



## Amit Jain

Professor & Head

Department of Chemical Engineering

School of Studies of Engineering and Technology

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### Educational Qualification

- |                                                                                                                                                                                                                   |                      |             |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|-------------|
| • <b>B.E.</b>                                                                                                                                                                                                     | <b>First (Hon's)</b> | <b>2001</b> |
| Institute of Technology, Guru Ghasidas University, Bilaspur (C.G.)                                                                                                                                                |                      |             |
| • <b>M.Tech.</b>                                                                                                                                                                                                  | <b>First (Hon's)</b> | <b>2004</b> |
| Maulana Azad National Institute of Technology, Bhopal (M.P.)                                                                                                                                                      |                      |             |
| • <b>Ph.D.</b>                                                                                                                                                                                                    |                      | <b>2021</b> |
| Indian Institute of Technology Kharagpur                                                                                                                                                                          |                      |             |
| <b>Research Topic :</b> Membrane based clarification of vegetable and spice extract for longer shelf life : A case study for bitter gourd ( <i>Momordica charantia</i> ) and ajwain ( <i>Trachyspermum ammi</i> ) |                      |             |

### Teaching Experience

- Joined as Lecturer on 4<sup>th</sup> January 2007, later on designated as Assistant Professor in Department of Chemical Engineering, Institute of Technology (Now School of Studies of Engineering and Technology), Guru Ghasidas Vishwavidyalaya, (A Central University), Bilaspur (C.G.).
- Selected as Associate Professor on 29<sup>th</sup> June 2021.
- Selected as Professor on 29<sup>th</sup> June 2024.

### Industrial Experience

- Worked as Graduate Engineer Trainee at HJI Prop GMMCO Ltd., Amlai (M.P.) (C.K. Birla group company) : From 10<sup>th</sup> September 2005 to 31<sup>st</sup> May 2006.
- Worked as Project Engineer at E.I. DuPont Ind. (Pvt.) Ltd. Baroda (On pay roll of Team lease services Pvt. Ltd.) : From 07<sup>th</sup> June 2006 to 02<sup>nd</sup> January 2007.

### Area of Interest

- Membrane separation processes
- Processing of various medicinal herbs and fruit / vegetable juices

### Project Submitted

- Synthesis of Proton Exchange Membrane for use in Microbial Fuel Cell (Application Number : MNRE/A/2022/2225) Submitted to Ministry of New and Renewable Energy (R&D Division)
- Development and Application of Proton Exchange Membranes : Synthesis, Characterization and Integration into Microbial Fuel Cells. Mini Research Project Submitted to CCOST, Raipur C.G.)
- Production of Biofuels and Chemicals from Biomass. Submitted to FIST (DST, GoI)

## Book Chapters

- “Processing of Beverages by Membrane” in Book ‘*Processing and Sustainability of Beverages: Volume-2: The Science of Beverages*’ (2018) Page 517-570, Woodhead Publishing, Elsevier.
- “Noble Metal Supported Heterogeneous Catalyst for Oxidation and Oligomerization Reaction” in Book ‘*Diverse Strategies for Catalytic Reactions*’ (2023), Page 140-169, Bentham Science.
- “Direct Reuse of Wastewater : Problem, Challenge and Future Direction” in Book ‘*Antimicrobial Resistance in Wastewater and Human Health*’, (2023), Page 61-84, Academic Press, Elsevier.

## Publications

- Aqueous extraction of bitter gourd (*Momordica charantia*) juice and optimization of operating conditions; *Fruits*; 71(6) (2016), 379-387.
- Effect of different operating conditions in cloud point assisted extraction of thymol from Ajwain (*Trachyspermum Ammi* L.) seeds and recovery using solvent, *Journal of Food Science and Technology*; 54(13) (2017), 4353-4361.
- Fundamental understanding of fouling mechanisms during microfiltration of bitter gourd (*Momordica charantia*) extract and their dependence on operating conditions; *Food and Bioprocess Technology*; 11(5) (2018), 1012-1026.
- Kinetics of enzymatic hydrolysis of pectinaceous matter in Guava juice; *Journal of Food Engineering*; 221 (2018), 158- 166.
- Criteria for a unique steady state for enzymatic depectinization of bael (*Aegle marmelos*) juice in a continuous stirred tank reactor; *Reaction Chemistry & Engineering*; 3 (2018), 333-343.
- Effect of process parameters on aqueous extraction of thymol and other phytonutrients from herbal seed Ajwain (*Trachyspermum ammi* L.); *Journal of Applied Research on Medicinal and Aromatic Plants*; 11 (2018), 27-36.
- Effects of operating conditions during hollow fiber ultrafiltration of bitter gourd (*Mormordica charantia*) extract and analysis of nutritional qualities in subsequent storage study; *Journal of Food Process Engineering*; 42(5) (2019), 1-15.
- Extractive recovery of p-coumaric acid using natural and conventional organic solvents; *Journal of the Indian Chemical Society*; 97(7) (2020), 1104-1107.
- Synthesis of cenosphere supported iron catalyst and its application on esterification; *European Chemical Bulletin*; 11(7) (2022), 937-944.
- A sustainable method for coating grapheme nanoparticles on nafion 117 and performance evaluation in continuous microbial fuel cells; *European Chemical Bulletin*; 11(9) (2022), 1652-1659.
- Performance enhancement of solar air heater using artificial roughness; *Material Today : Proceedings*; (2023).
- Revisiting the recent advancements in the design and performance of solar greenhouse dryers; *Lecture Notes in Mechanical Engineering*; (2023), 275-292.
- Biodegradable polymer nanocomposites as packaging materials: A review; *AIP Conference Proceedings*; 3178(1) (2024).
- Recent developments and trends in silver nanoparticles for biomedical applications; *AIP Conference Proceedings*; 3178(1) (2024).

## Other Academic Activities

Papers in International / National Conferences / Seminar	: 18
Short Term Course / FDP	: 22
Workshop	: 23
Orientation Programme	: 01
Refresher Course Attended	: 02
NPTEL Course	: 03

## Member of Professional Bodies

- Life Member : Indian Institute of Chemical Engineering IChE
- Life Member : Institute of Engineers (India) IE(I)
- Life Member : Indian Society for Technical Education ISTE
- Life Member : Indian Science Congress Association ISCA
- Member International Association of Engineers IAENG

## Responsibilities Held

- Head, Chemical Engineering Department, from 19<sup>th</sup> December 2024 to till date.
- Member Academic Council.
- Chairman, BoS and DRC of the Chemical Engineering Department.
- Coordinator of committee, to look after various activities related to AICTE in School of Studies in Engineering and Technology, for session 2020-21 to till date.
- Social Media Champion of the Vishwavidyalaya.
- Member : Internal Committee for the Students with Disabilities.
- Member : Industry Institute Interaction Cell of Vishwavidyalaya.
- Teacher Coordinator of Chalchitra (Media Club of Vishwavidyalaya).
- Teacher Coordinator of NEXUS (Alumni Interaction Cell of SoS, Engineering & Technology).
- Coordinator for online data feeding committee for AICTE approval of B.Tech. / M.Tech. Course, 2012-13, 2017-18, 2018-19, 2019-20, 2020-21, 2021-22, 2022-23, 2023-24, 2024-25, 2025-26.
- Member "Board of studies" in Chemical Engineering (2012-2015).
- Member "Examination Committee" in Chemical Engineering.
- Convener of Committee constituted for Cover Page Design of Annual Report of Vishwavidyalaya (Session 2023-24).
- Member of the Committee constituted for preparation of Admission Brochure 2023-24, 2024-25 of the Vishwavidyalaya.
- Member : Annual Report Preparation Committee (Session 2022-23).
- Member Training and Placement Cell from 2008 to 2011.
- Assistant Centre Superintendent for Vishwavidyalaya Entrance Test (VET) 2010-13.
- Faculty in charge "Chemical Engineering Students Society (ChESS) (2012-2014).

- Organizing Secretary – One day workshop on “Latest Development Status of Renewable Energy Sources in India”, on October 13, 2007.
- Joint Secretary – “National Seminar on Recent Advances in Chemical Engineering Operation and Processes in Chemical and Allied Industries” during February 5-6, 2008.
- Member Organizing Committee – “National Seminar on Dakshin Koshal ka Itihaas, Sabhyata awam Samaj : Shodh-Vimarsh (Gouravshali Dakshin Koshal)” during November 5-6, 2019.
- Co-coordinator of “International Conference on Trends in Energy and Environmental Research for Sustainable Development (TEERSD-2023)”, organized by Department of Chemical Engineering, Guru Ghasidas Vishwavidyalaya Bilaspur during November 02-03, 2023.
- Organizing Committee member - “International Conference on Trends in Energy and Environmental Research for Sustainable Development (TEERSD-II-2024)”, organized by Department of Chemical Engineering, Guru Ghasidas Vishwavidyalaya Bilaspur during November 12-13, 2024.
- Co-Convener of “International Conference on Trends in Energy and Environmental Research for Sustainable Development (TEERSD-III-2025)”, going to be organized by Department of Chemical Engineering, Guru Ghasidas Vishwavidyalaya Bilaspur during December 11-12, 2025.
- Organizing Secretary – AICTE Sponsored International Conference (Online) on COVID Challenges of Energy and Environment Management for Sustainable Growth of Process Industries, on September 10-11, 2021.
- Member : Games and Sports Committee of Institute of Technology from 2009-2014.
- Member : Cultural Committee of Institute of Technology from 2010-2012.
- Co-Coordinator for online data feeding committee for AICTE approval of B.Tech. / M.Tech. Course, 2013-14.
- Coordinator of committee, to look after the activities related to the Alumni of the School of Studies in Engineering and Technology, for session 2020-21, 2021-22, 2022-23, 2023-24.
- Member of the committee, to look after the placement activities related to of School of Studies of Engineering and Technology, for session 2021-22, 2022-23.
- Session Co-Chair on AICTE Sponsored “International Conference (Online) on COVID Challenges of Energy and Environment Management for Sustainable Growth of Process Industries”, organized by Department of Chemical Engineering, Guru Ghasidas Vishwavidyalaya Bilaspur on September 10-11, 2021.
- Member of committee, to look after the activities related to the Industry Interaction for the School of Studies of Engineering and Technology in coordination with the Industry Interface Cell Office of GGV, for session 2021-22, 2022-23.

### **Achievements (Academic)**

- Merit certificate by M.P. Board in High School Certificate Exam (Position in Merit List).
- Sixth position in University Merit list in B.E.
- Gold Medal for Best M.Tech. Energy related thesis.

## Honours and Awards

- “Corona Warrior Honour” by St. Xavier Group of Institution.
- “Raktmitra Samman” by Akaltara Nagrik Samiti for donating blood more than 15 times.
- “Samaj Ratn Samman” by Sakal Chhattisgarh Jain Community.
- “Sewa Ratna Samman” by Lions Club Bilaspur for organizing One Week Divyang Sewa Shivar.
- Best behavior Award in School.
- Best wicket-keeper award (Cricket) at college level.
- Young Jaina Award 2005 by the All India Jain Community (Maitri Samooh).
- Special Honour by Collector, District: Janjgir-Champa (C.G.) on Independent Day Celebration 2005.
- Special Honour by Barrister Thakur Chhedilal Memorial Academy Chhattisgarh.
- Special Honour (‘NSS Ratna’) by National Service Scheme (NSS) Akaltara Unit.
- Outstanding Performance Award by E.I. DuPont India Pvt. Ltd. For outstanding contribution in Process Development, Implementation and Commissioning of Project ‘Equation Pro’.
- Secured Third Position in National Level Quiz Competition “AISECT Knowledge Olympiad 2012.

## Personal Details

- Father’s Name : Dr. J. K. Jain
- Mother’s Name : Late Smt. Usha Jain
- Nationality : Indian
- Date of Birth : November 09, 1980
- Marital Status : Married
- Category : General (Divyang)