

## BIODATA

**Name** : **DR. ASHWINI SOOD**  
**Designation** : Professor  
**Date of Birth** : 17-07-1967  
**Father's Name** : Late P. K. Sood,  
Chief Engineer(Retd.),O.N.G.C.  
**Office Address** : Department of Chemical Engineering,  
School of Chemical Technology,  
Harcourt Butler Technical University,  
Kanpur-208 002, India  
**Home Address** : T5-1C, Rudra Greens Apartment,  
Singhpur, Kalyanpur, Kanpur-208017  
**E-mail I. Ds.** : [asood@hbtu.ac.in](mailto:asood@hbtu.ac.in),  
[sood.ashwini@rediffmail.com](mailto:sood.ashwini@rediffmail.com)  
**Mobile Nos.** : 91-7081300534, 91-9956868360

Qualification	Board/University	Percentage/CPI/GPA	Year
Class X	CBSE	<b>81.2% (I in the Class and Merit Certificate under National Merit Scheme for securing High Rank)</b>	1982
Class XII	CBSE	<b>83% (II in the Class and selected in IIT Kanpur)</b>	1984
B. Tech. (Chemical Engg.)	IIT Kanpur	CPI = 8.4/10.0 (84%) <b>(V in the Class and II Position in GATE 1988)</b>	1988
M. S. (Chemical Engg.)	Lehigh University, USA	GPA = 3.53/4.0 <b>(88.25 %)</b>	1991
Ph. D. (Chemical Engg.)	UP Technical University, Lucknow	—	2006*

\*The Ph. D. work was conducted under the supervision of Prof. M. S. El-Aasser, Department of Chemical Engineering, Lehigh University, Bethlehem, PA-18015, U.

S. A. from October 1991 to May 1994 (2 years and 8 months) but due to some unavoidable circumstances it could not be submitted for the award of Ph. D. degree. The same work was submitted for the award of Ph. D. degree to U. P. Technical University, Lucknow under the supervision of Prof. S. K. Awasthi, Department of Chemical Engineering, H.B.T. I. Kanpur after obtaining no objection certificate from Prof. M. S. El-Aasser. **Six papers** have resulted from Ph. D. work which have been published in peer reviewed journals. These are listed as papers 3,7,8, 9, 10 and 12 under List of Papers Published in Journals.

- B. Tech. Project Topic** : **Modelling of Polymerisation of Urea and Formaldehyde using Functional Group Approach (resulted in 1 paper published in an international journal) Supervisor: Prof. Anil Kumar, Dept. of Chemical Engg., IIT Kanpur**
- M. Tech. Thesis Topic** : **Modeling of Particle Size Distribution in Emulsion Polymerization (resulted in 2 papers published in an international journal and 1 paper published in a national journal) Advisors: Prof. Christos Georgakis and Prof. Mohamed S. El-Aasser, Dept. of Chemical Engineering, Lehigh Univ., USA**
- Ph. D. Thesis Topic** : **Modeling of Particle Size Distribution in Miniemulsion Polymerization (resulted in 5 papers published in international journals and 1 paper published in national journal: all journals are SCI journals) Advisors: Prof. M. S. El-Aasser (Oct. 1991 to May 1994); Supervisor: Prof. Shailendra K. Awasthi (Oct. 2002 to Nov. 2006) Dept. of Chemical Engineering, HBTI Kanpur**

**Professional Experience:**

1 May, 2017 – Present

**Professor**

Department of Chemical Engineering,

School of Chemical Technology,

H. B. T. U., Kanpur-208002

- Teaching **Mathematical Methods in Chemical Engineering** to Final year B. Tech. Chemical Engineering students (VIII Semester Course)
- Teaching **Chemical Reaction Engineering II** to III Year B. Tech. Chemical Engineering students (VI Semester Course)
- Teaching **Chemical Reaction Engineering I** to III year B. Tech. Chemical Engineering students (V Semester Course)
- Teaching **Process Heat Transfer** to II Year B. Tech. Chemical Engineering Students (III Semester Course)
- Teaching **Advanced Mathematical Methods in Chemical Engineering** (M. Tech. Course) to I year M. Tech. Chemical Engineering, Food Technology and I Year Ph. D. (Math) students (I Semester Course)

- Jointly Conducting **Chemical Reaction Engineering Laboratory** Course (V Semester Course)
- Jointly Conducting **Industrial Training Report Presentation** (VII Semester Course).
- Guiding Final Year B. Tech. Chemical Engineering Students **B. Tech. Project** (VII and VIII Semester Course).
- Guided M. Tech. Dissertation of M. Tech. students
- Guided/Guiding Ph. D. Dissertation of Ph. D. students.
- Serving as Faculty In-charge, Vocational Training, Dept. of Chemical Engg., HBTU, Kanpur
- **Other than University Assignments**
- Served as **external expert**, DRTC Assessment Board DMSRDE at DMSRDE, Kanpur, July 21 and 24, 2017.
- Served as **paper-setter for Heat Transfer Operation Course for AKTU, Lucknow** in 2018
- Appointed by **the Vice Chairman, Board of Governors & Secretary, Technical Education, U. P. Lucknow** as an **expert for interview of Guest Faculty** in Chemical Engineering Department, Dr. Ambedkar Institute of Technology for Handicapped, Kanpur, U. P. on 18<sup>th</sup> July, 2018
- **Served as a Guest faculty** and taught online a 20 lectures' course on **Polymerization Reactor Engineering** to B. Tech. Third year students of **Rajiv Gandhi Institute of Petroleum Technology, Amethi, U, P.** during 19 February to 26 March, 2021.

17 April, 2013 – 31 April, 2017

**Associate Professor**

Department of Chemical Engineering,

School of Chemical Technology,

H. B. T. U., Kanpur-208002

- Taught **Chemical Reaction Engineering I** to III Year B. Tech. Chemical Engineering students (V Semester Course)
- Taught **Chemical Reaction Engineering II** to III Year B. Tech. Chemical Engineering students (VI Semester Course)
- Taught **Advanced Mathematical Methods in Chemical Engineering** (M. Tech. Course) to I year M. Tech. Engineering, Food Technology and I Year Ph. D. (Math) students (I Semester Course)
- Taught **Heat Transfer Operations** to II Year B. Tech. Chemical Engineering Students (III Semester Course)
- Jointly Conducted **Chemical Reaction Engineering Laboratory** Course (V Semester Course)
- Jointly Conducted **Industrial Training Report Presentation** (VII Semester Course).
- Guided Final Year B. Tech. Chemical Engineering Students **B. Tech. Project** (VII and VIII Semester Course).
- Guided M. Tech. Dissertations of M. Tech. students (III and IV Semester Course)
- Guided Ph. D. Dissertation of Ph. D. student.

- Served as Faculty In-charge, Vocational Training, Dept. of Chemical Engg., HBTU, Kanpur

**Other than University/Institute Assignments**

- Served as **item-writer, reviewer and paper-setter** for **U. P. Public Service Commission's Chemical Engineering Examination** in 2013.
- Served as **Paper-setter for CRE-II and Transport Phenomena** Courses for B. T. Kumaon Institute of Technology, Dwarahat, Almora in 2014.
- Served as **a subject expert** for giving final shape to the course structure and syllabus of the course B. Tech. in Chemical Engineering with specialization in Sugar & Alcohol Technology, Madan Mohan Malviya University of Technology, Gorakhpur on 17-10-2015.
- Served as **an external expert** for AITH's recruitment interview for the post of Guest Lecturer in 2015.
- Served as a **lab examiner** for Heat Transfer Operation Lab, Department of Chemical Engineering, AITH, Kanpur in 2016.
- Served as **external expert**, DRTC Assessment Board DMSRDE at DMSRDE, Kanpur, June28-29, 2016.

17 April, 2010 - 16 April, 2013

**Assistant Professor - Stage 3**

Department of Chemical Engineering,

H. B. T. I., Kanpur-208002

- Taught **Advanced Mathematics and Statistical Design of Experiments** (M. Tech. Course), **Chemical Reaction Engineering-I, Chemical Reaction Engineering-II, Heterogeneous Catalysis** (Final Year Elective Course)
- Jointly conducted **Chemical Reaction Engineering Lab, Computer Application and Design Lab, Seminar**
- Served as Faculty In-charge, Vocational Training, Dept. of Chemical Engg., HBTU, Kanpur

**Other than University/Institute Assignments**

- Acted as an **external expert** for DRDO's recruitment interview for the post of Senior Technical Officer-Grade A
- Conducted **training sessions on the Chemical Engineering Topics: Reaction Chemistry, reaction equilibrium and chemistry, catalyst: basics and catalyst used in Ammonia Plant at Tata Chemicals Ltd., Babrala** during November 28-29, 2012.

17 April, 2005-16 April, 2010

**Assistant Professor - Stage 2**

Department of Chemical Engineering,

H. B. T. I., Kanpur-208002

- Taught Chemical Reaction Engineering, Heat Transfer Operations, Fluid Mechanics
- Conducted Lab Courses in Chemical Reaction Engineering, Fluid Mechanics.
- Served as Paper Setter for Heat Transfer Operations and Fluid Mechanics for UPTU Lucknow.
- Received Ph. D. Degree from U. P. Technical University, Lucknow

17 April, 2000-16 April, 2005

**Assistant Professor - Stage 1**

Department of Chemical Engineering,

H. B. T. I., Kanpur-208002

- Taught Chemical Reaction Engineering, Heat Transfer Operations, Fluid Mechanics, Process Equipment Design.
- Conducted Laboratories in Chemical Reaction Engineering, Heat Transfer, Fluid Mechanics, Unit Operations.
- Readmitted for Ph. D. degree in U. P. Technical University, Lucknow.
- Presented Ph. D. Synopsis and progress before Research Degree Committee.
- Wrote and submitted Ph. D. thesis for experts' evaluation.
- Wrote and published 4 research papers based on Ph. D. work.

15 Feb 1999 – 15 May 1999

**Visiting Faculty**

Sachdeva New P.T. College, Subhash Road, Dehradun

- Taught Physics and Mathematics for Engineering Entrance Examinations
- Taught Mathematics for N. D. A. Entrance Examination.
- Taught Mathematics for Banking Entrance Examination.

16 May 1999 - 15 July 1999

**Visiting Faculty**

K. K. Tutorials, Subhash Road, Dehradun

- Taught Physics for Engineering Entrance Examinations.

6 October 1997 – 5 April 1998

**Project Engineer**

Indian Institute of Petroleum, Dehradun

- Worked on a Project on Alpha-Olefin Sulfonation

26 February 1996 – 30 August 1997

**Sr. System Analyst (R & D)**

Jubilant Industries Ltd. (Formerly Vam Organic Chemicals Limited), Gajraula

- Proposed and Jointly Conducted Pilot Scale Studies on Batch Time Reduction in Emulsion Polymerization Processes.
- Evaluated Number of Properties of the Latex so formed During the Course of Polymerization and at the End.
- Presented a Seminar on Rheology of Dispersed Phase Systems
- Evaluated Tackifiers for Performance Improvement of Pressure Sensitive Adhesives
- Evaluated Performance Parameters of Pressure Sensitive Adhesives

31 January 1995 – 26 December 1995

**Asst. Product Manager (Plant & Process)**

Design Automation Group,

Hindustan Office Products Ltd., New Delhi

- Headed the Chemical Engg. Segment
- Identified a New Market Segment consisting of Owners and Operators.
- Marketed Plant Design CAD Software Packages including PIGEON PC designed by EIL .

1 Sep. 1993- 31 January, 1994

**Student Consultant at Lehigh University Computing Center**

- Helped students in solving their computing problems

16 December 1991 – 30 Aug. 1993

**Research Assistant,**

Emulsion Polymers Institute,

Lehigh University, Bethlehem, PA 18015, U. S. A

- Developed, Solved and Validated a Detailed Model for the Evolution of Particle Size Distribution in Miniemulsion polymerization from a Monodisperse Droplet Size Distribution.
- Developed, Solved and Validated a Model for the Particle Size Distribution in Miniemulsion Polymerization. that Incorporated the Full Droplet Size Distribution as a Monodisperse Distribution.
- Developed and Solved a Model for Miniemulsion Polymerization in which Normal Droplet Size Distribution was discretized into Five Classes resulting in Five Classes of Particle Size Distributions
- Conducted Stability Analysis of Miniemulsion Droplet Size Distribution against degradation by molecular diffusion and by coagulation.

16 January 1989 – 15 December 1991

**Research Assistant,**

Center for Process Modeling and Control

& Emulsion Polymers Institute,

Lehigh University, Bethlehem, PA 18015, U. S. A.

- Initiated a Project on Modeling, Monitoring and Control of Particle Size Distribution in Emulsion Polymerization.
- Developed, Solved and Validated a Model for the Particle Size Distribution in Emulsion Polymerization.
- Developed Model Based Open Loop Control Strategies.
- Jointly conducted experiments for the off-line monitoring of Particle Size Distribution in Emulsion Polymerization.
- Assisted in Developing a Computer Interfaced Process Control Facility.
- Attended a Short Course on Polymer Reaction Engineering at McMaster University, Canada, 1990.

1 September 1988 – 15 January 1989

**Teaching Assistant,**

Department of Chemical Engineering,

Lehigh University, Bethlehem, PA 18015, U. S. A.

- Assisted in Teaching a Course - Physical Polymer Science taught by Late Professor L. S. Sperling.

15 May, 1987- 1 July, 1987

**Summer Trainee,**

L.P.G. Plant, O.N.G.C., Ankleshwar

- Calculated Column Efficiencies of De-Ethanolizer and De-Butanolizer

**Total Professional Experience:** above 29 years.

**Research Interests** :

- Chemical Reaction Engineering

- Emulsion Polymerization Process
- Miniemulsion Polymerization Process
- Rheology of Dispersions

#### **Supervised B. Tech. Research Projects**

1. **0-1 Kinetics** of Emulsion Polymerization (Anushree Trivedi (Summer 2021)).
2. **Butyl Acrylate Emulsion Polymerization: A Case for Monomer Mass Transport Limited** (Radhika Tiwari (VII Semester 2024)).
3. **Microplastics** (Isha Singh, Abhishek Pandey (VII Semester 2024)).

#### **Supervised M. Tech. Thesis:**

1. Modeling of **Styrene** Emulsion Polymerization (Shruti Sengar (2009)).
2. Modeling of **Methyl Methacrylate** Emulsion Polymerization (Meghna Kapoor(2009)).
3. A Lumped Model for **Styrene** Emulsion Polymerization (Pankaj Kr. Lodhi (2010)).
4. Modeling of **Butyl Acrylate** Emulsion Polymerization (Aparna Singh(2012)).
5. A Detailed Lumped Model for **Butyl Acrylate** Emulsion Polymerization (Ranjana(2013)).
6. A Particle Size Distribution Model for **Butyl Acrylate** Emulsion Polymerization(Anjali Awasthi(2013)).
7. A Lumped Model for **Butyl Acrylate** Emulsion Polymerization (Ambereen Aziz Niaze (2015)).
8. A Population Balance Model for **Butyl Acrylate** Emulsion Polymerization (Ankit Srivastava (2015)).
9. Application of **Viscosity Depressant in Manufacture of Synthetic Leather**(Rakesh Kumar (201)).
10. Modeling of **Vinyl Acetate** Emulsion Polymerization in a Batch Reactor (Virendra Kumar (2014-2015)).
11. A Detailed Lumped Model for **Vinyl Acetate** Emulsion Polymerization (Shalini (2015-2016)).
12. Modeling of **Vinyl Acetate** Emulsion Polymerization in a **Semi-batch Reactor** (Sandeep Tripathi (2015-2016)).
13. Modeling of **Methyl Methacrylate** Emulsion Polymerization in **Batch and Semi-batch Reactors** (Neha Mishra (2016-2017)).
14. Modeling of **Styrene** Emulsion Polymerization in a **Semi-batch Reactor** (Reena Sharma (2016-2017)).
15. Modeling of **Vinyl Chloride** Emulsion Polymerization in a Batch Reactor (Pulkit Garg (2016-2017)).
16. Modeling of **Methyl Methacrylate** Emulsion Polymerization in a **Seeded Semi-batch Reactor** (Akanksha Singh Rajput (2017-2018))
17. A Detailed Model for **Methyl Methacrylate** Emulsion Polymerization in a **Seeded Semi-batch Reactor** (Swati Gangwar (2018-2019))
18. Review of **Secondary Nucleation** in Emulsion Polymerization (Shanjul Srivastava (2019-2020))
19. Calculations of **Average Number of Radicals per Particle** in Emulsion Polymerization (Aishwarya Tiwari ((2020-2021))
20. Parametric Sensitivity Study of a Butyl Acrylate Emulsion Polymerization Model (Sachin Kumar (2021-2022)).

### **Co-supervised M. Tech. Thesis:**

21. Studies on the Effect of Additives during Glycerol Hydrogenolysis to Propylene Glycol (Ashna Srivastava(2010-2011)).

22. Studies on the Effect of Inorganic Additives on Glycerol Conversion to Propylene Glycol in the Presence of (Ni, W, Cu)/Keiselguhr Catalyst (Tulika Gaur(2011-2012)).

### **Supervised/Supervising Ph. D. Thesis:**

1. **Modeling of Particle Size Distribution in Butyl Acrylate Emulsion Polymerization** (Tulika Gaur (awarded 2021)) – Three papers resulted from this work. They are listed as papers 26, 31 and 33 under papers published in journals. Two international conferences' presentations have also resulted from this work. They are listed as papers 17 and 19 under List of Papers presented as oral presentations/posters/abstracts.
2. **Augmentation of Liquid Fuel Properties by Adding Solid Fuel Particles and Additives for Turbo Fan Engine**(Ashish Kumar Singh (2020- )

### **List of Papers Published In Journals**

1. A. Kumar and A. Sood, Modelling of Polymerization of Urea and Formaldehyde using Functional Group Approach, J. Appl. Polym. Sci., 40, 1473-1486, 1990.[B. Tech. Project]
2. A. Sood, Monodisperse Distributions, Indian Chemical Engineer, 44(2), 75-81, 2002.
3. A. Sood and S. K. Awasthi, Initial Droplet Size Distribution in Miniemulsion Polymerization, J. Appl. Polym. Sci., 88, 3058-3065, 2003.(accepted as is)
4. A. Sood, Analytical Solutions of Series-Parallel Reactions (Part I), Indian Chemical Engineer, 45(4), 229-231, 2003.
5. A. Sood, Analytical Solutions of Series and Parallel Reactions (Part II), Indian Chemical Engineer, 46(1), 7-12, 2004.
6. A. Sood, Particle Size Distribution Control in Emulsion Polymerization, J. Appl. Polym. Sci., 92, 2884-2902, 2004.
7. A. Sood and S. K. Awasthi, A Population Balance Model for Miniemulsion Polymerization, Indian J. Chemical Technol., 11, 367-376, 2004.
8. A. Sood and S. K. Awasthi, Population Balance Model for Miniemulsion Polymerization I. Model Development, Macromol. Theory Simul., 13, 603-614, 2004.
9. A. Sood and S. K. Awasthi, Population Balance Model for Miniemulsion Polymerization II. Model Solution and Validation, Macromol. Theory Simul., 13, 615-628, 2004.
10. A. Sood, Coagulative Stability of the Miniemulsion Droplets, J. Appl. Polym. Sci., 109, 1262-1270, 2008.
11. A. Sood, Modeling of the Particle Size Distribution in Emulsion Polymerization, J. Appl. Polym. Sci., 109, 1403-1419, 2008.
12. A. Sood, Insitu Bimodal or Broad Particle Size Distributions using Miniemulsion Polymerization, J. Appl. Polym. Sci., 114, 49-61, 2009.
13. A. Sood, Increasing PVAc Emulsion Polymerization Productivity-An Industrial Application, Indian J. Chemical Technol., 17, 34-42, 2010.
14. A. Sood and Pankaj Kumar Lodhi, Modeling Evidence in Support of Coagulative Nucleation Theory, J. Appl. Polym. Sci., 122, 517-531, 2011.



15. **A. Sood** and Aparna Singh, A Lumped Model for Butyl Acrylate Emulsion Polymerization, *Indian Chemical Engineer*, 54, 235-244, 2012.
16. **A. Sood**, Ranjana Bharti and Anjali Awasthi, Modelling of Butyl Acrylate Emulsion Polymerisation: A Detailed Lumped Parameter Approach, *Indian Chemical Engineer*, 56, 185-214, 2014.
17. **A. Sood**, Anjali Awasthi and Ranjana Bharti, A Population Balance Model for Butyl Acrylate Emulsion Polymerization, *Indian Chemical Engineer*, 58, 40-60, 2016 [**Awarded IICHE NRC Award 3rd Best Paper in "Indian Chemical Engineer" 2016**].
18. Sandeep Tripathi, Shahida Anjum, **A. Sood**, A Review Paper on Emulsion Polymerization of Vinyl Acetate, *Journal of Chemical Engineering and its Applications*, 2, 1-26, 2017.
19. **A. Sood**, Temperature Dependency of the Radical Entry Rate in Emulsion Polymerization, *Ultra Engineer*, 5, 25-27, 2017.
20. Ankit Srivastava and **A. Sood**, A Particle Size Distribution Model for Butyl Acrylate Emulsion Polymerization: Model Validation, *Ultra Engineer*, 5, 33-39, 2017.
21. Ambereen Aziz Niaze and **A. Sood**, A Model for Butyl Acrylate Emulsion Polymerization, *Journal of Chemical Engineering and its Applications*, 2, 1-10, 2017.
22. **A. Sood**, Modeling Explanation of the Maximum in the Reaction Rate Profile in Interval II of Emulsion Polymerization, *Journal of Chemical Engineering and its Applications*, 2, 1-12, 2017.
23. Virendra Kumar and **A. Sood**, A Model for Vinyl Acetate Emulsion Polymerization, *Journal of Chemical Engineering and its Applications*, 3, 1-12, 2018.
24. **A. Sood**, Radical Entry Mechanisms in Emulsion Polymerization, *Journal of Chemical Engineering and its Applications*, 3, 1-19, 2018.
25. Reena Sharma and **A. Sood**, Modelling of Emulsion Polymerization of Styrene in a Semi-Batch Reactor, *Journal of Chemical Engineering and its Applications*, 3, 1-17, 2018.
26. Tulika Gaur and **A. Sood**, Semibatch Emulsion Polymerisation Modelling: Polybutyl Acrylate Case Study, *Indian Chemical Engineer*, 61, 387-402, 2019 [**Awarded IChE Awards for the Year 2020: Chemical Weekly Award for the Best Paper published in the "Indian Chemical Engineer" in its issue of 2019 along with IChE NRC Award Best Paper in "Indian Chemical Engineer" 2019 and Kuloor Memorial Award for the Best Technical paper published in the Institute Journal "Indian Chemical Engineer" in its issue for 2019**].
27. Sandeep Tripathi, Shalini Prajapati and **A. Sood**, A Detailed Lumped Model for Vinyl Acetate Emulsion Polymerization, *International Journal of Polymer Science and Engineering*, 5(1), 1-12, 2019.
28. Swati Gangwar and **A. Sood**, A Model to Study the Effect of Monomer Flow Rate on Methyl Methacrylate Emulsion Polymerization in a Seeded Semi-Batch Reactor, *International Journal for Research in Applied Sciences & Engineering Technology*, 7, 132-136, 2019.

29. Swati Gangwar and **A. Sood**, A Model to Study the Effect of Homogeneous Nucleation and Emulsifier Amounts on Methyl Methacrylate Emulsion Polymerization in a Seeded Semi-Batch Reactor, *International Journal of Polymer Science and Engineering*, 5(2), 9-17, 2019.
30. Shanjul Shrivastava and **A. Sood**, Secondary Nucleation in Emulsion Polymerization, *International Journal for Research in Applied Science & Engineering Technology*, 8, 1481-1487, 2020.
31. Tulika Gaur and **A. Sood**, Particle Size and Particle Size Distribution of Emulsion Polymers: A Review of Modeling Studies, *Journal of Chemical Engineering Research Updates*, 7, 16-23, 2020.
32. Aishwarya Tiwari and **A. Sood**, Calculations of the Average Number of Radicals per Particle in Emulsion Polymerization, *International Journal for Research in Applied Science & Engineering Technology*, 9, 1056-1059, 2021.
33. Tulika Gaur and **A. Sood**, Modelling of Particle Size Distribution in Butyl Acrylate Emulsion Polymerization in a Batch Reactor, *Indian Chemical Engineer*, 63, 219-230, 2021.
34. **Ashish Kumar Singh**, Vaishali Chauhan and A. Sood, A Review on Methods Available for Doping of High Energy Boron Particles into Liquid Fuels, *Journal of Aerospace Sciences and Technologies*, 73, 106-117, 2021.
35. Sachin Kumar and A. Sood, Parametric Sensitivity Study of a Butyl Acrylate Emulsion Polymerization Model, *International Journal of Innovative Science and Research Technology*, 7, 362-367, 2022.

#### **List of Oral Presentations/Posters/Abstracts Presented in Conferences**

1. **J. Venkatesan**, **A. Sood**, C. Georgakis, C. S. Silebi and M. S. El-Aasser, Monitoring Particle Size Distribution during the course of Emulsion Polymerization, AICHE Annual Meeting, Los Angeles, USA, 1990.
2. **A. Sood** and S. K. Awasthi, Stability Analysis of the Miniemulsion Droplet Size Distribution, Proceedings/Abstracts, CHEMCON 2001, Indian Institute of Chemical Engineers, Chennai, Dec. 19-22, 2001.[ABSTRACT]
3. **A. Sood**, Modeling Particle Nucleation in Emulsion Polymerization: An Approach Based on Comprehensive Nucleation Theory, POLYCON 2002:Recent Developments of Polymers, National Symposium in Polymer Science, HBTI, Kanpur, Aug. 15-17, 2002.
4. **A. Sood**, Model of Viscosity of Bimodal Dispersions for Improved Flow Behaviour, NASYPOLYSCI 2002: National Symposium in Polymer Science, Sardar Patel University, Vallabh Vidya Nagar, Gujarat, Dec. 3-4, 2002.
5. **A. Sood**, Low Viscosity giving Efficient Operating Procedure for Highly Viscous Emulsion Polymerization, NASYPOLYSCI 2002: National Symposium in Polymer Science, Sardar Patel University, Vallabh Vidya Nagar, Gujarat, Dec. 3-4, 2002.
6. **A. Sood** and S. K. Awasthi, Monomer Transport Framework for Miniemulsion Polymerization, CHEMCON 2002, Indian Institute of Chemical Engineers, Hyderabad, Dec. 19-22, 2002.[POSTER].
7. **A. Sood** and S. K. Awasthi, Radical Dynamics Framework for Miniemulsion Polymerization, CHEMCON 2002, Indian Institute of Chemical Engineers, Hyderabad, Dec. 19-22, 2002.[POSTER]

8. **A. Sood** and S. K. Awasthi, Population Balance Framework for Miniemulsion Polymerization, MACRO 2002, IIT Kharagpur, Dec. 7-11, 2002.
9. **A. Sood**, A Study of Settling Behaviour of Suspensions, Separation in Process Industries, National Symposium on Separation Processes, IT BHU, Feb. 14-16, 2003.(**Full Paper Published in Proceeding**)
10. **A. Sood**, Calculation of Column Efficiencies of Multi-Component Distillation Columns, Separation in Process Industries, National Symposium on Separation Processes, IT BHU, Feb. 14-16, 2003.(**Full Paper Published in Proceeding**)
11. **A. Sood** and S. K. Awasthi, Radical Entry in Emulsion and Miniemulsion Polymerization Processes, CHEMCON 2003, Indian Institute of Chemical Engineers, Bhubneshwar, Dec. 19-22, 2003.(**Best Paper of the Session Award**)
12. **A. Sood**, Mechanism and Kinetic Model of Ozone Depletion Reaction, CHEMCON 2003, Indian Institute of Chemical Engineers, Bhubneshwar, Dec. 19-22, 2003.
13. **A. Sood**, Modeling of Particle Size Distribution in Emulsion Polymerization, CHEMCON 2007, Indian Institute of Chemical Engineers, Kolkata, Dec. 27-30, 2007.
14. **A. Sood**, Population Balance Model versus Lumped Model for Emulsion Polymerization, Enabling Technologies for Chemical Process Industries, Indian Institute of Chemical Engineers, Kanpur Regional Centre, Kanpur, Nov. 13-14, 2009.
15. **Pankaj Lodhi** and **A. Sood**, A Lumped Model for Styrene Emulsion Polymerization, SAMAAGAM, A National Technical Seminar on Advances in Lipids, Surfactants, Surface Coatings & Polymer, Student Chapter, Oil Technologists' Association of India (Central Zone) and Deptt. of Oil & Paint Technology, HBTI, Kanpur, April 24-25, 2010.
16. **A. Sood** and **Aparna Singh**, Modeling of Butyl Acrylate Emulsion Polymerization, CHEMCON 2011, Indian Institute of Chemical Engineers, Bangalore, Dec. 28-30, 2011.[POSTER]
17. **Tulika Gaur** and **A. Sood**, Modelling of the Particle Size Distribution in Butyl Acrylate Emulsion Polymerisation, 8<sup>th</sup> International Conference on Advancements in Polymeric Materials (APM 2017), Advanced Research School for Technology and Product Simulation, Central Institute of Plastics Engineering and Technology (CIPET), Chennai, held at Bangalore, Feb. 11-13, 2017.
18. Neha Mishra and **A. Sood**, Modeling of Methyl Methacrylate Emulsion Polymerization in a Semi-batch Reactor, International Conference on Nanotechnology: Ideas, Innovations and Initiatives (ICN:3I 2017), Department of Mechanical and Industrial Engineering and Center of Nanotechnology, IIT Roorkee, Dec. 6-8, 2017 [**INVITED LECTURE**].
19. **Tulika Gaur** and **A. Sood**, Semi-batch Emulsion Polymerisation Modelling: Polybutyl acrylate Case Study, CHEMCON 2017, Indian Institute of Chemical Engineers, Haldia, Dec. 27-30, 2017.

20. Reena Sharma and **A. Sood**, Modelling of Emulsion Polymerization of Styrene in a Semi-batch Reactor, Fourth International Symposium on Advances in Sustainable Polymers (ASP 17), Centre of Excellence for Sustainable Polymers, Department of Chemical Engineering, IIT Guwahti and Polymer Processing Academy, India, Jan. 8-11, 2018.[POSTER]
21. Akanksha Singh Rajput and **A. Sood**, Modeling of Methyl Methacrylate Emulsion Polymerization in a Seeded Semi-batch Reactor, International Conference on Academic Science and Engineering (ICASAE-2019) organized by Institute for Engineering Research and Publication (IFERP), Chennai, June 8, 2019.
22. Swati Gangwar and **A. Sood**, A Detailed Model for Methyl Methacrylate Emulsion Polymerization in a Seeded Semi-batch Reactor, CHEMCON 2019, Indian Institute of Chemical Engineers, NRC, New Delhi, Dec. 15-19, 2019.
23. Anushree Trivedi and **A. Sood**, Study of the Role of Radical Exit in Butyl Acrylate Emulsion Polymerisation, 36<sup>th</sup> National Convention of Chemical Engineers and National Conference on 'Frontier Technologies for 21st Century's Process Industries' hosted virtually by Durgapur Local Centre of the Institution of Engineers (India) during 06-07 March 2021. [**Full Paper published in Proceeding**].
24. Aishwarya Tiwari and **A. Sood**, Calculations of the Average Number of Radicals per Particle in Emulsion Polymerization, Virtual International Conference on Advances in Chemistry and Chemical Engineering (ACCE 2021) organized by Department of Chemical Engineering, Sardar Vallabhbhai National Institute of Technology, Surat (India) on April 16-17, 2021.
25. Ashish Kumar Singh and **A. Sood**, A Study on Doping of High Energy Boron Powder into Liquid Fuel JP-10, 13th International High Energy Materials Conference and Exhibits-2022 organized by High Energy Materials Society of India Chandigarh-Delhi Chapter in association with Terminal Ballistics Research Laboratory, Chandigarh at TBRL Ranges, Ramgarh, Panchkula, Haryana India during May 26-28, 2022.
26. Radhika Tiwari and **A. Sood**, Butyl Acrylate Emulsion Polymerization: A Case for Monomer Mass Transport Limited, International Conference CHEM-TECHNOVA-2024 jointly organized by the Department of Chemical Engineering, Department of Bio-Chemical Engineering, IICHE-Student Chapter; Harcourt Butler Technical University, Kanpur during 21st-23rd March 2024.
27. Isha Singh, Abhishek Pandey and **A. Sood**, Microplastics: A Growing Threat to Our Ocean, Health and Ecosystems, International Conference CHEM-TECHNOVA-2024 jointly organized by the Department of Chemical Engineering, Department of Bio-Chemical Engineering, IICHE-Student Chapter; Harcourt Butler Technical University, Kanpur during 21st-23rd March 2024. [**II Prize in Posters Presentation**].

#### **Awards and Recognitions:**

- Acted as a Session Chair in the international Conference CHEM-TECHNOVA-2024 jointly organized by the Department of Chemical Engineering, Department of Bio-

Chemical Engineering, IICHE-Student Chapter; Harcourt Butler Technical University, Kanpur during 21st-23rd March 2024.

- Nominated as an Expert by the Hon'ble Vice Chancellor of AKTU, Lucknow for conducting interviews for recruitment/engagement of Contractual Faculty Members in the Department of Chemical Engineering, Institute of Engineering & Technology, Lucknow on 26 August, 2023.

- Enrolled as Fellow (Membership No: F-1297860) of the Institution of Engineers (India) on 7 June, 2023.

- Served as a Panelist for Online Prime Minister's Research Fellow (PMRF) Review for a Ph. D. Scholar at IISc Bangalore on June 1, 2023.

- Acted as Session Chair in CHEMCON-2022 held during 27-30 December, 2022 organized by Harcourt Butler Technical University, Kanpur.

- Received Certificate of Appreciation and acknowledgement that I served as **Session Chair** in International Chemical Engineering Conference 2021(100 Glorious Years of Chemical Engineering & Technology) organized by Department of Chemical Engineering, Dr. B. R. Ambedkar National Institute of Technology, Jalandhar during September 16-19, 2021.

-Awarded IChE Awards for the Year 2020 for the best paper for the year 2019 entitled :

- **Chemical Weekly Award** for the **Best Paper** published in the "Indian Chemical Engineer" in its issue of 2019

- **IChE NRC Award Best Paper** in "Indian Chemical Engineer" 2019

- **Kuloor Memorial Award for the Best Technical paper** published in the Institute Journal "Indian Chemical Engineer" in its issue of 2019.

-Biography was selected for inclusion in **Who's Who in the World, 2021** which is comprised of the **top 3%** of the professionals in the world. Reservation in the Marquis's network is honored to individuals who have demonstrated **leadership, excellence and longevity within their respective industries and professions.**

-Awarded **wall of fame certificate of recognition** by the academic council of uLektz as one of the **top 50 expert faculties** in the field of Chemical/Bio Medical/Marine/Petroleum and Textile Engineering across India for the year 2019 on 31 October 2020.

-Biography was selected for inclusion in **Who's Who in the World, 2020** which is comprised of the **top 3%** of the professionals in the world. Reservation in the Marquis's network is **honored to individuals** who have demonstrated **leadership, excellence and longevity** within their respective industries and professions.

- Awarded the **Life Team Achievement Award** in the 1st International Scientist Awards on Engineering, Science and Medicine, held on 27 July 2019, Bangalore, India, Organized by VDGGOOD Professional Association.

- Served as **organizing committee member** of International Conference on Academic Science and Engineering (ICASAE) 2019 on 8th June 2019 at Lucknow organized by Institute for Engineering Research and Publication (IFERP), Chennai.

-Biography was selected for inclusion in **Who's Who in the World, 2019** which is comprised of the **top 3%** of the professionals in the world. Reservation in the Marquis's network is **honored to individuals** who have demonstrated **leadership, excellence and longevity** within their respective industries and professions.

-Delivered an **expert lecture** in the one day workshop entitled "**Modeling and Simulation in Chemical Engineering and Allied Fields**" on 27th October 2018 in the Department of Chemical Engineering, **Aligarh Muslim University**, Aligarh.

-**Editorial Board Member**, Journal of Energy, Environmental & Chemical Engineering, Science Publishing Group, New York, USA from 2018-20.

-Awarded the **Life Time Achievement Award** in the 88th International Research Awards on Engineering, Science & Management held on 21 & 22 Sep.2018 at Kolkata, India Organized by International Organization of Scientific Research and Development (IOSRD).

-Selected for the **2018 Albert Nelson Marquis Life Time Achievement Award**. I have been selected to receive this prestigious award as a result of my **hard work and dedication to my profession**.

-Biography was selected for inclusion in **Who's Who in the World, 2018** which is comprised of **the top 3%** of the professionals in the world. Reservation in the Marquis's network is honored to individuals who have **demonstrated leadership, excellence and longevity** within their respective industries and professions.

-Delivered an **invited lecture** on the topic "**Modeling of Methyl Methacrylate Emulsion Polymerization in a Semi-batch Reactor**" and **co-chaired a technical session on Computational Nanotechnology** in International Conference on Nanotechnology: Ideas, Innovations and Initiatives 2017 at IIT Roorkee, 6-8 December 2017.

-Awarded **IICHE NRC Award 3rd Best Paper** in "Indian Chemical Engineer" 2016 for the paper "**A Population Balance Model for Butyl Acrylate Emulsion Polymerization**, Indian Chemical Engineer, 58, 40-60, 2016". The award was given in CHEMCON 2017, Indian Institute of Chemical Engineers, Haldia, Dec. 27-30, 2017 and carried a cash award of Rs. 1000.

-Received "**Bharat Vikas Award**" on 19th November, **2017** at Bhubneshwar, India for **my loyalty, diligence and outstanding performance in the field of emulsion polymerization** processes. The award was given by Institute of Self Reliance, Bhubaneswar.

-Received "**The Best Citizens of India Award 2017**" for **academic and professional contributions**. The award was given by International Publishing House, New Delhi.

-Received "**Bharat Jyoti Award**" on 25<sup>th</sup> March, 2017 for **meritorious services, outstanding performance and remarkable role by Shri Shiv Raj V Patil, former speaker of Lok Sabha**. The award is given by India International Friendship Society, New Delhi.

-**Editorial Board Member, Chemical and Biomolecular Engineering, Science Publishing Group**, New York, USA in 2016-17, 2017-18..

-Listed in **XII edition of Marquis's Who's Who in Science and Engineering, 2016-2017**. Who's Who in Science and Engineering is the source for current biographical information that documents the **latest achievements of leaders** in such fields as aerospace, genetics, and environmental engineering, and from over 100 nations. The 2016-2017 Edition chronicles the lives of these distinguished individuals for reference audience. Many businesses, libraries, and universities had requested copies of this edition.

-Listed in **XI edition of Marquis's Who's Who in Science and Engineering, 2011-2012.**

-**Nomination Endorsed** by the Governing Board of Editors for **Great Minds of 21<sup>st</sup> Century, American Biographical Institute, Inc.**, Raleigh, North Carolina, USA (entries limited to 1,000 individuals from around the globe), 2011.

-**Nominated for the membership of the American Chemical Society, 2009-2010.**

-Invited to Deliver an **Invited Lecture** in Second International Conference on Polymer Processing and Characterization, Kottayam Kerala, India, January 15-17, 2009.

-Nominated as the **International Scientist of the Year** by **International Biographical Centre at Cambridge**, England for 2008.

-Invited to Deliver a **Plenary Lecture as an Expert in Multiphase Polymer Systems in Second International Conference on Polymer Blends, Composites, IPNs, Membranes, Poly Electrolytes and Gels: Macro to Nano Scales**, at Mahatma Gandhi University, Kottayam, Kerala, India, Sept. 22-24, 2008.

- **Chaired three sessions on: 1. Chemical Reaction Engineering, 2. Food Technology, 3. Green Technology** in CHEMCON 2007.

- Listed in **X Edition Anniversary Special of Marquis's Who's Who in Science and Engineering, 2007.**

- Received **Best Paper of the Session Award** for the paper **A. Sood** and S. K. Awasthi, Radical Entry in Emulsion and Miniemulsion Polymerization Processes in CHEMCON 2003, Indian Institute of Chemical Engineers, Bhubneshwar, Dec. 19-22, **2003.**

-Received Research Assistantships, Lehigh University, U.S.A. and Clarkson University, U. S. A., 1988.

- Secured II Position in G.A.T.E. 1988 (Percentile: 99.77).

- Selected in IIT Kanpur, (JEE Rank: AIR 847). Also cleared Roorkee (Rank:189), MNREC (Rank: 432) and ISM Dhanbad (Rank: 62) engineering entrance exams in 1984.

- Got Merit Certificate for securing high position in A. I. S. S. E.(Class X) under National Merit Scheme, 1982.

- Secured I Position in Class (K.G.II to Class XI).

- Secured II Position in Class (K.G. I & Class XII).

#### **Member of Professional Bodies:**

- Fellow (F-1297860), Institution of Engineers, India from 7 June, 2023
- Life Member (M-1430313), Institution of Engineers, India from 2011 to 2023.
- Life Member (LM 22415), Indian Institute of Chemical Engineers since 2001-2002
- Nominated for the membership of American Chemical Society, 2009-2010
- Life Member, Leaders' Club, Institute of Self Reliance, Bhubneshwar, Orissa since 2017.
- Member for 5 years, VDGGOOD Professional Association since 2019.

#### **Peer Reviewer for:**

1. Polymer International.
2. Colloid & Polymer Science (Received a letter of appreciation from the editor of Colloid & Polymer Science for a thoughtful review).
3. Iranian Polymer Journal (reviewed 2 different manuscripts).
4. Macromolecular Theory and Simulation.
5. Polymer Bulletin.

6. Advances in Polymer Technology.
7. Polymer (reviewed 5 different manuscripts).
8. Journal of Applied Polymer Science (reviewed 3 different manuscripts).
9. Journal of Chemical, Environmental and Biological Engineering (reviewed 2 different manuscripts).
10. Journal of Chemistry.
11. Bioprocess Engineering.
12. Ultra Engineer.
13. Chemical Engineering Science (reviewed three different manuscripts).
14. Colloids and Surfaces A: Physicochemical and Engineering Aspects.
15. Journal of the Institution of Engineers (India): Series E (Reviewed 2 different manuscripts).
16. Materials Proceeding
17. Chemical Engineering Communications.
  - Peer reviewed 28 different manuscripts since 2008 till date.

**Consultancy Assignments Conducted:**

- Conducted Consultancy for Bajrang Petrochemicals Limited, Kanpur worth Rs. 29500/- in 2018.

**Training Courses, Teaching-Learning-Evaluation Technology Programmes and Faculty Development Programmes (Not less than one week duration) participated or organized**

S.No.	Programme	Duration	Organized by
1,	Intellectual Property Rights and Patent Information	27/9/2004-1/10/2004	Applied Science Department, National Institute of Technical Teachers' Training and Research, Ministry of Human Resource Development, Government of India, Chandigarh at H. B. T. I. Kanpur
2.	Newer Optimization Techniques for Chemical Engineering Applications	June 09-14, 2008	Department of Science and Technology, New Delhi at IIT Kanpur
3.	Modern Analytical Techniques for Research and Industry	Nov. 10-14, 2008	Deptt. Of Chemistry and



			Deptt. of Chemical Engg., HBTI Kanpur
4.	Advances in Bioprocess and Food Processing Technologies	Feb. 09-15, 2009	Deptt. Of Biochemical Engg. And Food Technology, HBTI Kanpur
5.	Modeling and Simulation of Chemical Processes	Feb. 24-28, 2009	Deptt. of Chemical Engg., HBTI Kanpur
6.	Software Applications in Chemical Engineering. And Technology	March 25-29, 2009	Deptt. of Chemical Engg., HBTI Kanpur
7.	Essentials of Teaching Learning Process	18-23 March, 2013	Deptt. of Humanities, HBTI Kanpur
8..	Summer Training Program on Active Learning for Senior Faculty	11-15 June, 2018	Knowledge Incubation for TEQIP, IIT Kanpur
9.	Recent Advances in Chemical Engineering	23-27 July, 2018	Dept. of Chemical Engg., School of Chemical Technology, HBTU Kanpur
10.	FDP on Mathematical Modeling & Research Methodology	08-12 October, 2018	Department of Mathematics, HBTU Kanpur
12.	FDP on Methods and Techniques for Enhanced Teaching and Learning in Technical Education	15-20 October, 2018	Department of Chemical Engineering, HBTU Kanpur
13.	FDP on Challenges and Recent Trends in Mathematical Modelling and Scientific Computing	18-22 December, 2023	Department of Mathematics, School of Basic and Applied Sciences, HBTU Kanpur

**Training Courses, Teaching-Learning-Evaluation Technology Programmes and Faculty Development Programmes (less than one week duration) participated or organized**

1.	Advances in Oil Processing	28-29, 2013	Department of Oil and Paint Technology, HBTI Kanpur
2.	State Level Faculty	8-9 June, 2015	Department of Technical

	Interaction Seminar		Education, Government of Uttar Pradesh, Sponsored by World Bank TEQIP-II, Organized at HBTI Kanpur
3.	Chemical Engineering Curriculum Review	10-11 June, 2015	Chemical Engineering Department, HBTI Kanpur
4.	Occupational Health and Safety Management Practices	03-05 October, 2016	Engineering Staff College of India, An Autonomous Organ of the Institution of Engineers (India) in Collaboration with HBTU Kanpur
5.	Energy Conservation and Energy Audit in Academic Institutions	07-09 March 2017	Chemical Engineering Department, HBTU Kanpur in Collaboration with Engineering Staff College, The Institution of Engineers (India), TEQIP II Sponsored Workshop
6.	Outcome Based Accreditation for Under Graduate Engineering Programs	22-23 March, 2018	HBTU Kanpur and Uttar Pradesh Textile Technology Institute Kanpur
7.	Emerging Trends in Engineering Science and Management	21-22 September, 2018	International Organization of Scientific Research and Development, Kolkata
8.	Advances in Water Purification and Waste Water Treatment	18-19 November, 2022	Chemical Engineering Department, HBTU Kanpur, Indian Desalination Association and Indian Institute of Chemical Engineers, Kanpur Regional Centre
9.	Recent Advances in Water Purification and Waste Treatment	29-30 November, 2023	Chemical Engineering Department and Bio-Chemical Engineering Department, HBTU Kanpur & Indian Desalination Association
10..	Intellectual Property Rights	05-06 December 2023	MSME, ASSOCHAM

Date: April 03, 2024

(Dr. Ashwini Sood)