

Curriculum Vitae

Personal Profile

Sanjay Kumar Singh

Assistant Professor

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Areas of Interest

Process Development, Optimization, Green Surfactants, Machine Learning, Process Refining of Edible Oils.

Academic Qualifications

Examination	Year	Institute	Board / Univ.	Percentage/CGPA
M. Tech (Chemical Engg.)	2017	IIT, Bombay	IIT, Bombay	9.64/10
B. Tech Chemical Technology (Oil Technology)	2015	HBTI, Kanpur	Dr. A.P.J. Abdul Kalam Technical University, Lucknow	83.20

1. Secured 10/10 CGPA in project as well as third and fourth semesters of M. Tech.
2. Secured **first position** in the department of "Oil and Paint Technology" in B. Tech.

Work Experience

1. Working as **Assistant Professor**, Oil Technology in the Department of Oil Technology, H.B.T.U., Kanpur from October 12, 2023 to till date.
2. Worked as **Junior Technical Officer (Gazetted)** at Directorate of Sugar & Vegetable Oils, Department of Food and Public distribution, Ministry of Consumer Affairs, Government of India, New Delhi from 12th July 2022 to 11th October 2023.
3. Worked as **Deputy General Manager (Operations)** at M/s B.L. Agro Industries Ltd., Bareilly, UP from 1st April 2019 to 29th June 2019.
4. Worked as **Manager Technical** at M/s B.L. Agro Industries Ltd., Bareilly, UP from 5th July 2017 to 31st March 2019.

Awards and Fellowship

1. Recipient of 2nd prize in research paper presentation on “**Challenges in Quality Control of 3-MCPDE and Glycidyl Esters (GEs) in Edible Oil Processing**” in International Conference on “Application of Oils and Fats in FMCG Sector” during March 15-16, 2024 at NASC, Pusa Campus, New Delhi.
2. Recipient of **first prize** in poster presentation on “Study on Frying Stability of the Blends of Soybean and Palmolein Oils” in international conference organized by OTAI-FSSAI in 2017 as RLRC, Pvt. Ltd. team member presented the poster.
3. Awarded “**Tata Center for Technology and Design (TCTD) Fellowship**” with another 16 students in the entire institute in M. Tech program at IIT Bombay.
4. Awarded “**Silver Medal**” at HBTI Kanpur.
5. Awarded “**Dr. K. T. Achaya Memorial Medal**” by Oil Technologists' Association of India, in 2015.
6. Recipient of “**Dinesh Shahra Merit Award**” with cash prizes in 1st, 2nd and 3rd year of B. Tech.
7. Received “Akikrit Scholarship” for two years during high school.

Member(s) and Editor(s)

1. Alternative member of Bureau of Indian Standards of CHD 25, CHD 25:1 & CHD 25:2.

2. Life Membership of Oil Technologists' Association of India (OTAI)
3. Member of **Industry Consultancy Committee, AKTU, Lucknow** for designing of syllabus of Chemical Engineering and Food Technology from 2017 to till date.
4. Worked as Assistant Editor, Journal of lipid Science and Technology during 2017-2019.

Research Papers and Book Chapter

1. **Research Paper 1:** Patel, S., Singh, S. K., & Singh, R. P. (2015). Microwave heating stability of multi oil blends of rice bran oil and linseed oil with other oils. *Journal of Lipid Science & Technology (JLST)*, vol. 47, page no. 18-22.
2. **Research Paper 2: Prachi Srivastava**, Surabhi Gupta, Sanjay Kumar Singh and R. P. Singh (2017). Study on Frying Stability of the Blends of Soybean and Palmolein Oils. *Journal of Lipid Science & Technology (JLST)*, vol. 49 No. 3, page no. 73-80.
3. **Book Chapter:** Proceedings of UGC Sponsored Refresher Course on FOOD SAFETY AND PUBLIC HEALTH, Chapter: 22. Innovative Practices in Vegetable Oil Processing, Publisher: Arvind Prakashan, 15/131, Shoro Katra, Sahaganj, Agra, Editors: Dr. Neelam Yadav, pp. 121-140.

International Research Experience

Visited Massachusetts Institute of Technology, Cambridge, USA under the MIT-IITB research programs and methods, to understand their research techniques and approach of research there and also presented a talk on “*Pyrolysis of Plastic for Fuel Production*”.

Projects Completed/ Undertaken

M. Tech Thesis / Prof. Yogendra Shastri & Prof. Srinivas Seethamraju [May'2016-June'2017]

Topic: Conversion of plastic into fuel oil through pyrolysis | Recycling & Waste Management

Brief: Development of an indigenous process to convert mixed plastic (predominantly PE, PP and PS) waste into fuel oil through pyrolysis by using suitable catalysts with the

aim of improving the accessibility of this technology.

Some other Important Projects during M. Tech

1. Developed a prototype of an ecofriendly electrically driven bicycle, which can run at a speed of 20-25km/hr costing approximately Rs.18000-20000
2. Calculated the optimum number of heat exchanger in HEN using minimum utility target and Pinch Technology method with MILP formulation in GAMS.
3. Simulated a Cyclohexane Plant using Aspen Plus simulator for production cyclohexane from dehydrogenation of cyclohexane plant.
4. Optimized drying conditions by solving a set of non-linear ODEs using finite element method and MATLAB programming.

B. Tech Projects

1. **Up-gradation of Rice Bran Wax (RBW) | By-product Utilization | Prof. R. K. Trivedi**
[Jan'15-May'15]
2. **Production of Alternative Fuels | Energy | Prof. P. K. S. Yadav**

Industrial Trainings

1. Worked as Intern at M/s Marico Ltd., Jalgoan, Maharashtra from June 2014 to July 2014.
2. Worked as Intern at M/ Farelabs Pvt. Ltd., Gurgram, Haryana from June 2013 to July 2013.

Technical Session Chairman/ Co-Chairman

1. Co-Chairman for Technical Research Poster Presentation in International Conference – CHEM-TECHNOVA 2024 during 21-23 March 2024 at HBTU Kanpur.
2. Co- Chairman for the session on Use of Speciality Oils and Fats, Confectionary, Nutraceuticals, and Marine Products in International Conference on “Application of Oils and Fats in FMCG Sector” during March 15-16, 2024 at NASC, Pusa Campus, New Delhi.

FDPs/Trainings/Workshops attended and Lecture(s) delivered

1. Attended one week FDP on “Advanced materials Characterization Techniques” organized by Department of Plastic Technology, School of chemical Technology, HBTU, Kanpur during 20-24 May, 2024.
2. Attended one week FDP on “Advanced Pedagogical Learning and University Administration” organized by Human Resource Development (HRD) Cell, HBTU, Kanpur during 27th May to 1st June 2024.
3. Participated in one week training program on Cosmetic Product formulations organized by Department of Oil Technology during 3rd June to 7th June 2024.
4. Delivered a lecture on formulations of cold creams and vanishing creams organized in one week training program on Cosmetic Product formulations by Department of Oil Technology during 3rd June to 7th June 2024.
5. Prepared and published a “Manual on Formulation of Cosmetic Products” along with Dr. Neeraj P. Awasthi during one week training program on Cosmetic Product formulations by Department of Oil Technology during 3rd June to 7th June 2024.

Seminar / Conferences / Training programmes/Software skills

1. Attended two training of ISO 17025:2005 and ISO 17025:2017 | 2017 and 2018, respectively.
2. Software Skills- Aspen Plus, HYSYS, MATLAB, GAMS, AutoCAD P & ID, Edraw and COMSOL.
3. Participated in “2nd International Workshop on Micronutrient and Child Health (MCHWS-2014)” organized by by AIIMS in New Delhi to update the participants about advancement in Micronutrients and Child Health on 3rd November, 2014.
4. Participate in “National workshop on Advances in Soaps & Detergents” at HBTI-Kanpur from 27 – 28 March, 2014.
5. Participated in “National Workshop on Advances in Vegetable Oil Processing” at HBTI-Kanpur during September 28-29, 2013.
6. Delivered power point presentations on "Bleaching Process in vegetable Oil

Processing", and "Role of Pumps in Vegetable Oils processing" at HBTI, Kanpur.

Academic and Other Departmental Responsibilities

1. In-charge, Industrial Tour of the department.
2. Nodal Officer of the Department for all documentation related matters.
3. In-charge of Departmental Library, Advanced Surfactant Laboratory and Knowledge Resource Centre
4. Faculty Advisor to 3rd year B. Tech students
5. Project In-charge of Final Year projects of the Department.

Hands on Analytical Equipment

Refractometer, Gas Chromatography, UV-Spectrophotometer, Gas Chromatography-Mass Spectrophotometry (GC-MS), Karl Fisher, Rancimat for oxidative stability, HPLC, Inductively coupled plasma mass spectrometry (ICP-MS), etc.

Social Work

Attended 11-day camp organized by **NIRMAAN (NGO)** Gadchiroli, Maharashtra to understand the people's life and income status in naxalite affected areas and performed a **field survey** to study the feasibility of a small scale pyrolysis plant to provide some forms of fuel for their household application.

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