

**Dr. Girirajsinh C. Jadeja****Assistant Professor**

Chemical Engineering Department  
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**ACADEMIC DETAILS**

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- **Ph.D.** from Indian Institute of Technology Delhi, New Delhi (2010)  
Thesis Title: “Extraction of Phytochemicals from Vanilla and Neem using Pressurized Fluids”
- **M.Tech.** in Chemical Engineering from Institute of Technology, Banaras Hindu University (BHU), Varanasi (2004)  
Dissertation Title: “Catalytic Conversion of Aqueous Ethanol into Hydrocarbons”
- **B.E.** in Chemical Engineering from V.V.P. Engineering College, Saurashtra University, Rajkot (2001)

**EXPERIENCE**

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| Designation         | Name of the Institute                        | Period                   |
|---------------------|--|--------------------------|
| Assistant Professor | S.V. National Institute of Technology, Surat | Since 16-08-2013         |
| Lecturer            | S.V. National Institute of Technology, Surat | 02-08-2010 to 01-08-2013 |

**RESEARCH AREAS OF INTEREST**

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Novel Green Extraction Techniques for Recovering Valuable Chemicals from Renewable Resources (Sub/super critical Fluid Extraction, Pressurized Liquid Extraction, Aqueous Two Phase Extraction)

**Details of Ph.D. Students**

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| No. | Name of the Student     | Topic  | Supervisor/s                       | Status             |
|-----|-------------------------|--|------------------------------------|--------------------|
| 1.  | Sanjay Kumar Srivastava | Catalytic upgradation of bio-oil model components towards transportation fuels and chemicals                   | Dr. G.C. Jadeja<br>Dr. J.K. Parikh | Synopsis submitted |
| 2.  | Chandrabhushan T. Pal   | Studies on extraction of phenolic antioxidants from fruit and vegetable wastes using emerging green techniques | Dr. G.C. Jadeja                    | Ongoing            |
| 3.  | Prajapati Rahul V.      | Studies on photocatalytic degradation of organic pollutants  | Dr. J.K. Parikh<br>Dr. G.C. Jadeja | Ongoing            |

## Details of M.Tech Students

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| No. | Name of the Student       | Topic   | Guide/s                            | Status    |
|-----|---------------------------|---|------------------------------------|-----------|
| 1.  | Chandak Sagar Ompraskash  | Development of biolubricant from mahua oil  | Dr. G. C. Jadeja                   | Completed |
| 2.  | Shrinivas Tejerao Mundkar | Studies on extraction of phenolic compounds from cactus pear using deep eutectic solvents   | Dr. G. C. Jadeja                   | Completed |
| 3.  | Bari Abhishek             | Valorization of pomegranate ( <i>Punica granatum</i> L.) peels using deep eutectic solvents | Dr. J.K. Parikh<br>Dr. G.C. Jadeja | Ongoing   |

## FUNDED RESEARCH PROJECT

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| Sr. No. | Name of Faculty Project Investigators                       | Title of project   | Funding Agency  | Sanctioned Amount (Rs.) | Project Duration    | Status    |
|---------|---|--|-----------------|-------------------------|---------------------|-----------|
| 1.      | Dr. J.K. Parikh (PI)<br>Dr. M. A. Desai<br>Dr. G. C. Jadeja | Studies on Novel Techniques for Extraction of Essential oil from Patchouli | CSIR, New Delhi | 12,06,940/-             | 3 years (2013-2016) | Completed |

## COURSE DEVELOPMENT WORK

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Co-developer of the course on “**Chemical Reaction Engineering-I**” under MHRD sponsored project on “Developing suitable pedagogical methods for various classes, intellectual calibers and research in e-learning”

([http://www.ide.iitkgp.ernet.in/Pedagogy\\_view/example.jsp?USER\\_ID=58](http://www.ide.iitkgp.ernet.in/Pedagogy_view/example.jsp?USER_ID=58))

## RESEARCH PUBLICATIONS/PRESENTATIONS

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### INTERNATIONAL JOURNALS:

- Sanjay Srivastava, **G.C.Jadeja**, Jigisha Parikh, “Synergism studies on alumina-supported copper-nickel catalysts towards furfural and 5-hydroxymethylfurfural hydrogenation”  
Journal of Molecular Catalysis A: Chemical, 426 (Part A), 244-256, 2017.  
(DOI No.: 10.1016/j.molcata.2016.11.023)
- Sanjay Srivastava, **G.C.Jadeja**, Jigisha Parikh, “Studies on influence of supports for selective production of 2,5-dimethylfuran via bimetallic copper-cobalt catalyzed 5-hydroxymethylfurfural hydrogenolysis”  
Chinese Journal of Catalysis, 38, 699-709, 2017.  
(DOI No.: 10.1016/S1872-2067(17)62789-X)
- Sanjay Srivastava, **G.C.Jadeja**, Jigisha Parikh, “A versatile bi-metallic copper-cobalt catalyst for liquid phase hydrogenation of furfural to 2-methyl furan”  
RSC Advances, 6, 1649-1658, 2016.  
(DOI No.: 10.1039/c5ra15048e)

- **G.C.Jadeja**, R.C.Maheshwari and S.N.Naik, “Extraction of natural insecticide azadirachtin from neem (*Azadirachta indica* A. Juss) seed kernels using pressurized hot solvent ”  
The Journal of Supercritical Fluids, 56, 253-258, 2011.  
(DOI No.: 10.1016/j.supflu.2011.01.004)
- P.K.Rout, S.N.Naik, Y.R.Rao, **G.Jadeja** and R.C.Maheshwari, “Extraction and composition of volatiles from *Zanthoxylum rhesta*: Comparison of subcritical CO<sub>2</sub> and traditional processes”  
The Journal of Supercritical Fluids, 42, 334-341, 2007.  
(DOI No.: 10.1016/j.supflu.2007.01.001)

#### **NATIONAL JOURNALS:**

- K.A. Shah, D.R. Bhatt, M.A. Desai, **G.C.Jadeja** and J.K. Parikh, “Extraction of essential oil from Patchouli leaves using hydrodistillation: parametric studies and optimization  
Indian Journal of Chemical Technology (IJCT 1496 - Accepted for publication)
- S.N.Naik, **G.C.Jadeja**, R.C. Pradhan and P.K. Rout, “Extraction of natural products using supercritical fluids and pressurized liquids”  
Pharmaceutical and Biological Evaluations, Vol. 1, 9-24, 2014.  
(<http://www.onlinepbe.com/extraction-of-natural-products-using-supercritical-fluids-and-pressurized-liquids/>)

#### **INTERNATIONAL CONFERENCE PROCEEDINGS:**

- **G.C.Jadeja**, S.N.Naik and R.C.Maheshwari, “Pressurized Liquid Extraction of natural flavour from *Vanilla planifolia* Andrews”, 10<sup>th</sup> International Symposium on Supercritical Fluids, 13-16 May 2012, San Francisco, USA.
- **G.C.Jadeja**, R.C.Maheshwari and S.N.Naik, “Extraction of natural insecticide azadirachtin from neem (*Azadirachta indica* A. Juss) seed kernels using pressurized hot solvent”, II Iberoamerican Conference on Supercritical Fluids (PROSCIBA 2010), 5-9 April 2010, Natal, Brazil.
- **G.C.Jadeja** and S.N.Naik, “Pressurized Liquid Extraction of Azadirachtin from Neem (*Azadirachta indica* A. Juss) seed kernels”, 9<sup>th</sup> International Symposium on Supercritical Fluids, 18-20 May 2009, Arcachon, France.
- **G.C.Jadeja** and S.N.Naik, “Pressurized Solvent Extraction of Neem (*Azadirachta indica* A. Juss) seed kernels for azadirachtin rich extracts”, Green Science and Technology Conference 2008, 10-11 June 2008, Regina, Canada.
- **G.C.Jadeja**, S.N.Naik and R.C.Maheshwari, “Extraction of *Vanilla Planifolia* Andrews by Pressurized Solvent”, 8<sup>th</sup> International Symposium on Supercritical Fluids, 5-8 November 2006, Kyoto, Japan.

#### **NATIONAL CONFERENCE PROCEEDINGS:**

- **G.C.Jadeja** and S.N.Naik, “Pressurized Hot Solvent Extraction of Neem Seed Kernels and its Comparison with Conventional Methods”, 61<sup>st</sup> Annual Session of Indian Institute of Chemical Engineers (CHEMCON 2008), 27-30 December 2008, Chandigarh.

- **G.C.Jadeja**, S.N.Naik and R.C.Maheshwari, “Supercritical CO<sub>2</sub> and Pressurized Liquid Extraction of *Vanilla Planifolia* Andrews”, 59<sup>th</sup> Annual Session of Indian Institute of Chemical Engineers (CHEMCON 2006), 27-30 December 2006, Bharuch.
- **G.C.Jadeja**, P.Ahuja and S.K.Tewari, “Catalytic Conversion of Aqueous Ethanol into Hydrocarbons over HZSM-5 Zeolite”, National Conference on Biomass as source of Energy and Chemicals, 13-14 February 2004, IT-BHU, Varanasi.

### STTP/WORKSHOP/TRAINING COURSE Organized

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- QIP Sponsored Short Term Course on “**Green Concepts in Engineering and Chemistry**” during 12<sup>th</sup> to 16<sup>th</sup> December, 2016 at Chemical Engineering Department, SVNIT, Surat.

Coordinators: Dr. S.R. Patel, Dr. M. A. Desai and Dr. G.C. Jadeja

- TEQIP-II Sponsored Short Term Training Programme on “**Recent Trends in Chemical Engineering**” during 11<sup>th</sup> to 15<sup>th</sup> July, 2016 at Chemical Engineering Department, SVNIT, Surat.

Coordinators: Dr. Z.V.P. Murthy, Dr. V.N. Lad, Dr. S.R. Patel, Dr. M. A. Desai and Dr. G.C. Jadeja

- TEQIP-II Sponsored Short Term Training Programme on “**Green Chemistry and Engineering: Towards A Sustainable Future**” during 18<sup>th</sup> to 22<sup>nd</sup> November, 2013 at Chemical Engineering Department, SVNIT, Surat.

Coordinators: Dr. J.K. Parikh, Dr. M. A. Desai and Dr. G.C. Jadeja

### WORKSHOPS/SEMINARS/STTPs Participated

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| Sr. No. | Name of Conference/Seminar/Workshop   | Period (Year)         | Organizer                                     |
|---------|---|-----------------------|---|
| 1.      | Journey of Analytical Techniques in Chemical and Biological Sciences        | 19-24 December (2016) | Applied Chemistry Department, SVNIT, Surat    |
| 2.      | Particle Technology: Characterization and Modeling of Particulate Materials | 1-5 August (2016)     | Chemical Engineering Department, SVNIT, Surat |
| 3.      | Design of Experiment for Process Optimization                               | 6-10 June (2016)      | Chemical Engineering Department, SVNIT, Surat |
| 4.      | Science and Technology of Advanced Materials                                | 21-23 August (2015)   | Applied Physics Department, SVNIT, Surat      |
| 5.      | Interfacial Engineering and Nanotechnology for Sustainable Environment      | 10-14 August (2015)   | Chemical Engineering Department, SVNIT, Surat |
| 6.      | Design of Experiment and Artificial Neural Network                          | 22-26 June (2015)     | Chemical Engineering Department, SVNIT, Surat |
| 7.      | Design of Experiment using Taguchi Method: An Overview                      | 25 April (2015)       | Chemical Engineering Department, SVNIT, Surat |
| 8.      | Curriculum Revision Workshop  | 17 October (2014)     | Chemical Engineering Department, SVNIT, Surat |
| 9.      | Hindi Workshop  | 24-28 Feb (2014)      | Hindi Cell, SVNIT, Surat                      |
| 10.     | One-day workshop on COMSOL  | 6 Dec (2013)          | Chemical Engineering Department,              |

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|-----|--|------------------------|---|
|     | Multiphysics Modeling  |                        | SVNIT, Surat  |
| 11. | STTP on “Recent Trends in Nanomaterials Synthesis, Characterization and Applications”    | 14-18 Oct (2013)       | Chemical Engineering Department, SVNIT, Surat                       |
| 12. | STTP on “Advances on Wastewater Treatment and Energy Generation”                         | 30 Sept-4 Oct (2013)   | Chemical Engineering Department, SVNIT, Surat                       |
| 13. | STTP on “Computational Fluid Dynamics for Engineers and Scientists”                      | 8-12 July (2013)       | Department of Applied Mathematics and Humanities, SVNIT, Surat      |
| 14. | Workshop on “Nanotechnology applications for sustainable development”                    | 19-21 April (2013)     | Chemical Engineering Department, SVNIT, Surat                       |
| 15. | Workshop on “Six sigma and statistical analytical tools”                                 | 22 March (2013)        | Chemical Engineering Department, SVNIT, Surat                       |
| 16. | Workshop on “Chemical Engineering and Academics”   | 28 May - 1 June (2012) | Chemical Engineering Department, IIT Gandhinagar                    |
| 17. | 61 <sup>st</sup> Annual Session of Indian Institute of Chemical Engineers (CHEMCON 2008) | 27-30 December (2008)  | Chemical Engineering Department, Panjab University, Chandigarh      |
| 18. | 59 <sup>th</sup> Annual Session of Indian Institute of Chemical Engineers (CHEMCON 2006) | 27-30 December (2006)  | GNFC, Bharuch   |
| 19. | National Conference on Biomass as source of Energy and Chemicals                         | 13-14 February (2004)  | Department of Chemical Engineering and Technology, IT-BHU, Varanasi |

#### **MEMBERSHIP OF PROFESSIONAL BODIES**

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Life Member, Indian Institute of Chemical Engineers (IChE), Kolkata, India.

Member, American Chemical Society (ACS).

Senior Member, American Institute of Chemical Engineers (AIChE)

#### **ADMINISTRATIVE RESPONSIBILITIES**

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- Departmental coordinator: Stock verification and Feedback form analysis
- Departmental In-Charge: CAD lab and CRE lab