Curriculum Vitae

Dr. Kalpana Chauhan
Associate Professor
Department of Chemistry (SoE&T)
Central University of Haryana
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Haryana, India
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ACADEMIC AND PROFESSIONAL EXPERIENCE: TEN AND A HALF YEARS

- Central University of Haryana, Mahendergarh, Haryana (India), Associate Professor in Department of Chemistry (SoE&T), Sep. 2018-Present
- Shoolini University, Solan (India), Associate Professor in School of Chemistry, Mar. 2015-Sep. 2018
- Shoolini University, Solan (India), Assistant Professor in School of Chemistry, Dec. 2009-Mar. 2015
- Dolphin (PG) College, Chandigarh (India), Lecturer in Chemistry, Jul. 2008-Nov. 2009
- UGC Project Fellow, HPU Shimla, India, Jan. 2005-Dec. 2007
- Ph.D. in Organic Chemistry (Bio-polymeric Materials), HPU Shimla, India, 2004-2008

RESEARCH GUIDANCE

- PhD Student Guidance: awarded - 06
- M. Phil. Dissertation Guidance: awarded - 12
- Guided More than 25 students for M.Sc. Projects

RESEARCH PROJECTS

- **BRNS Project** entitled Chitosan-thiomer, sulphide and sulphonium salt particulates in arsenic Detoxification with total grant of Rs. 23.21 Lakhs, 3 years (2013-2017)
- **SCST&E Project** entitled Design and application of new green adsorbents-cum-sensor for water application from industrial area of Himachal Pradesh with total grant of Rs 6.0 Lakhs, 2 years (2016-2018)

PATENTS

- **Kalpana Chauhan**, Bhawana Kumari, Novel Benzathiazole Derivatives with Enhanced Biological Activity, Patent Filing Number: 2484/Del/2015
- Amit Seth, Poonam Singh, Ansu Kumari, **Kalpana Chauhan**, Chandrika Attri, Improved Bio-Process For Synthesis of Lactamide, Patent Filing Number: 201711043219

HONORS AND AWARDS

- Travel Award in EUPOC 2018 at Como, Italy
- Summer Research fellowships-2014 from Science Academies'
- Ms. Lucid Colloids Limited Award - 2007
- Earned several positions holding certificates in academic and research

PUBLICATIONS

Total number of publications	: 26
As corresponding authors	: 16
Book chapter	: 01
Total citations	: 286
h-index	: 10

OVERVIEW OF PUBLICATIONS

Journal	Impact Factor	Number
ACS Applied Materials & Interfaces	8.097	1
Water Research	7.621	1
Chemical Engineering Journal	6.735	1
Desalination	6.603	1
Bioresource Technology	5.807	2
Carbohydrate Polymers	5.158	1
New Journal of Chemistry	3.201	2
ACS Industrial and Engineering Chemistry Research	3.141	3
RSC Advances	2.936	3
RSC Analytical Methods	2.073	1
International Journal of Biological Macromolecules	3.909	4
ChemistrySelect	1.505	1
Separation Science and Technology	1.200	1
Journal of Applied Polymer Science	1.900	1
Trends in Carbohydrate Research	0.500	2

List of Publications

1. Bhawana Kumari, **Kalpana Chauhan**, Jalpa Trivedi, Varun Jaiswal, Shamsher S. Kanwar, and Yuba Raj Pokharel, Benzothiazole-Based-Bioconjugates with Improved Antimicrobial, Anticancer and Antioxidant Potential, **ChemistrySelect**, 3, 11326-11332 (2018).
2. Prem Singh, Sumit Sharma, **Kalpana Chauhan**, and Rakesh Kumar Singhal, Fabrication of Economical Thiol-Tethered Bifunctional Iron Composite as Potential Commercial Applicant for Arsenic Sorption Application, **ACS Industrial and Engineering Chemistry Research**, 57(39), 12959–12972 (2018).
3. Bhagat Ram, Ghanshyam S.Chauhan, Akshita Mehta, Reena Gupta and **Kalpana Chauhan** Spherical nanocellulose-based highly efficient and rapid multifunctional naked-eye Cr(VI) ion chemosensor and adsorbent with mild antimicrobial properties, **Chemical Engineering Journal**, 10.1016/j.cej.2018.05.085.
4. Divya Gautam, Sapana Kumari, Bhagat Ram, Ghanshyam S. Chauhan and **Kalpana Chauhan** A new hemicellulose-based adsorbent for malachite green, **Journal of Environmental Chemical Engineering**, 6, 3889–3897 (2018).
5. Kanchan Bala, Jagadeesh Suriyaprakash, Prem Singh, **Kalpana Chauhan**, Alberto Villa and Neeraj Gupta, Copper and Cobalt nanoparticles embedded in naturally derived graphite electrode for sensing of neurotransmitter Epinephrine, **New Journal of Chemistry**, 42, 6604-6608 (2018).
6. Rahul Sharma, Prem Singh, Rohini Dharela, Ghanshyam Singh Chauhan and **Kalpana Chauhan**, Thiourea functionalized β-cyclodextrin as green reducing and stabilizing agent for silver nanocomposites with enhanced antimicrobial and antioxidant properties, **New Journal of Chemistry,** 41, 12645—12654 (2017).
7. **Kalpana Chauhan**, Prem Singh, Bhawana Kumari and Rakesh Kumar Singhal, Synthesis of new benzothiazole Schiff base as selective and sensitive colorimetric sensor for arsenic on-site detection at ppb level, **RSC Analytical Methods,** 9, 1779-1785 (2017).
8. Jyoti, K. Bhatia, **K. Chauhan**, C. Attri and A. Seth, Improving stability and reusability of Rhodococcus pyridinivorans NIT-36 nitrilase by whole cell immobilization using chitosan, **International Journal of Biological Macromolecules,** 103, 8–15 (2017).
9. Tanisha Modgil, Prem Singh and **Kalpana Chauhan,** Algae Star Polymers with Poly(γ-amino acid) as Arms for Phosphate Scale Inhibition, **Trends in Carbohydrate Research,** 9, 52-63 (2017).
10. **Kalpana Chauhan**, Rahul Sharma, Rohini Dharela, Ghanshyam Singh Chauhan and Rakesh Kumar Singhal Chitosan-thiomer stabilized silver nanocomposites for antimicrobial and antioxidant applications, **RSC Advances**, 6, 75453–75464 (2016).
11. Prem Singh, **Kalpana Chauhan**, Vishal Priya and Rakesh Kumar Singhal, Greener approach for impressive removal of As(III)/As(V) from ultra-low concentration using highly efficient chitosan thiomer as a new adsorbent, **RSC Advances,** 6, 64946-64961 (2016).

12. **Kalpana Chauhan,** Jasvinder Kaur, Prem Singh, Poonam Sharma, Praveen Sharma and Ghanshyam S. Chauhan, An Efficient and Regenerable Quaternary Starch for Removal of Nitrate from Aqueous Solutions **ACS Industrial and Engineering Chemistry Research,** 55(9), 2507-2519 (2016).
13. **Kalpana Chauhan**, Prem Singh, Rakesh K Singhal, New chitosan-thiomer: an efficient colorimetric sensor and effective sorbent for mercury at ultra-low concentration, **ACS Applied Materials & Interfaces**, 7(47), 26069-26078 (2015).
14. **Kalpana Chauhan**, Vishal Priya, Prem Singh, Ghanshyam S. Chauhan, Sapana Kumari and Rakesh Kumar Singhal, A green and highly efficient sulfur functionalization of starch, **RSC Advances**, 5, 51762- 51772 (2015).
15. **Kalpana Chauhan**, Jasvinder Kaur, Ankita Kumari, Anita Kumari and G.S. Chauhan Efficient method of starch functionalization to bis-quaternary structure unit, **International Journal of Biological Macromolecules**, 80, 498–505 (2015).
16. **Kalpana Chauhan**, Priyanka Patiyal, Ghanshyam S Chauhan and Praveen Sharma, Bio-inspired star-shaped polymers of alga core in inhibition and dissolution of silicate. **Water Research**, 56, 225–233 (2014).
17. Medha Rana, Amita Kumari, Ghanshyam S. Chauhan and **Kalpana Chauhan**, Modified chitosan microspheres in non-aggregated amylase immobilization, **International Journal of Biological Macromolecules**, 66, 46–51 (2014).
18. Shitika Sharma, Jaswinder Kaur, Garav Sharma, Kamal Kishor Thakur, Ghanshyam S. Chauhan and **Kalpana Chauhan**, Preparation and characterization of pH-responsive guar gum microspheres, **International Journal of Biological Macromolecules**, 62, 636– 641 (2013).
19. **Kalpana Chauhan**, Rajeev Kumar, Muneesh Kumar, Parveen Sharma and Ghanshyam S Chauhan. Modified pectin based polymers as green antiscalants for calcium sulphate scale inhibition. **Desalination**, 305, 31–37 (2012).
20. **Kalpana Chauhan**, Ghanshyam S. Chauhan. Polycarboxylated biopolymers as stimuli sensitive carriers for insulin drug delivery. **Trends in Carbohydrate Research**, 3(4), 33-41 (2011).
21. **Kalpana Chauhan**, Ghanshyam S. Chauhan, Separation of Uranyl Ions on Starch-Based Functional Hydrogels: Mechanism and Kinetics. **Separation Science and Technology**, 46, 172–178 (2011).
22. **Kalpana Chauhan**, Ghanshyam S. Chauhan and J.-H. Ahn. Novel polycarboxylated starch based sorbents for Cu^{2+} ions. **ACS Industrial and Engineering Chemistry Research**, 49, 2548–2556 (2010).
23. **Kalpana Chauhan**, Ghanshyam S. Chauhan and J.-H. Ahn. Synthesis and characterization of novel guar gum hydrogels and their use as Cu^{2+} sorbents. **Bioresource Technology**, 100, 3599-3603 (2009).
24. Ravi Kumar, Amit Kumar, **Kalpana Chauhan**, Reena Gupta, J.-H. Ahn and Ghanshyam S. Chauhan. Removal of As(V) from water by pectin based active hydrogels following geochemical approach. **Bioresource Technology**, 100, 1474–1477 (2009).
25. Ghanshyam S. Chauhan, **Kalpana Chauhan**, Sandeep Chauhan, Sunil Kumar and Anita Kumari. A study of adsorption of Cr^{6+} on functionalized total pine needles based hydrogels. **Carbohydrate Polymers**, 70, 415-421 (2007).
26. Ghanshyam S. Chauhan, Sandeep Chauhan, **Kalpana Chauhan** and Usha Sen. Synthesis and characterization of acrylamide and 2-hydroxylpropylmethacrylate hydrogels for specialty applications. **Journal of Applied Polymer Science**, 99, 3040-3049 (2006).

BOOK CHAPTER

1. **Kalpana Chauhan**, Poonam Sharma and Ghanshyam S. Chauhan, Removal/ Dissolution of Mineral Scale Deposits, Elsevier book entitled Mineral Scales and Deposits edited by Kostas Demadis and Z Amjad, 2015.

MEMBERSHIP

- Member - Indian Society of Analytical Scientists, India
- Member -Association of Environmental Analytical Chemistry of India, India
- Member-Association of Carbohydrate Chemists & Technologists (India), ACCT(I), India

CONFERENCE/SYMPOSIA

1. Bioinspired thiol-tethered polymer for water application, Kalpana Chauhan, Prem Singh And Kshipra Sen, EUPOC 2018 “Biomimetic Polymers by Rational Design, Imprinting and Conjugation” May 20-24 2018 at Como, Italy.
2. Polysaccharide-Based Materials for Water Applications, Kalpana Chauahn**,** CARBO-XXXII "Emerging Chemistry and Biology of Carbohydrates" (ECBC-2017) December 18-20, 2017 at Indian Institute of Technology Kharagpur, West Bengal.
3. Thiol tethered iron nano-composite for arsenic sorption application: An approach towards commercialization**,** Kalpana Chauhan and Prem Singh, International and Interdisciplinary Conference on Nanoscience and Nanotechnology - "NanoSciTech 2017", centred on the theme, “Expanding Horizons of Nanotechnology: Next Gen Challenges in Biomedical Sciences**,** November 9-10, 2017 at PU Chandigarh.
4. Starch Schiff Base as Colorimetric Sensor for Fluoride In-field Detection**,** Kshipra Sen, Prem Singh and Kalpana Chauhan, Himachal Pradesh Science Congress on Science and Technology for Sustainable Livelihood in Indian Himalayan Region held organized by Himachal Pradesh Council for Science, Technology & Environment (HIMCOSTE) on November 7th-9th, 2017 at hotel Peterhoff, Shimla
5. Benzothiazole based conjugates as new anti-microbial and anti-cancerous agents, Kalpana Chauhan and Bhawana Kumari, World Congress on Drug Discovery & Development, November 23-25, 2016 at Indian Institute of Science, Bengaluru, India.
6. Synthesis of benzothiazole based glucosamine conjugates as potential anti-microbial and anti-cancerous agents, Kalpana Chauhan and Bhawana Kumari, CARBO-XXXI an International Conference on New Frontiers in Carbohydrate Chemistry and Biology, November 14–16, 2016 at University of Delhi, India.
7. Greener and innovative method for sulfur functionalization of polysaccharide, Kalpana Chauhan, Prem Singh, Vishal Priya and Rakesh Kumar Singhal, CARBO XXX for the theme “Carbohydrates: Chemistry, Biology & Applications as Green Building-Blocks for Bulk Chemicals, Fuels and Advanced Materials” December 29-31, 2015 at Pondicherry University, Pondicherry.
8. Synthesis and Characterization of Novel Sulfur-Functionalized biopolymer, Kalpana Chauhan, Prem Singh, Rahul Sharma and Rakesh Kumar Singhal, APA-2015 conference on Advancements in Polymer Science & Technology, October 29-31,2015 at Saurashtra University, Rajkot, India
9. Quaternary Starch: An efficient and green adsorbent for the removal of nitrate from aqueous system, Kalpana Chauhan, Jasvinder Kaur and Ghanshyam S Chauhan, First DAE-BRNS Symposium on Current Trends in Analytical Chemistry CTAC – 2015, May 26-29, 2015 at BARC, Mumbai, India.
10. Functionalized Biopolymer: Fascinating Sustainable Material of Future Prospective, Kalpana Chauhan, Prem Singh, Vishal Priya and R.K. Singhal, CARBO –XXIX conference on ChemBio Innovations for Bioproducts Carbohydrate Conference, December 29-31, 2014 in Center of Innovative & Applied Bioprocessing (CIAB), Mohali and IISER, Mohali, India.
11. Functionalized Biopolymer in Potential Applications, Kalpana Chauhan, Tanisha, Medha Rana and Ghanshyam S. Chauhan, International Conference on Polymeric Biomaterials, Bioengineering & Biodiagnostics Biomaterials 2014, October 27-30, 2014 at Radisson Blu Hotel, Dwarka, New Delhi, India.
12. Synthesis and Characterization of Novel Biologically Active Cationic Biomaterials, Kalpana Chauhan, Ankita, Jaswinder, Jalpa Trivedi and Ghanshyam S. Chauhan, International Conference on Polymer: Vision &Innovations APA-2014, February 19-21, 2014 at India Habitat Centre, New Delhi, India.
13. Bio-inspired star-shaped green polymers as potential scale inhibitors, Priyanka Patiyal, Tanisha, Ghanshyam S Chauhan and Kalpana Chauhan, December 2013, National Conference at HPU, Shimla.
14. Bioresource-based novel green nanoparticles for industrial applications, Kalpana Chauhan, Priyanka Patiyal, Jasvinder Kaur and Vishal priya, National Conference on “Multifunctional Materials” May 2 - 4, 2013 at Shoolini University, Solan.

15. Synthesis and characterization of quaternary ammonium salt of biopolymer for Industrial applications, Kalpana Chauhan, Jaswinder Kaur, Kusum, Vishal Priya and Ghanshyam S. Chauhan, International Conference on Polymers on the frontiers of sciences and technology APA 2013, February 21-23, 2013 at PU, Chandigarh.
16. Functionalized, Environmentally Friendly Additives for potential application in Industrial Water and Process Applications, Kalpana Chauhan, Priyanka Patiyal and Ghanshyam S. Chauhan, International Conference "Chemical Constellation Cheminar-2012 [CCC-2012] on Chemistry for Sustainable Development and Innovations, September 10-12, 2012 at Dr B R Ambedkar National Institute of Technology, Jalandhar (Punjab) India.
17. Synthesis and characterization of starch based green particulates in Cu2+ ions sorption, Jasvinder Kaur, Kalpana Chauhan and Ghanshyam S Chauhan, National Conference on Material Sciences: Applications in Energy & Environment, March 2-3, 2012 at DAV Jalandhar.
18. Synthesis and Characterization of Bio-Polymeric Nanoparticles, Kalpana Chauhan, Jaswinder Kaur, Champa Verma and Ghanshyam S. Chauhan, APA International Congress on Advances in Human Healthcare Systems, February 20-23, 2012 at India Habitat Centre, New Delhi, India.
19. Synthesis and characterization of green nanoparticles for wastewater treatment, Kalpana Chauhan, Jaswinder Kaur and Ghanshyam S. Chauhan, International Symposia on "Recent Advances in Chromatographic Sciences" and "Green Chemistry" January 12-14, 2012 at Manav Rachna International University, Faridabad.
20. Chitosan Nanoparticles in Enzyme Immobilization for Industrial Applications, Kalpana Chauhan, Medha Rana and Ghanshyam S. Chauhan, National Conference on "Frontiers in Polymer Science" at HPU Shimla; November 18-19, 2011.
21. Starch and Guar Gum Based Microspheres as Carrier for Statin Drug, Kalpana Chauhan and Ghanshyam S. Chauhan, National Conference on "ICHB" at Shimla; October - 2011.
22. Structural elucidation of synthesized starch based microspheres by SEM characterization, Kalpana Chauhan, Jasvinder Kaur, Medha Rana, Muneesh Kumar and Ghanshyam S. Chauhan, "National workshop cum seminar on advances in electron microscopy & alliedfields-2011" at Shoolini University, Solan; September 23-29, 2011.
23. Polysaccharide Based Microspheres as Prospective Carrier for Biotechnological Drugs, Kalpana Chauhan, Medha Rana and Muneesh Kumar, National Conference "RTMS-2011" at JUIT Waknaghat, Solan; October 8-10, 2011.
24. Functionalized Bio-based Hydrogels as Proficient Alternative for Water Technologies, Kalpana Chauhan, Muneesh Kumar and Ghanshyam S. Chauhan, National Conference "NCCC- 2011" at Dr B R Ambedkar National Institute of Technology, Jalandhar, Punjab; August 20-21, 2011.
25. Synthesis and Characterization of Guar Gum Beads as Potential Matrix for Colon Drug Delivery, Kalpana Chauhan, Shitika Sharma and Ghanshyam S. Chauhan, National Conference "CARBO – XV" at SHIMLA; November 11-13, 2010.
26. Development of a Novel Drug Delivery System Based on Modified Starch, Ghanshyam S. Chauhan and Kalpana Chauhan, Annual Technical Festival "Cognizance" at IIT Roorkee; March 28-30, 2008.
27. Polycarboxylated Starch as Stimuli Sensitive Carrier in Drug Delivery System, Ghanshyam S. Chauhan and Kalpana Chauhan, International Conference "Poly – 2008" at IIT Delhi; January 28-31, 2008, PP-67.
28. Oxidized Guar Gum-based Hydrogels as Stimuli Sensitive Carrier for Insulin Delivery, Ghanshyam S. Chauhan and Kalpana Chauhan, National Conference "CARBO – XXII" at NIPER; December 13-15, 2007, PP-11.
29. Development, Characterization and Applications of Polycarboxylated Starch and Guar Gum as Flocculating Agents, G. S. Chauhan and Kalpana Chauhan, National Symposium on "Recent Advances in Analytical Sciences and Applications", organized jointly by the Department of Chemistry, Himachal Pradesh University and Analytical Society of India, Delhi Chapter, in Shimla, April 9-11, 2007.
30. A Novel Clean Method for the Modification of Polysaccharide by Oxidation Reactions, Ghanshyam S Chauhan, S Chauhan and Kalpana Chauhan, National Seminar on Recent Trends in Synthetic and Polymer Chemistry (RTSPC-II), Department of Chemistry, Himachal Pradesh University, Shimla, March 23-24, 2007, PP- 43.

31. A Study in the Biodegradability of Thermo-responsive and pH Sensitive Pectin Based Hydrogels, G.S. Chauhan, Ranveer Singh Jayani, Reena Gupta and K. Chauahn, CARBO-XXI, National Conference of Association of Carbohydrate Chemists and Technologists of India, Delhi University, November 26-29, 2006, PP- 12.
32. Novel Polyelectrolytes as Flocculants for the Treatment of Industrial Effluents, Ghanshyam S. Chauhan, Kalpana Chauhan, Anita Kumari and Godawari Garg, CARBO-XXI, National Conference of Association of Carbohydrate Chemists and Technologists of India, Delhi University, November 26-29, 2006, PP-13.
33. Effect of Chemical Modification on the Enzymatic Degradability of Pectin, G.S Chauhan, Baljit Singh, Ravi Sharma, Shravan Kumar, Sandeep Chauhan and Kalpana Chauhan, National Seminar on Recent Trends in Synthetic and Polymer Chemistry (RTSPC-I), Department of Chemistry, Himachal Pradesh University, Shimla, December 5-6, 2005, PP- 66.

Kalpana Chauhan