

Supervisors: Dr. Meghal A. Desai and Dr. Jigisha K. Parikh

Thesis Title: Studies on extraction of essential oil from Palmarosa using novel techniques

Date of Ph.D. Notification: 05/02/2018

Recognition: Dr. Miral Thakker (PhD) secured First place and received Rs. 10,000/- towards research in cleaner production and clean technology by Gujarat Cleaner Production Centre, Government of Gujarat. Year of award: 2018-19.

Student: Chetan Sharma, Year: 2014-15 (July)

Supervisors: Dr. Sanjay R. Patel and Dr. Meghal A. Desai

Thesis Title: Ultrasound assisted crystallization of poorly water soluble Telmisartan

Date of Ph.D. Notification: 23/12/2019

Recognition: Dr. Chetan Sharma (PhD) secured Second place and received Rs. 5,000/- towards research in cleaner production and clean technology by Gujarat Cleaner Production Centre, Government of Gujarat. Year of award: 2021-22

Student: Krishna Pramodkumar Solanki, Year: 2014-15 (December)

Supervisors: Dr. Jigisha K. Parikh and Dr. Meghal A. Desai

Thesis Title: Extraction of valuable chemicals using sustainable route from *Cymbopogon winterianus*

Date of Ph.D. Notification: 20/01/2020

Recognition: Dr. Krishna Solanki (PhD) secured Second place and received Rs. 5,000/- towards research in cleaner production and clean technology by Gujarat Cleaner Production Centre, Government of Gujarat. Year of award: 2019-20

Student: Modi Piyush Indravadan, Year: 2014-15 (December)

Supervisors: Dr. Meghal A. Desai and Dr. Jigisha K. Parikh

Thesis Title: Extraction of essential oil from cinnamon bark using process intensified approach

Date of Ph.D. Notification: 22/12/2022

Recognition: Dr. Piyush Modi (PhD) secured Second place and received Rs. 5,000/- towards research in cleaner production and clean technology by Gujarat Cleaner Production Centre, Government of Gujarat. Year of award: 2023-24

Student: Jain Preeti Bhavarlal, Year: 2017-18 (July)

Supervisors: Dr. Meghal A. Desai and Dr. Sanjay R. Patel

Thesis Title: Enhanced extraction of patchouli oil from *Pogostemon cablin* and enrichment of patchouli alcohol thereof

Date of Ph.D. Notification: 10/02/2023

Student: Priti Vinodpant Ganorkar, Year: 2017-18 (July)

Supervisors: Dr. Meghal A. Desai and Dr. Girirajsinh C. Jadeja

Thesis Title: Waste valorization of water hyacinth for recovery of valuable compounds: A sustainable approach

Date of Ph.D. Notification: 09/06/2023

Student: Patel Akashkumar Dhansukhbhai, Year: 2018-19 (July)

Supervisor: Dr. Meghal A. Desai

Thesis Title: Novel approaches for size reduction and transdermal formulation of methylcobalamin using hydrotropes

Date of Ph.D. Notification: 29/04/2024

- Ongoing: 03

Student: Ankur Raval, Year: 2018-19 (July) – *Thesis submitted*

Supervisors: Dr. Meghal A. Desai and Dr. Jigisha K. Parikh

Student: Rashmi Pathania, Year: 2022-23 (December)

Supervisors: Dr. Jigisha K. Parikh and Dr. Meghal A. Desai

Student: Patel Pratik, Year: 2023-24 (December)

Supervisor: Dr. Meghal A. Desai

Publications: (Annexure I)

- International Journal: 44
- National Journal: 06
- Book Chapter: 04
- International Conference: 28
- National Conference: 08

Patents:

- Meghal A. Desai, Akash D. Patel, “Process for vitamin supplements size reduction using hydrotropic antisolvent crystallization”, Patent No. 407111, 20/09/2022
- Vishal B. Thakare, Meghal A. Desai, G. C. Jadeja, "A Process for simultaneous extraction of pectin and mangiferin from mango peel”, Patent No. 441070, 28/07/2023
- Meghal A. Desai, Jigisha K. Parikh, Krishna P. Solanki “An integrated equipment for crushing and extraction”, Patent No. 525771, 14/03/2024
- Meghal A. Desai, Akash D. Patel, “Transdermal patch for delivery of vitamin B₁₂ using hydrotrope as a penetration enhancer", Patent No. 562594, 17/03/2025
- Meghal A. Desai, Jigisha K. Parikh, Krishna P. Solanki, “Vessel for simultaneous pretreatment and separation of bioactive components from plant material”, No. 343361-001, 05/07/2021 (Registration of Design)
- Meghal A. Desai, Jigisha K. Parikh, G. C. Jadeja, S. R. Patel, “Annular array shell for distillation of essential oil”, No. 363355-001, 16/09/2022 (Registration of Design)
- Meghal A. Desai, Jigisha K. Parikh, G. C. Jadeja, S. R. Patel, “Distillation set-up for essential oil extraction”, No. 363213-001, 25/04/2023 (Registration of Design)

Journal Reviewer:

- ACS- Sustainable Chemistry and Engineering, ACS
- All Life, Taylor and Francis
- Biomass Conversion and Biorefinery, Springer
- Chemistry and Biodiversity, Wiley
- Chemical Engineering Communications, Taylor & Francis
- Chemical Engineering Journal
- Chemical Engineering and Processing - Process Intensification, Elsevier
- Chemical Papers, Springer
- Chemistry Africa, Springer
- Engineering, Elsevier
- Environmental Science and Pollution Research, Springer
- Food and Bioprocess Technology, Springer
- Food Bioscience, Elsevier
- Flavour and Fragrance Journal, Wiley
- Food Science and Nutrition, Wiley
- Industrial Crops and Products, Elsevier
- Innovative Food Science and Emerging Technologies, Elsevier
- Journal of Agricultural Science and Technology
- Journal of the American Oil Chemists' Society
- Journal of Applied Research on Medicinal and Aromatic Plants, Elsevier
- Journal of Cleaner Production, Elsevier
- Journal of Dispersion Science and Technology, Taylor and Francis
- Journal of Essential Oil Research, Taylor and Francis
- Journal of Industrial & Engineering Chemistry, Elsevier
- Journal of The Institution of Engineers (India)-Series E, Springer
- Materials Today: Proceedings, Elsevier
- Natural Product Research, Taylor & Francis Group
- Sustainable Chemistry and Pharmacy, Elsevier
- Trends in Analytical Chemistry, Elsevier
- Book Chapter Reviewer, Studies in Natural Products Chemistry - Bioactive Natural Products

Project Reviewer:

- External Reviewer, National Fund for Scientific and Technological Development (FONDECYT), Chilean National Commission for Scientific and Technological Research (CONICYT), CHILE

Guest Editor:

- Materials Today: Proceedings
- Waste and Biomass Valorization

Session Chair/ Jury Member:

- Session chair at 20th International Conference on Applied Chemistry and Chemical Engineering (WASET); Bangkok, Thailand; February 8-9, 2018.
- Session chair at International Conference on Recent Advances in Manufacturing (RAM-2020); Sardar Vallabhbhai National Institute of Technology, Surat; July 3-5, 2020.
- Jury member at Virtual International Conference on Chemical Sciences in Sustainable Technology and Development (IC²S²TD-2020); Sardar Vallabhbhai National Institute of Technology, Surat; December 1-3, 2020.
- Session chair at International Conference Asia-Oceania Sonochemical Society – 2023; National Institute of Technology Warangal; September 28-30, 2023.

Training Courses (STTP/FDP/Workshop/etc) Organized (22):

1. AICTE sponsored STTP on “Energy Conservation and Recycling” at SVNIT, Surat from 07/07/2008 to 11/07/2008.
Coordinators: Dr. Jigisha K. Parikh, Meghal A. Desai, Dr. A. K. Jana
2. AICTE sponsored STTP on “Advanced Instrumental Methods of Analysis” at SVNIT, Surat from 24/08/2009 to 28/08/2009.
Coordinators: Dr. Jigisha K. Parikh, Meghal A. Desai, Dr. A. K. Jana
3. TEQIP-II sponsored STTP on “Green Chemistry and Engineering: Towards a Sustainable Future” at SVNIT, Surat from 18/11/2013 to 22/11/2013.
Coordinators: Dr. Girirajsinh C. Jadeja, Dr. Meghal A. Desai, Dr. Jigisha K. Parikh
4. TEQIP-II sponsored One Day Finishing School on “Design of Experiments using the Taguchi Method: An Overview” on 25/04/2015
Coordinators: Dr. Meghal A. Desai, Dr. Sanjay R. Patel
5. TEQIP-II sponsored One week STTP on “Design of Experiment and Artificial Neural Network” from 22/06/2015 to 26/06/2015.
Coordinators: Dr. Meghal A. Desai, Dr. Sanjay R. Patel
6. TEQIP-II sponsored Three days STTP on “Effective Teaching Learning” from 08/09/2015 to 10/09/2015.
Coordinators: Dr. Meghal A. Desai, Dr. Jigisha K. Parikh
7. TEQIP-II sponsored One week STTP on “Design of Experiment for Process Optimization” from 06/06/2016 to 10/06/2016.
Coordinators: Dr. Meghal A. Desai, Dr. Sanjay R. Patel
8. TEQIP-II sponsored One week STTP on “Recent Trends in Chemical Engineering” from 11/07/2016 to 15/07/2016.
Coordinators: Dr. Meghal A. Desai, Dr. Sanjay R. Patel, Dr. V. N. Lad, Dr. G. C. Jadeja, Dr. Z. V. P. Murthy
9. QIP sponsored One week STC on “Green Concepts in Engineering and Chemistry” from 12/12/2016 to 16/12/2016.
Coordinators: Dr. Meghal A. Desai, Dr. Sanjay R. Patel, Dr. Girirajsinh C. Jadeja
10. Faculty Development Programme (FDP) under AICTE Training and Learning Academy (ATAL) Programme on “Design of Experiment and Artificial Neural Network (DOEANN)” from 04/11/2019 to 08/11/2019.
Coordinators: Dr. Meghal A. Desai, Dr. Sanjay R. Patel, Dr. Girirajsinh C. Jadeja
11. Faculty Development Programme (FDP) - online under AICTE Training and Learning Academy (ATAL) on “Green Technology towards Sustainable Future” from 26/10/2020 to 30/10/2020.

Coordinators: Dr. Jigisha K. Parikh, Dr. Meghal A. Desai, Dr. Sanjay R. Patel, Dr. Girirajsinh C. Jadeja

12. “Capacity Building Program for Liquid Terminal” in association with Adani Hazira Port Ltd. from 02/12/2022 to 31/03/2023, Batch – I.
Coordinators from SVNIT: Dr. Meghal A. Desai (Overall), Dr. Sanjay R. Patel (Departmental-DoChE), Dr. Vimal Patel (Departmental – DoME)
13. “Capacity Building Program for Liquid Terminal” in association with Adani Hazira Port Ltd. from 16/06/2023 to 15/09/2023, Batch – II.
Coordinators from SVNIT: Dr. Meghal A. Desai (Overall), Dr. Sanjay R. Patel (Departmental-DoChE), Dr. Vimal Patel (Departmental-DoME – DoME)
14. “Capacity Building Program for Liquid Terminal” in association with Adani Hazira Port Ltd. from 09/11/2023 to 28/02/2024, Batch – III.
Coordinators from SVNIT: Dr. Meghal A. Desai (Overall), Dr. Sanjay R. Patel (Departmental-DoChE), Dr. Vimal Patel (Departmental – DoME)
15. Short Term Course on “National Academic Immersion Program” in association with MIT – World Peace University, Pune from 12/03/2024 to 21/03/2024.
Coordinators: Dr. Meghal A. Desai, Dr. Sanjay R. Patel, Dr. Girirajsinh C. Jadeja, Dr. Sarita Kalla, Dr. S. K. Sundar
16. Faculty Development Programme (FDP) on “Education and Institutional Development” from 15/05/2024 to 21/05/2024.
Coordinators: Dr. Meghal A. Desai, Dr. Sarita Kalla
17. “Capacity Building Program for Liquid Terminal” in association with Adani Hazira Port Ltd. from 30/05/2024 to 31/08/2024, Batch – IV.
Coordinators from SVNIT: Dr. Meghal A. Desai (Overall), Dr. Sanjay R. Patel (Departmental-DoChE), Dr. Vimal Patel (Departmental-DoME – DoME)
18. STTP on “Pharmaceutical Applications of Chemical Engineering (PHACE)” from 01/07/2024 to 05/07/2024
Coordinators: Dr. S. K. Sundar, Dr. Girirajsinh C. Jadeja, Dr. Sanjay R. Patel, Dr. Meghal A. Desai, Dr. Jigisha K. Parikh
19. STTP on “Emerging Trends in Agro-Tech and Food Processing towards Greener Future” from 03/03/2025 to 07/03/2025.
Coordinators: Dr. S. K. Sundar, Dr. Sarita Kalla, Dr. Sanjay R. Patel, Dr. Meghal A. Desai
20. “Capacity Building Program for Liquid Terminal” in association with Adani Hazira Port Ltd. from 20/01/2025 to 07/05/2025, Batch – V.
Coordinators from SVNIT: Dr. Meghal A. Desai (Overall), Dr. Sanjay R. Patel, Dr. Sarita Kalla (Departmental-DoChE)
21. DST-FIST Sponsored Research Facility STTP on “Sophisticated Instruments and Equipments (SIE-2025)”
Coordinators: Dr. S. K. Sundar, Dr. Sarita Kalla, Dr. Girirajsinh C. Jadeja, Dr. Sanjay R. Patel, Dr. Meghal A. Desai, Dr. Jigisha K. Parikh
22. “Capacity Building Program for Liquid Terminal” in association with Adani Hazira Port Ltd. from 02/06/2025 to 04/08/2025, Batch – VI.
Coordinators from SVNIT: Dr. Meghal A. Desai (Overall), Dr. Sanjay R. Patel, Dr. Sarita Kalla (Departmental-DoChE)

Summit/ Conference/etc. organized (03):

1. TEQIP-II sponsored “Annual Summit on Research and Innovation” on 15/10/2016.
Coordinator: Dr. Meghal A. Desai
2. An International Conference on “Green Chemistry and Engineering towards Sustainable Development – An Industrial Perspective (GCESDIP 2021)”;
Sardar Vallabhbhai National Institute of Technology, Surat; June 16-18, 2021.
Chairperson: Dr. Jigisha K. Parikh; Organizing Secretary: Dr. Jigisha K. Parikh, Dr. Meghal A. Desai, Dr. Sanjay R. Patel, Girirajsinh C. Jadeja, Dr. S. K. Sundar
3. A National Conference on “Recent Advances in Chemical Engineering towards Sustainable Future (RACES 2022)”, Sardar Vallabhbhai National Institute of Technology, Surat; February 17-18, 2022. In Association with ICT –IOC Bhubaneswar
Chairperson: Dr. Jigisha K. Parikh; Organizing Secretary: Dr. Jigisha K. Parikh, Dr. Meghal A. Desai, Dr. Sanjay R. Patel, Girirajsinh C. Jadeja, Dr. S. K. Sundar

Expert Lectures Delivered (50):**Abroad: (01)**

1. “Extraction of Essential Oil from Clove Buds using Microwave Assisted Extraction (Mae): A Grey based Taguchi Method Approach” delivered at “Environmental Engineering Research Seminar Series 2019”, School of Civil & Environmental Engineering, Faculty of Engineering & Information Technology, University of Technology Sydney, Australia. (26/05/2019)

At other institutes: (29)

1. “Reactive Distillation” delivered at S.N. Patel Institute of Technology & Research Centre, Umrakh, Bardoli. (29/04/2025)
2. “Extraction of Valuable Chemical Compounds from Biomass Waste using Emerging Techniques” delivered at ATAL - Faculty Development Program (FDP) on the topic of “Green Chemistry, Sustainable Agriculture, and Advances in Food Processing Systems” at S.N. Patel Institute of Technology & Research Centre, Umrakh, Bardoli. (20/02/2025)
3. “Reactive Distillation” delivered at S. V. M. Institute of Technology, Bharuch. (23/02/2023)
4. “Microwave Assisted Processes” delivered at DST GUJCOST Funded Two Days STTP on “Green Technology for Sustainable Development” at S. S. Agrawal Institute of Engineering & Technology, Navsari. (16/07/2022)
5. “Multi Response Optimization using Grey Relational Grade Technique” delivered at AICTE-ISTE sponsored One Week Online FDP on “Multi-Objective Optimization: Algorithms and Engineering Applications” at GEC Valsad. (26/02/2022)
6. “Greener Routes for Sustainable Development” delivered at DST GUJCOST FUNDED Two Days Online Workshop on “Upcoming Research and Development Challenges for Chemical Engineers” at S.N. Patel Institute of Technology & Research Centre, Umrakh, Bardoli. (27/08/2021)
7. “Microwave Assisted Processes” delivered at GUJCOST Sponsored & CTE-Gandhinagar approved Online One Week Short Term Training Programme (STTP) in association with IChE Students’ chapter GEC Bharuch On “The Role of Green Chemical Technology in Sustainable Development”, GEC Bharuch. (05/04/2021)

8. "Process Parameters Optimization using the Taguchi Method II" delivered at Faculty Development Program under AICTE Training and Learning (ATAL) Academies Programme on "The Data Driven Transformation in Drug Discovery: Harnessing the Power of Data", Maliba College of Pharmacy, Bardoli. (08/10/2020)
9. "Process Parameters Optimization using the Taguchi Method I" delivered at Faculty Development Program under AICTE Training and Learning (ATAL) Academies Programme on "The Data Driven Transformation in Drug Discovery: Harnessing the Power of Data", Maliba College of Pharmacy, Bardoli. (08/10/2020)
10. "Multi-response Optimization using Grey based Taguchi Method" delivered at Online Faculty Development Program on "Process Optimization using Design of Experiments", R. N. G. Patel Institute of Technology, Bardoli. (17/06/2020)
11. "Introduction to Design of Experiments and Taguchi Method" delivered at Online Faculty Development Program on "Process Optimization using Design of Experiments", R. N. G. Patel Institute of Technology, Bardoli. (15/06/2020)
12. "Design of Experiments and Its Applications" delivered at Faculty Development Program on "Advanced Data Analysis and Decision Making", Veermata Jijabai Technological Institute, Mumbai. (01/01/2020)
13. "Optimization of process parameters using Taguchi method" delivered at Two-day Workshop on "Design of Experiment and Artificial Neural Network", C. G. Patel Institute of Technology, Bardoli. (13/03/2020)
14. "Introduction to Taguchi Method and Its Applications" delivered at Faculty Development Program on "Advanced Data Analysis and Decision Making", Veermata Jijabai Technological Institute, Mumbai. (01/01/2020)
15. "Design of Experiments and Its Applications in Smart Manufacturing" delivered at Faculty Development Program on "Advances in Smart Manufacturing Technologies", Veermata Jijabai Technological Institute, Mumbai. (01/01/2020)
16. "Stability in Control System" delivered at R. N. G. Patel Institute of Technology, Bardoli. (09/10/2019)
17. "Principles of Green Chemistry & Engineering: A concept towards sustainability" delivered at One Day Seminar on "Recent Trends in Novel Separation Techniques", S.N. Patel Institute of Technology & Research Centre, Umrakh, Bardoli. (03/08/2018)
18. "Outcome based Education" delivered at MMMUT, Gorakhpur. (24-25/03/2018)
19. "Introduction and Procedure for Multi-Response Optimization using Taguchi and Grey Relational Analysis" delivered at STTP on "Innovations and Research in Mechanical Engineering", Dr. Babassaheb Ambedkar College of Engineering and Research, Nagpur. (12/04/2017)
20. "Introduction to Quality by Design and Design of Experiment" delivered at STTP on "Innovations and Research in Mechanical Engineering", Dr. Babassaheb Ambedkar College of Engineering and Research, Nagpur. (11/04/2017)
21. "Hydrotropic Extraction" delivered at One Day Refresher Course on "Conventional and Advanced Extraction Processes", Shroff S. R. Rotary Institute of Chemical Technology, Vataria. (12/08/2016)

22. “Design of Experiments” delivered at STTP on “Optimization: Theory and Engineering Practice”, Vishwakarma Government Engineering College, Chandkheda, Gandhinagar. (18/12/2015)
23. “Design of Experiment and Taguchi Method: Basics” delivered at One Day Workshop on “Design of Experiments using the Taguchi Method and Artificial Neural Network”, Pacific School of Engineering, Palsana, Surat. (13/07/2015)
24. “Sustainability and Green Chemistry & Engineering” delivered at Summer School-cum-Workshop on “Water and Wastewater Treatment”, MCIE, IIT (BHU), Varanasi. (30/05/2015)
25. “Supercritical Fluid Extraction” delivered at Novel Separation Techniques, Sarvajani College of Engineering and Technology, Surat. (13/10/2011)
26. “Evaporation” delivered at LTTP on “Industrial Chemical Technology”, Faculty of Engineering Technology and Research, Bardoli. (13/11/2010)
27. “Introduction to Chemical Engineering” delivered at LTTP on “Industrial Chemical Technology”, Faculty of Engineering Technology and Research, Bardoli. (03/10/2010)
28. “Overview of Heat Transfer Operation and Heat Exchanger Design” delivered for motivating the students at N. G. Patel Polytechnic, Bardoli. (21/03/2014)
29. “Overview of Chemical Reaction Engineering” delivered for motivating the students at N. G. Patel Polytechnic, Bardoli. (13/10/2012)

At SVNIT: (20)

1. “Optimization of Process Parameters using the Taguchi Method” at STTP on “Emerging Trends in Agro-Tech and Food Processing towards Greener Future”, SVNIT, Surat. (04/03/2025)
2. “Extraction of Phytochemicals from Mango Wastes using Newer Approaches” at STTP on “Emerging Trends in Agro-Tech and Food Processing towards Greener Future”, SVNIT, Surat. (03/03/2025)
3. “Quality by Design” delivered at STTP on “Pharmaceutical Applications of Chemical Engineering”, SVNIT, Surat. (01/07/2024)
4. “Innovations in Teaching” delivered at Faculty Development Programme on “Education and Institutional Development”, SVNIT, Surat. (16/05/2024)
5. “Multi-response Optimization using Grey based Taguchi Technique” delivered at SERB sponsored High-End Workshop on “Application of Statistical Tools and Modelling in Engineering and Science”, SVNIT, Surat. (12/03/2022)
6. “Introduction to Softwares-Design Experts/Minitab” delivered at Faculty Development Programme (FDP) under AICTE Training and Learning Academy (ATAL) Programme on “Design of Experiment and Artificial Neural Network (DOEANN)”, SVNIT, Surat. (07/11/2019)
7. “Multi-response Optimization using Grey Relational Analysis” delivered at Faculty Development Programme (FDP) under AICTE Training and Learning Academy (ATAL) Programme on “Design of Experiment and Artificial Neural Network (DOEANN)”, SVNIT, Surat. (05/11/2019)

8. "Microwave Assisted Processes" delivered at QIP sponsored STC on "Green Concepts in Engineering and Chemistry", SVNIT, Surat. (16/12/2016)
9. "Principles of Green Chemistry and Engineering: A Concept towards Sustainability" delivered at STTP on delivered at TEQIP-II sponsored "Recent Trends in Chemical Engineering" SVNIT, Surat. (11/07/2016)
10. "Microwave Assisted Processes" delivered at TEQIP-II STTP on "Recent Trends in Chemical Engineering" SVNIT, Surat. (15/07/2016)
11. "Quality by Design" delivered at TEQIP-II sponsored One week STTP on "Design of Experiment for Process Optimization", SVNIT, Surat. (06/06/2016)
12. "Multi-response Optimization by the Taguchi Method and Grey Relational Analysis" delivered at TEQIP-II sponsored One week STTP on "Design of Experiment for Process Optimization", SVNIT, Surat. (10/06/2016)
13. "Case Study: Parametric Optimization using Taguchi Method and Grey Relational Analysis and Predictive Modelling using ANN" delivered at TEQIP-II sponsored One week STTP on "Design of Experiment for Process Optimization", SVNIT, Surat. (10/06/2016)
14. "Pinch Technology" delivered at delivered at TEQIP-II STTP on "Carbon Neutral Energy Sources", SVNIT, Surat. (12/05/2016)
15. "Mixed Level Taguchi Method and Factorial Design using Mixture" delivered at TEQIP-II sponsored One week STTP on "Design of Experiment and Artificial Neural Network", SVNIT, Surat. (24/06/2015)
16. "Multi-response Optimization using the Taguchi Method" delivered at TEQIP-II sponsored One week STTP on "Design of Experiment and Artificial Neural Network", SVNIT, Surat. (24/06/2015)
17. "Quality by Design" delivered at TEQIP-II sponsored One week STTP on "Design of Experiment and Artificial Neural Network", SVNIT, Surat. (23/06/2015)
18. "Design of Experiment and Taguchi Method: Basics" delivered at TEQIP-II sponsored One Day Finishing School on "Design of Experiments using the Taguchi Method: An Overview", SVNIT, Surat. (25/04/2015)
19. "Reactive Distillation as a Process Intensification Tool" delivered at TEQIP-II sponsored STTP on "Green Chemistry and Engineering: Towards a Sustainable Future" at SVNIT, Surat. (During 18-22/11/2013)
20. "Extractions using Microwave Radiation and Hydrotropes" delivered at TEQIP-II sponsored STTP on "Green Chemistry and Engineering: Towards a Sustainable Future" at SVNIT, Surat. (During 18-22/11/2013)

Award/Prize/Certificate:

- MHRD scholarship for M.Tech. through GATE exam, 2002-2004.
- BHU medal for standing first in M.Tech. (Chemical Engineering), 2004.
- Certificate of Best Presentation at 20th International Conference on Applied Chemistry and Chemical Engineering (WASET); Bangkok, Thailand; February 8-9 2018.

- Certificate of Contribution for guiding Dr. Miral Thakker (Ph.D.) who secured First place and received Rs. 10,000/- towards research in cleaner production and clean technology by Gujarat Cleaner Production Centre, Government of Gujarat. Year of award: 2018-19
- Certificate of Contribution for guiding Dr. Krishna Solanki (Ph.D.) who secured Second place and received Rs. 5,000/- towards research in cleaner production and clean technology by Gujarat Cleaner Production Centre, Government of Gujarat. Year of award: 2019-20
- Certificate of Contribution for guiding Dr. Chetan Sharma (Ph.D.) who secured Second place and received Rs. 5,000/- towards research in cleaner production and clean technology by Gujarat Cleaner Production Centre, Government of Gujarat. Year of award: 2021-22
- Certificate of Contribution for guiding Ms. Jyotimal Jadhav (M.Tech.) who secured First place and received Rs. 10,000/- towards research in cleaner production and clean technology by Gujarat Cleaner Production Centre, Government of Gujarat. Year of award: 2021-22
- Certificate of Contribution for guiding Dr. Piyush I. Modi (Ph.D.) who secured Second place and received Rs. 5,000/- towards research in cleaner production and clean technology by Gujarat Cleaner Production Centre, Government of Gujarat. Year of award: 2023-24
- Outstanding Student Chapter Award, AIChE: Chemical Engineering Society, SVNIT; Dr. Meghal A. Desai – Advisor; Javed Alam Saifi – President. Year of award: 2020-21
- Represented SVNIT at 9th Vibrant India Summit 2023 (Agri and Horti Expo 2023; Asia Dairy and Fisheries Expo 2023) and secure First Prize for Excellence in Technical Education

Professional Institute Affiliation:

Life Fellow, International Congress of Chemistry and Environment, Bhopal, India

FW/M-5036

Life Member, Indian Institute of Chemical Engineers, Kolkata, India

LM-46893

Member, Institute of Engineers (India), Kolkata, India

M-160555-5

Administrative/Academic Duties, etc.:

- Head of the Department from 13/05/2022 to 30/08/2023; 03/09/2024 to 02/09/2025
- Work/ed in a team as a coordinator/ member for various administrative duties either at Institute level or Department level
 - Accreditation by Nation Board of Accreditation for PG and UG

- Preparation of the report (SAR), Filling the online form, Interaction with the expert team during visit for PG accreditation. In this regard, also attended workshops (2nd World Summit on Accreditation organized by NBA during 8-10 March, 2014 at New Delhi and Outcome Based Education during December, 2013 at SVNIT)
 - MindBend
 - Chemical Engineering Society
 - Institute Central Store
 - S. V. P. School
 - IPR cell
 - DRISHTI- The innovation club
 - Research Park and Incubation Centre
 - Training and Placement
 - Exam Disciplinary Actions
 - UG Exam
 - Time Table Committee (At Department level as well as Institute level)
 - Physical Stock Verification
 - Students' Grievances Committee
 - Services to Community and Tribal Development
 - Industry Alumni Feedback
 - Convocation Committee
 - Students Council Election
- Examiner/ paper setter at University level examinations
- Examiner for thesis evaluation at various Institutes/Universities
- Member, Interview committee for the selection of Assistant Professors at other institutes
- Expert/ Jury/ Judge at various technical events of other institutes

PAPER PUBLICATIONS:

(Vidwan-ID: 53433, Scopus ID: 36704689600, ORCID ID: 0000-0001-7427-2744, Google Scholar Id: yt3t3GEAAAJ)

- **Papers published in International Journal: 44**

1. **Meghal A. Desai**, Jigisha Parikh, “Extraction of natural products using microwave as a heat source: A review”, Separation and Purification Reviews, 39: 1–32, December 2010. (DOI: 10.1080/15422111003662320)
2. Jigisha Parikh, **Meghal A. Desai**, Hydrodistillation of essential oil from *Cymbopogon flexuosus*, International Journal of Food Engineering, 7, No. 1. (DOI: 10.2202/1556-3758.2067, January 2011)
3. **Meghal A. Desai**, Jigisha K. Parikh, “Hydrotropic extraction of citral from *Cymbopogon flexuosus* (Steud.) Wats.” Industrial & Engineering Chemistry Research, 51: 3750–3757, January 2012. (DOI: 10.1021/ie202025b)
4. **Meghal A. Desai**, Jigisha Parikh, “Microwave assisted extraction of essential oil from *Cymbopogon flexuosus* (Steud.) Wats.: A parametric and comparative study”, Separation Science and Technology, 47: 1963–1970, August 2012. (DOI: 10.1080/01496395.2012.659785)
5. Kiran Pawar, **Meghal A. Desai**, Jigisha Parikh, “Minimum hydrotrope concentration behavior of aqueous solution of sodium salicylate in presence of additives”, Journal of Dispersion Science and Technology, 33: 1746–1751, December 2012. (DOI: 10.1080/01932691.2011.629532)
6. Kiran Pawar, **Meghal A. Desai**, Jigisha Parikh, “Parametric, optimization and thermodynamic studies on the influence of electrolytes on sodium salicylate in aqueous solution”, Tenside Surfactants Detergents, 50: 289–296, July/August 2013. (Doc. No. TS110262)
7. Jigisha Parikh, Jitendra Rathore, Darshak Bhatt, **Meghal Desai**, “Clouding behaviour and thermodynamic study of nonionic surfactants in presence of additives”, Journal of Dispersion Science and Technology, 34: 1392–1398, September 2013. (DOI:10.1080/01932691.2012.749183)
8. **Meghal A. Desai**, Jigisha Parikh, Achyut K. De, “Modelling and optimization studies on extraction of lemongrass oil from *Cymbopogon flexuosus* (Steud.) Wats.”, Chemical Engineering Research and Design, 92: 793–893, May 2014. (DOI: 10.1016/j.cherd.2013.08.011)
9. **Meghal A. Desai**, Jigisha Parikh, “Extraction of essential oil from leaves of lemongrass using microwave radiation: Optimization, comparative, kinetic, and biological studies”, ACS-Sustainable Chemistry and Engineering, 3: 421–431, March 2015. (DOI: 10.1021/sc500562a)
10. Miral R. Thakker, Jigisha K. Parikh, **Meghal A. Desai**, “Microwave assisted extraction of essential oil from the leaves of palmarosa: Multi-response optimization and predictive

modelling”, *Industrial Crops and Products*, 86: 311–319, August 2016. (DOI: 10.1016/j.indcrop.2016.03.055)

11. Sagar M. Kapadiya, Jigisha K. Parikh, **Meghal A. Desai**, “A greener approach towards isolating clove oil from buds of *Syzygium aromaticum* using microwave radiation”, *Industrial Crops and Products*, 112: 626–632, February 2018. (DOI: 10.1016/j.indcrop.2017.12.060)
12. Chetan Sharma, **Meghal A. Desai**, Sanjaykumar R. Patel, “Ultrasound-assisted anti-solvent crystallization of telmisartan using dimethyl sulfoxide as organic solvent”, *Crystal Research Technology*, 53, Article 1800001 (1–9), March 2018. (DOI: 10.1002/crat.201800001)
13. Miral R. Thakker, Jigisha K. Parikh, **Meghal A. Desai**, “Ultrasound assisted hydrotropic extraction: A greener approach for the isolation of geraniol from the leaves of *Cymbopogon martinii*”, *ACS-Sustainable Chemistry and Engineering*, 6: 3215–3224, March 2018. (DOI: 10.1021/acssuschemeng.7b03374)
14. Miral R. Thakker, Jigisha K. Parikh, **Meghal A. Desai**, “Synergism between ionic liquid and ultrasound for greener extraction of geraniol: optimization using different statistical tools, comparison and prediction”, *Chemical Engineering Research and Design*, 134: 162–171, June 2018. (DOI: 10.1016/j.cherd.2018.04.003)
15. Krishna P. Solanki, **Meghal A. Desai**, Jigisha K. Parikh, “Sonohydrodistillation for isolation of citronella oil: A symbiotic effect of sonication and hydrodistillation towards energy efficiency and environment friendliness” *Ultrasonics Sonochemistry*, 49: 145–153 December 2018. (DOI: 10.1016/j.ultsonch.2018.07.038)
16. Chetan Sharma, **Meghal A. Desai**, Sanjaykumar R. Patel, “Effect of surfactants and polymers on morphology and particle size of telmisartan in ultrasound assisted anti-solvent crystallization” *Chemical Papers*, 73: 1685–1694, July 2019. (DOI: 10.1007/s11696-019-00720-1)
17. Piyush I. Modi, Jigisha K. Parikh, **Meghal A. Desai**, “Sonohydrodistillation: Innovative approach for isolation of essential oil from the bark of cinnamon” *Industrial Crops and Products*, 142, Article 111838, December 2019. (DOI: 10.1016/j.indcrop.2019.111838)
18. Krishna P. Solanki, **Meghal A. Desai**, Jigisha K. Parikh, “Microwave intensified extraction: A holistic approach for extraction of citronella oil and phenolic compounds” *Chemical Engineering and Processing - Process Intensification*, 146, Article 107694, December 2019. (DOI: 10.1016/j.cep.2019.107694)
19. Krishna P. Solanki, **Meghal A. Desai**, Jigisha K. Parikh, “Improved hydrodistillation process using amphiphilic compounds for extraction of essential oil from java citronella grass”, *Chemical Papers*, 74: 145–156, January 2020. (DOI: 10.1007/s11696-019-00861-3)
20. Chetan Sharma, **Meghal A. Desai**, Sanjaykumar R. Patel, “Anti-solvent sonocrystallization for nano-range particle size of telmisartan through Taguchi and Box–Behnken design”, *Chemical Papers*, 74: 323–331, January 2020. (DOI: 10.1007/s11696-019-00886-8)
21. Akash D. Patel, **Meghal A. Desai**, “Aggregation behavior and thermodynamic studies of hydrotropes: A review”, *Tenside Surfactants Detergents*, 57: 192–202, May 2020. (DOI: 10.3139/113.110686)

22. Preeti L. B. Jain, Sanjaykumar R. Patel, **Meghal A. Desai**, “Enrichment of patchouli alcohol in patchouli oil by aiding sonication in hydrotropic extraction”, *Industrial Crops and Products*, 158, Article 113011, December 2020. (DOI: 10.1016/j.indcrop.2020.113011)
23. Chetan Sharma, Nalin H. Maniya, **Meghal A. Desai**, Sanjaykumar R. Patel, “Loading and controlled release of poorly water-soluble drug telmisartan from porous silicon microparticles”, *Silicon*, 13: 605–612, February 2021. (DOI: 10.1007/s12633-020-00465-7)
24. Piyush I. Modi, Jigisha K. Parikh, **Meghal A. Desai**, “Inorganic salt mediation for improved isolation of essential oil from the Cinnamon bark”, *Journal of Chemical Technology and Metallurgy*, 56: 1181–1186, October 2021.
25. Snehal N. Ghule, **Meghal A. Desai**, “Intensified extraction of valuable compounds from clove buds using ultrasound assisted hydrotropic extraction”, *Journal of Applied Research on Medicinal and Aromatic Plants*, 25, Article 100325, December 2021. (DOI: 10.1016/j.jarmap.2021.100325)
26. Piyush I. Modi, Jigisha K. Parikh, **Meghal A. Desai**, “Intensified approach towards isolation of cinnamon oil using microwave radiation: Parametric, optimization and comparative studies”, *Industrial Crops and Products*, 173, Article 114088, December 2021. (DOI: 10.1016/j.indcrop.2021.114088)
27. Preeti L. B. Jain, Sanjaykumar R. Patel, **Meghal A. Desai**, “Patchouli oil: An overview on extraction method, composition and biological activities”, *Journal of Essential Oil Research*. 34: 1–11, August 2022 (DOI: 10.1080/10412905.2021.1955761)
28. Priti V. Ganorkar, G. C. Jadeaj, **Meghal A. Desai**, “Extraction of shikimic acid from water hyacinth (*Eichhornia crassipes*) using sonication: An approach towards waste valorization”, *Journal of Environmental Management*, 305, Article 114419, March 2022. (DOI: 10.1016/j.jenvman.2021.114419)
29. Priti V. Ganorkar, G. C. Jadeaj, **Meghal A. Desai**, “Extraction of shikimic acid and recovery of lignocelluloses from water hyacinth”, *Chemical Papers*, 76: 5447–5457, September 2022. (DOI: <https://doi.org/10.1007/s11696-022-02249-2>)
30. Preeti L. B. Jain, Shubham Srivastav, Sanjaykumar R. Patel, **Meghal A. Desai**, “Synergetic effect of ultrasound and hydrodistillation for extraction of patchouli oil: Screening, optimization and comparison”, *Chemical Engineering and Processing - Process Intensification*, 179, Article 109079, September 2022. (DOI: <https://doi.org/10.1016/j.cep.2022.109079>)
31. Vishal B. Thakare, G. C. Jadeaj, **Meghal A. Desai**, “Extraction of mangiferin and pectin from mango peels using process intensified tactic: A step towards waste valorization”, *Chemical Engineering Research and Design*, 192: 280–288, April 2023. (DOI: <https://doi.org/10.1016/j.cherd.2023.02.036>)
32. Akash D. Patel, **Meghal A. Desai**, “Hydrotropic antisolvent crystallization for the reduction in the particle size of methylcobalamin”, *ACS Sustainable Chemistry and Engineering*, 11: 6250–6260, April 2023. (DOI: <https://doi.org/10.1021/acssuschemeng.2c07456>)

33. Akash D. Patel, **Meghal A. Desai**, “Progress in the field of hydrotropy: Mechanism, applications and green concepts”, *Reviews in Chemical Engineering*, 39: 601–630, April 2023. <https://doi.org/10.1515/revce-2021-0012>
34. Ankur J. Raval, Jigisha K. Parikh, **Meghal A. Desai**, “Perivascular patch using biodegradable polymers: Investigation of mechanical and drug elution characteristics”, *Journal of the Mechanical Behavior of Biomedical Materials*, 142, Article 105853, June 2023. (DOI: <https://doi.org/10.1016/j.jmbbm.2023.105853>)
35. Jyotimala J. Jadhav, G. C. Jadeja, **Meghal A. Desai**, “Ultrasound-assisted hydrodistillation for extraction of essential oil from clove buds – A step towards process improvement and sustainable outcome”, *Chemical Engineering and Processing - Process Intensification*, 189, Article 109404, July 2023. (DOI: <https://doi.org/10.1016/j.cep.2023.109404>)
36. Priti V. Ganorkar, G. C. Jadeaj, **Meghal A. Desai**, “Microwave-assisted extraction of shikimic acid from different morphological parts of water hyacinth (*Eichhornia crassipes*)”, *Chemical Engineering and Processing - Process Intensification*, 191, Article 109455, September 2023. (DOI: <https://doi.org/10.1016/j.cep.2023.109455>)
37. Ankur J. Raval, Jigisha K. Parikh, **Meghal A. Desai**, “A review on the treatment of intimal hyperplasia with perivascular medical devices: Role of mechanical factors and drug release kinetics”, *Expert Review of Medical Devices*, 20: 805–819, October 2023 (DOI: <https://doi.org/10.1080/17434440.2023.2244875>)
38. Lata Rana, Rughani Kashyap Mahendrabhai, Dheeraj, **Meghal A. Desai**, Geeta Hundal, “A comparative investigation: Evaluating the epoxidation of styrene with binuclear molybdenum (VI) complexes under conventional heating and microwave-assisted conditions”, *Journal of Molecular Structure*, 1298, Article 137103, February 2024 (DOI: <https://doi.org/10.1016/j.molstruc.2023.137103>)
39. Akash D. Patel, **Meghal A. Desai**, “Life cycle assessment of hydrotropic antisolvent crystallization and antisolvent crystallization: A comparative study”, *ACS Sustainable Resource Management*, 1, 644–651, April 2024 (DOI: <https://doi.org/10.1021/acssusresmgmt.3c00065>)
40. Priti V. Ganorkar, G. C. Jadeaj, **Meghal A. Desai**, “Ultrasound-assisted extraction of shikimic acid and determination of total phenolic compounds in water hyacinth: Grey-based Taguchi optimization”, *Chemical Engineering and Processing - Process Intensification*, 199, Article 109760, May 2024 (DOI: <https://doi.org/10.1016/j.cep.2024.109760>)
41. Ankita Pardiwal, **Meghal A. Desai**, Ritambhara Jangir, “Polyoxometalate-supported transition metal complexes for the oxidative cross-coupling of amines and alcohols”, *Dalton Transactions*, 53: 17207–17220, November 2024 (DOI: <https://doi.org/10.1039/D4DT02289K>)
42. Lata Rana, Dheeraj, **Meghal A. Desai**, “Surface-decorated magnetite nanoparticles with dioxidomolybdenum(VI) complexes as a catalyst for alkene epoxidation”, *Journal of Molecular Structure*, 1322, Article 140312, February 2025 (DOI: <https://doi.org/10.1016/j.molstruc.2024.140312>)
43. Neha Bollineni, Souptik Pal, Krupa N Vaghamshi, Akash D Patel, **Meghal A. Desai**, “Antisolvent crystallization for the size reduction of cholecalciferol: Parametric and

optimization study”, Crystal Research and Technology, 60, Article 2400233, May 2025. (DOI: <https://doi.org/10.1002/crat.202400233>)

44. Preeti L. B. Jain, Shubham Srivastav, Sanjaykumar R. Patel, Meghal A. Desai, Isolation of essential oil from the leaves of *Pogostemon cablin* using ultrasound pretreatment followed by hydrodistillation: Screening, optimization, and oil composition studies, Journal of Essential Oil Research, Accepted. (DOI: <https://doi.org/10.1080/10412905.2025.2537243>)

- **Papers published in National Journal: 06**

1. **Meghal A. Desai**, P K Mishra, “Limonoid glucosides in Indian lemon (*Citrus limon*) seeds”, The Icfai University Journal of Chemical Engineering, 1: 73–78, September 2009.
2. Dhiren P. Prajapati, **Meghal A. Desai**, Jigisha Parikh, “Fractional factorial design for optimization of extraction of essential oil from *Cymbopogon winterianus* by hydrodistillation”, Research Journal of Chemistry and Environment, 15: 903–908, June 2011.
3. Miral R. Thakker, Jigisha K. Parikh, **Meghal A. Desai**, “Isolation of essential oil from the leaves of *Cymbopogon martinii* using hydrodistillation: Effect on yield of essential oil, yield of geraniol and antimicrobial activity”, Journal of Essential Oil bearing Plants, 19: 1943–1956, December 2016. (DOI: 10.1080/0972060X.2016.1231087)
4. Krunal A. Shah, Darshak R. Bhatt, **Meghal A. Desai**, Girirajsinh C. Jadeja, Jigisha K. Parikh “Extraction of essential oil from patchouli leaves using hydrodistillation: Parametric studies and optimization”, Indian Journal of Chemical Technology, 24: 405–410, July 2017.
5. Chetan Sharma, **Meghal A. Desai**, Sanjaykumar R. Patel, “Effect of process parameters on particle size and morphology of telmisartan in anti-solvent crystallization”, Journal of The Institution of Engineers (India): Series E. 102: 163–174, May 2021. (DOI: 10.1007/s40034-021-00210-8)
6. Vishal B. Thakare, G. C. Jadeja, **Meghal A. Desai**, “Extraction of starch and phenolic compounds from *Mangifera indica* L. var. Kesar seeds and its characterization”, Indian Journal of Chemical Technology, 30: 822–831, November 2023. (DOI: 10.56042/ijct.v30i6.6547)

- **Book Chapters: 04**

1. Jigisha K Parikh, **Meghal A. Desai**, Krishna P. Solanki, Miral R. Thakker, “An insight into extraction of essential oil using sonic waves” in “The Essential Guide to Plant Oils” edited by B. M. Holst, Nova Science Publishers, Inc, USA, Chapter 2: 41 – 60, July 2020. ISBN: 1536180084
2. Priti V. Ganorkar, G. C. Jadeja, Jigisha K. Parikh, **Meghal A. Desai**, “Waste valorization of water hyacinth using biorefinery approach: A sustainable route” in “Catalysis for Clean Energy and Environmental Sustainability - Biomass Conversion and Green Chemistry” edited by K.K. Pant, Sanjay Kumar Gupta and Ejaz Ahmad, Springer Nature, Switzerland, Chapter 20: 669 – 704, February 2021. ISBN: 9783030650162
3. Jyotimala J. Jadhav, Girirajsinh C. Jadeja, **Meghal A. Desai**, “Effect of extraction

techniques on the yield, composition, and quality of clove (*Syzygium aromaticum*) essential oil” in “Clove (*Syzygium aromaticum*) Chemistry, Functionality and Applications” edited by M. Z. Ramdan, Academic Press (Elsevier), USA, Chapter 28: 485 – 500, July 2022. ISBN: 9780323851770

4. Piyush I. Modi, Jigisha K. Parikh, **Meghal A. Desai**, “Techniques for extraction, oil characteristics and pharmacological activities of cinnamon oil: An overview” in “Cinnamon: Production, Processing, and Functional Properties” edited by M. Z. Ramdan and M. A. Farag, Academic Press (Elsevier), USA, Chapter 10: 151-173, January 2025. ISBN: 9780443218200

• **Papers published/presented in International Conference/Seminar: 28**

1. **Meghal A. Desai**, Jigisha Parikh; Thermodynamic study for aggregation behavior of hydrotropic solution; International Conference on Chemical Engineering; World Congress of Science Engineering & Technology; Amsterdam, The Netherlands; September 2009 (57:227-229).
2. **Meghal A. Desai**, P K Mishra; Identification of limonoid glucosides in Indian orange (*Citrus sinensis*) peels; International Conference on Challenges in Biochemical Engineering and Food Technology; Annamalai University; October 2009.
3. **Meghal A. Desai**, Jigisha Parikh; Supercritical fluid extraction of natural materials; International Conference on Challenges in Biochemical Engineering and Food Technology; Annamalai University; October 2009.
4. Paresh K. Patel, Himanshu Desai, Sidhdharth Barve, **Meghal A. Desai**; Processing of re-refined oil: A step towards waste minimization; International Conference on Separation Processes; Banaras Hindu University, Varanasi, UP; October 2009.
5. Himanshu Desai, Rakesh Jain. **Meghal A. Desai**; Nanofluids: A new concept to enhance heat transfer; International Conference on Advances in Mechanical Engineering; Sardar Vallabhbhai National Institute of Technology, Surat; January 2010.
6. Kiran Pawar, **Meghal A. Desai**, Jigisha Parikh; Study of mixed micelle formation and the interaction of nonionic surfactant with ionic surfactants; International Conference on Recent Advances in Chemical Engineering and Technology, Kochi; March 2011.
7. **Meghal A. Desai**, Jigisha K. Parikh; Extraction of essential oil from the leaves of lemongrass using novel extraction techniques; 6th International Conference on Green and Sustainable Chemistry; Nottingham, UK; August 2013.
8. Sagar V. Deotale, Sanjaykumar R. Patel, **Meghal A. Desai**; Solubility and bioavailability of poorly soluble drugs using novel approaches : A review; International Conference on Materials and Characterization Techniques; Centre of Crystal Growth, School of Advance Sciences, VIT University, Vellore, Tamil Nadu, India; March, 2014.
9. Sagar Kapadiya, **Meghal A. Desai**; Solar drying of natural and food products: A review; International Conference on Agriculture, Forestry, Horticulture, Aquaculture, Animal Sciences, Food Technology, Biodiversity and Climate Change Sustainable Approaches (AFHAFBC-2014), Krishi Sanskriti, New Delhi; August, 2014.
10. Miral R. Thakker, **Meghal A. Desai**, Jigisha K. Parikh; Extraction of phytochemicals using neoteric solvents; World Congress on “Agriculture, Forestry, Horticulture, Aquaculture, Animal Sciences, Food Technology, Biodiversity and Climate Change:

Sustainable Approaches (AFHAFBC-2014), Krishi Sanskriti, New Delhi; December, 2014.

11. Sagar Kapadiya, **Meghal A. Desai**; Recent advancement in predictive modelling for phytochemical extraction using artificial neural network; Afro - Asian International Conference on Science, Engineering & Technology, Bharuch, India, 2015.
12. Sagar Kapadiya, **Meghal A. Desai**; Isolation of essential oil from buds of *Syzygium aromaticum* using hydrodistillation: Multi-response optimization and predictive modeling; 6th International Conference on Recent Trends in Science, Engineering and Management, Chandigarh; 2017.
13. Chetan Sharma, **Meghal A. Desai**, Sanjaykumar R. Patel, Effect of surfactants and polymers on particle size and morphology of telmisartan in anti-solvent crystallization, International Conference of Nanotechnology Applications: Chemical, Energy and Environment, Surat; 2017.
14. Sunny Arora, **Meghal A. Desai**; Extraction of natural colorant from the flowers of Flame of Forest using ultrasound; 20th International Conference on Applied Chemistry and Chemical Engineering (WASET); Bangkok, Thailand; February 2018.

Selected as Best Presentation

15. G. C. Jadeja, **Meghal A. Desai**, D. R. Bhatt, J. K. Parikh; Green extraction of patchoulol from patchouli leaves using ultrasound-assisted ionic liquids; 20th International Conference on Applied Chemistry and Chemical Engineering (WASET); Bangkok, Thailand; February 2018.
16. Priti Ganorkar, Girirajsinh Jadeja, **Meghal Desai**; Waste valorization of water hyacinth; 1st International Conference on Energy and Environment – Global Challenges; NIT Calicut; Kerala; March 2018.
17. Miral R. Thakker, **Meghal A. Desai**, Jigisha K. Parikh; Isolation of essential oil from palmarosa using different extraction techniques: Comparison and waste valorization; International Conference on Chemical, Bio & Environmental Engineering; NIT Jalandhar, Punjab; February 13-14, 2020.
18. Akash D. Patel, **Meghal A. Desai**; Reduction in particle size of methylcobalamin using antisolvent crystallization; 4th International Conference on Innovative Advancement in Engineering & Technology (IAET 2020); Jaipur National University, Jaipur, Rajasthan, February 21-22, 2020. (*Materials Today: Proceedings, Volume 32, Part 3, 2020, Pages 431-436*)
19. Akshay Y. Bageshwar, **Meghal A. Desai**; Extraction of phenolic compounds from the waste of *Borassus flabeliffer*: A step towards waste valorization; International Conference on Recent Advances in Manufacturing (RAM-2020); Sardar Vallabhbhai National Institute of Technology, Surat; July 3-5, 2020. (*Lecture Notes in Mechanical Engineering - Advances in Manufacturing Systems Select Proceedings of RAM 2020, 2021, Pages 169-180*)
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