

CURRICULUM VITAE

Dr. Kashma

Assistant Professor of Chemistry

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Website: <https://www.davchd.ac.in/>**Professional Experience**

Total experience at different levels (Teaching & Research): 8.5 Years

Name of the Employer	Designation of the post	Duration of employment
DAV College, Sector – 10, Chandigarh	Assistant Professor of Chemistry	20-04-2021 to date
Institute of Forensic Science & Criminology, Panjab University Chandigarh	UGC Women Postdoctoral Research Fellow	20-07-2017 to 19-04-2021
University of the Free State, South Africa	Post-doctoral Fellow, Department of Physics	01-09-2014 to 31-12-2015

Educational Qualification

Qualifications	University/Board	Subjects	Year of Passing	Division
Ph.D.	Shoolini University of Biotechnology and Management Sciences, Solan (H.P.)	Chemistry (Polymer Science)	2014	Awarded
M. Phil.	Shoolini University of Biotechnology and Management Sciences, Solan (H.P.)	Chemistry (Polymer Science)	2011	Awarded
M.Sc.	Panjab University, Chandigarh	Chemistry	2010	I
B. Sc. (Med.)	HP University, Shimla (H.P.)	Chemistry, Biology	2008	I

Research Interest

Synthesis, Processing, and Characterization of Bio-based/biodegradable Polymers and Composite; Drug Delivery Devices, Self-healing Hydrogels, Tissue Engineering, Waste-Water Treatment, Polymer Nanocomposites and Functional Polymers, Ion Solid Interaction.

Research Projects (Completed/ Ongoing)

- Principal Investigator of approved idea entitled "a cost-effective and reusable hydrogel based super absorbent for water filtration- To design a potential water filter from natural gum (*Moringa Oleifera* gum) based cost-effective superabsorbent for water purification to meet the need of rural India" under incubation Component of MSME innovative Scheme (Recipient)

Funded by Ministry of micro, small & medium enterprises (MSME), Govt. of India (2022-2023) (Rs 15 Lakhs)

- Received grant-in-aid for the joint center project titled "Joint Center for generating tissue-

engineered organs and controlling cell behavior" to Raju Kumar Gupta, IIT Kanpur (Indian Nodal PI); Kartikey Verma, Vijay Kumar, **Kashma Sharma**; Ali Khademhosseini, Harvard-MIT Division of Health Sciences and Technology, Massachusetts Institute of Technology (MIT), Cambridge (U.S. Nodal PI) and Akhilesh K Gaharwar, Texas A&M University, College Station.

Funded by Indo-US Science and Technology Forum. (IUSSTF-JC-025-2016) (2017-2019) (Rs 49.81 Lakhs)

3. Principle Investigator of Research Project entitled "*Nanohydroxyapatite composite scaffolds for bone tissue engineering.*"

Funded by the University Grant Commission under Post-Doctoral Fellowship for Women for 2017-18. (PDFWM-2017-18-HIM-51703). (2017-2022)

Honors/Awards/Memberships

- Lifetime member of the Asian Polymer Association (Membership No.: L-674)
- Associate Member for a one-year term in PRAYAS (Progressive Regional Association of Youth for Advancement of Sciences), a society dedicated to promoting science among the youth, from 16th June 2023 to date.
- Received grant under MSME for research project 01 (Title: A cost-effective and reusable hydrogel-based superabsorbent for water filtration. (Funding Agency: MSME 2022-23).
- Received Best Oral Presentation Award in a "*Chemical Constellation Cheminar - 2019*" organized by Dr. B R Ambedkar National Institute of Technology, Jalandhar, from October 12-13, 2019.
- Session Chaired in the National Workshop on "*Computer & Voice Forensics*" organized by the Institute of Forensic Science & Criminology Panjab University, Chandigarh on March 29, 2019.
- Received University Grants Commission *Post-Doctoral Fellowship to Women Candidates* (Reg. ID: PDFWM-2017-18-HIM-51703) (2017).
- Grant-in-aid for the joint center project "*Joint Center for generating tissue-engineered organs and controlling cell behavior*" by Indo-US Science and Technology Forum. (IUSSTF-JC-025-2016) (2017- 2020) (Rs 49.81 Lakhs).
- Received Postdoctoral fellowship (Sarchi Chair) from the University of the Free State, South Africa.
- Visiting Researcher for one year in the Department of Physics, University of the Free State, Bloemfontein, South Africa, in 2013.
- Received Best Oral Presentation Award in a National Conference on "*Innovation in Engineering, Pharmaceutical, Legal and Management Sciences (IEPLMS – 2014)*" at Bahra University, Shimla Hills on May 30, 2011.
- Lifetime Member of the HIM Science Congress Association (H.P.)

Mentoring Experience

Mentored 08 MSc. Forensic Science dissertations (02 PG students in 2018, 04 PG students in 2019, and 02 students in 2020) at the Institute of Forensic Science & Criminology, Panjab University, Chandigarh.

Ph.D. Supervision

S. No.	Student Name	Uni./ Institute	Status	Role
1.	Meenu	Panjab University Chandigarh	Ongoing	Supervisor
2.	Shikha Sharma	Panjab University Chandigarh	Ongoing	Supervisor
3.	Shabnum Saleem	CT University Jalandhar	Ongoing	Co-supervisor
4.	Kibriya Farooq	CT University Jalandhar	Ongoing	Co-supervisor

Teaching Experience

- Taught Biophysical Chemistry to MSc. Chemistry students, Physical and Inorganic Chemistry to BSc 1 year and BSc 3rd year since May 2021 to date in DAV College, Sector 10, Chandigarh.
- Taught Ph.D. coursework (Research Methodology) in sessions Sept 2019 – Jan 2020 and Sept. 2020 – Jan 2021 at the Institute of Forensic Science & Criminology, Panjab University, Chandigarh.
- Taught chemical science to MSc. Forensic Science students during 2018 -2020 in the Institute of Forensic Science & Criminology, Panjab University, Chandigarh.
- Experience teaching Polymer Chemistry for 1 year at Shoolini University of Biotechnology and Management Science during M.Phil.

Academic & Other Activities

- Incharge of NSS Programming Officer at DAV College Chandigarh from 29.08.2024 to date.
- In charge of Leo Club Chandigarh Harmony at DAV College, Sector -10, Chandigarh, from 21.08.2024 to date.

Peer-Reviewed Publications Summary

S. No.	Type of publication & their status	No. of Publications
1.	Papers Published in Journals	42
2.	Conference Proceedings	01
3.	Patent	02 granted (02 filed & published)
4.	Books Edited	04
5.	Book Chapters Published/Accepted/Submitted	19
6.	Total Impact Points	155.5 (Av. I.F. 4.4)
7.	h-index as per Scopus Database (Author ID: 55658056846)	21
8.	h-index as per Google Scholar	23 (i10-index = 33)
9.	Total no. of Citation as per Google Scholar	1618

Patent Filed & Granted

- Title:** *Biodegradable packaging film and a Process for its Preparation thereof*
Inventors: Vishal Sharma, Kashma Sharma, Vijay Kumar, Sonal Chaudhary

Indian Patent Application No.: 202111018921 (Filed on: 23/04/2021; Published on: 10/03/2023; Granted on: 13/03/2024)

- ii. **Title:** *Sodiumdodecylsulfate hydrogel-based sorbent for waste-water-treatment, and derived soot for immediate oil-spill-remediation and its preparation process*

Inventors: Vishal Sharma, Kashma Sharma, Vijay Kumar, Sonal Chaudhary

Indian Patent Application No.: 202311058908 (Filed on: 02/09/2023; Published on: 17/11/2023; Granted on: 17/07/2024)

- iii. **Title:** *Graphene oxide-based solar tiles for maintaining consistent home temperature*

Inventors: R. P. Joshi, H. S. Dhama, P. Kumar, A. Pandey, R. Singhal, Shipra, B. C. Joshi, Vijay Kumar, K. Sharma, K. Pandey

Indian Patent Application No.: 201911017675 (Filed on: 03/05/2019) (Published on: 03/09/2021)

- iv. **Title:** *Graphene oxide-based Li-ion/ Li sulfur battery with replaceable electrodes*

Inventors: R. P. Joshi, H. S. Dhama, A. Pandey, P. Kumar, B. P. Joshi, Vijay Kumar, K. Sharma, V. Sharma, S. Sharma, V. Mehta

Indian Patent Application No.: 201911019351 (Filed on: 15/05/2019) (Published on: 03/09/2021)

Books Edited

1. Editors: S. K. Tiwari, **Kashma Sharma**, V. Sharma, Vijay Kumar, *Electrospun Nanofibers: Fabrication, Functionalisation and Applications*, Publisher: Springer International Publishing AG Switzerland, eBook ISBN: 978-3-030-79979-3 (2021). <https://doi.org/10.1007/978-3-030-79979-3>
2. Editors: Vijay Kumar, **Kashma Sharma**, Rakesh Sehgal, Susheel Kalia, *Conjugated Polymers for Next Generation of Photovoltaics, Energy Storage and Electronics, Vol I*. Publisher: Elsevier, Paperback ISBN: 9780128234426 (2022). <https://www.elsevier.com/books/conjugated-polymers-for-next-generation-applications-volume-1/kumar/978-0-12-823442-6>
3. Editors: Vijay Kumar, **Kashma Sharma**, Rakesh Sehgal, Susheel Kalia, *Conjugated Polymers for Next Generation of Photovoltaics, Energy Storage and Electronics, Vol II*. Publisher: Elsevier, Paperback ISBN: 9780128240946 (2022). <https://www.elsevier.com/books/conjugated-polymers-for-next-generation-applications-volume-2/kumar/978-0-12-824094-6>
4. Editors: **Kashma Sharma**, Santosh Kumar Tiwari, Vijay Kumar, Susheel Kalia, *Novel Bio-nanocomposites for Emerging Biomedical Technologies*, Publisher: Springer International Publishing AG Switzerland, ISBN: 978-3-031-69654-1 (2024). <https://link.springer.com/book/9783031696534>.

Scientific Publications

Refereed journal publications

1. Sonal Choudhary, **Kashma Sharma**, Vijay Kumar, Vishal Sharma, Efficient Oil Spill Cleanup from water: Investigating the Effectiveness of a Sustainable Anti-Swelling Hydrogel for Rapid Water Repellency and Oil Absorption, *Chemosphere* 364 (2024) 143123 (I.F. = 8.1)
2. Kibrya Farooq, Priyanka Mankotia, **Kashma Sharma**, Vishal Sharma, Vaneet Kumar, Vijay Kumar, Synthesis, Synthesis and characterizations of amla-based novel hydrogel matrix for

- the targeted and controlled release of the anticancer 5-Fluorouracil drug, *Colloid and Polymer Science* (Accepted). (I.F. = 2.2).
3. Sonal Choudhary, **Kashma Sharma**, Vijay Kumar, Vishal Sharma, RSM-CCD directed modeling and optimization of a low-cost adsorbent based on sodium dodecyl sulfate for the selective removal of malachite green and methylene blue dyes: Kinetics, isotherm, and thermodynamics analysis, *Microchemical Journal* 205 (2024) 111158 (I.F. = 4.8)
 4. Shabnum Saleem, **Kashma Sharma**, Amit Kumar Sharma, Vishal Sharma, Vaneet Kumar, Vijay Kumar, Development of Biodegradable Gum Guggul-based Hydrogel as an Efficient Moisture-Retaining Agent for Agricultural Applications, *Adsorption* 30 (2024) 1749-1769 (I.F. = 3.0)
 5. Priyanka Mankotia, **Kashma Sharma**, Yogendra Kumar Mishra, Vishal Sharma, Vijay Kumar, CCD-optimized Moringa oleifera-based hydrogel for the targeted and controlled release of the anti-cancer drug Raloxifene: evaluation of hemocompatible, cytotoxic and antioxidant properties, *New Journal of Chemistry* 48 (2024) 12516 (I.F. = 2.7).
 6. Yogesh Kumar Kumawat, Abhigith Nair, Sonal Choudhary, Jyotendra Nath, **Kashma Sharma**, Tanveer Rasool, Vishal Sharma, Yogendra Kumar Mishra, Vijay Kumar, Novel hydrogel based on natural hybrid backbones: optimized synthesis and effective adsorbent for the removal of malachite green dye from an aqueous solution, *Journal of Polymer Research* 31 (2024) 128 (I.F. = 2.6)
 7. Kibrya Farooq, Vijay Kumar, Vishal Sharma, Madhulika Bhagat, Vaneet Kumar, **Kashma Sharma**, Synthesis, Optimization, and Multifunctional Evaluation of Amla-Based Novel Biodegradable Hydrogel, *Polymer Bulletin* 81 (2024) 10681–10705. (I.F. = 3.1).
 8. Priyanka Mankotia, **Kashma Sharma**, Vishal Sharma, Yogendra Kumar Mishra, Vijay Kumar, Development of collagen and nano-hydroxyapatite-based novel self-healing cartilage, *Frontiers of Materials Science* (18 (2024) 240684. (I.F. = 2.7).
 9. Abhigith Nair, Yogesh Kumar Kumawat, Sonal Choudhary, Jyotendra Nath, **Kashma Sharma**, Tanveer Rasool, Vishal Sharma, Vijay Kumar*, Malachite Green Dye Adsorption from Wastewater Using Pine Gum-Based Hydrogel: Kinetic and Thermodynamic Studies, *Journal of Molecular Structure* 1295 (2023) 136671 (I.F. = 3.8)
 10. Priyanka Mankotia, **Kashma Sharma**, Vishal Sharma, Yogendra Kumar Mishra, Vijay Kumar, Curcumin-loaded Butea monosperma gum-based hydrogel: A new excipient for controlled drug delivery and anti-bacterial applications, *International Journal of Biological Macromolecules* 242 (2023) 124703 (I.F. = 8.2)
 11. Sonal Choudhary, **Kashma Sharma**, Vishal Sharma, Vijay Kumar, Performance Evaluation of Gum Gellan-Based Hydrogel as a Novel Adsorbent for the Removal of Cationic Dyes: Linear Regression Models, *ACS Applied Materials & Interfaces* 15 (2023) 5942-5953 (I.F. = 9.5)
 12. Sonal Choudhary, **Kashma Sharma**, Pawan Kumar Mishra, Vijay Kumar, Vishal Sharma, Development and characterization of biodegradable Agarose/Gum neem/nanohydroxyapatite/polyoxyethylene sorbitan monooleate based edible bio-film for applications towards a circular economy, *Environmental Technology & Innovation* 29 (2023) 103023 (I.F. = 7.1)
 13. V. Sharma, S. Choudhary, P. Mankotia, A. Kumari, **Kashma Sharma**, Rakesh Sehgal, Vijay Kumar, Nanoparticles as Fingerprint Sensors, *TrAC Trends in Analytical Chemistry* 143 (2021) 116378. (I.F. = 13.1)

14. Sonal Choudhary, **Kashma Sharma**, Manpreet S. Bhatti, Vishal Sharma, Vijay Kumar, DOE-based synthesis of Gellan gum-acrylic acid-based biodegradable hydrogels: Screening of significant process variable and in situ field studies, *RSC Advances* 12 (2022) 4780-4794. (I.F. = 3.9)
15. Karanpreet Virk, **Kashma Sharma**, Shikha Kapil, Vinod Kumar, Vishal Sharma, Sadanand Pandey, Vijay Kumar, Synthesis of gum acacia-silver nanoparticles based hydrogel composites and their comparative anti-bacterial activity, *Journal of Polymer Research* 29 (2022) 118. (I.F. = 2.8)
16. Archana Gupta, Vishal Sharma, **Kashma Sharma**, Vijay Kumar, Sonal Choudhary, Priyanka Mankotia, Brajesh Kumar, Harshita Mishra, Amitava Moulick, Adam Ekielski, and Pawan Kumar Mishra, A Review of Adsorbents for Heavy Metal Decontamination: Growing Approach to Wastewater Treatment, *Materials* 14 (2021) 4702. (I.F. = 3.4)
17. **Kashma Sharma**, Shreya Sharma, Vipasha Sharma, Pawan Kumar Mishra, Adam Ekielski, Vishal Sharma, Vijay Kumar, Methylene Blue Dye Adsorption from Wastewater Using Hydroxyapatite/Gold Nanoparticles Composites: Kinetic and Thermodynamics Studies, *Nanomaterials* 11 (2021) 1403. (I.F. = 5.3)
18. R. Chauhan, R. Kumar, Vijay Kumar, **Kashma Sharma**, V. Sharma, On the discrimination of soil samples by derivative diffuse reflectance UV-Vis-NIR spectroscopy and Chemometric methods, *Forensic Science International* 319 (2021) 110655. (I.F. = 2.2)
19. **Kashma Sharma**, S. Sharma, S. Thapa, M. Bhagat, Vijay Kumar, V. Sharma, Nanohydroxyapatite-, Gelatin-, and Acrylic Acid-Based Novel Dental Restorative Material, *ACS Omega* 5 (2020) 27886-27895. (I.F. = 4.1)
20. S. Sharma, K. Virk, **Kashma Sharma**, S. K. Bose, Vijay Kumar, V. Sharma, M. L. Focarete, S. Kalia, "Preparation of gum acacia-poly(acrylamide-IPN-acrylic acid) based nanocomposite hydrogels via polymerization methods for antimicrobial applications", *Journal of Molecular Structure* 1215 (2020) 128298. (I.F. = 3.8)
21. P. Mankotia, S. Choudhary, **Kashma Sharma**, Vijay Kumar, J. K. Bhatia, A. Parmar, S. Sharma, V. Sharma, "Neem gum based pH-responsive hydrogel matrix: A new pharmaceutical excipient for the sustained release of anticancer drug", *International Journal of Biological Macromolecules* 142 (2020) 742-755. (I.F. = 8.2)
22. S. Choudhary, **Kashma Sharma**, Vijay Kumar, J. K. Bhatia, S. Sharma, V. Sharma[#], "Microwave-Assisted Synthesis of Gum Gellan-cl-poly (acrylic-co- methacrylic acid) Hydrogel for Cationic Dyes Removal", *Polymer Bulletin* 77 (2019) 4917-4935. (I.F. = 3.2).
23. R. Kumar, A. Kaur, **Kashma Sharma**, B. Kumar, V. Sharma, "On the examination of raw, pasteurized, powdered, and adulterated milk samples and their multivariate classification: applications in food and forensic science", *Spectroscopy Letters* 52 (2019) 583-598. (I.F. = 1.179)
24. V. Hasija, **Kashma Sharma**, Vijay Kumar, S. Sharma, V. Sharma, "Green synthesis of agar/Gum Arabic based superabsorbent as an alternative for irrigation in Agriculture", *Vacuum* 157 (2018) 458-464. (I.F. = 4.0)
25. **Kashma Sharma**, Vijay Kumar, C. Swart-Pistor, B. Chaudhary, H. C. Swart, "Synthesis, characterization and anti-microbial activity of a novel superabsorbent based on agar-poly (methacrylic acid-glycine)", *Journal of Bioactive and Compatible Polymers* 32(1) (2017) 74-91. (I.F. = 1.7)

26. **Kashma Sharma**, Vijay Kumar, V. Kumar, H. C. Swart, "Advances in phosphors based on organic materials for solid-state lighting applications", *Physica B: Condensed Matter* 480 (2016) 105-110. (I.F. = 2.8)
27. **Kashma Sharma**, Vijay Kumar, B. S. Kaith, S. Som, V. Kumar, A. Pandey, S. Kalia, H. C. Swart, "Synthesis of biodegradable Gum ghatti based poly(methacrylic acid-aniline) conducting IPN hydrogel for controlled release of amoxicillin trihydrate", *Industrial & Engineering Chemistry Research* 54 (2015) 1982-1991. (I.F. = 4.2)
28. **Kashma Sharma**, Vijay Kumar, B. S. Kaith, V. Kumar, S. Som, A. Pandey, S. Kalia, H. C. Swart, "Evaluation of a conducting interpenetrating network based on Gum ghatti-g-poly(acrylic acid-aniline) as a colon-specific delivery system for amoxicillin trihydrate and paracetamol", *New Journal of Chemistry* 39 (2015) 3021-3034. (I.F. = 3.3)
29. **Kashma Sharma**, Vijay Kumar, B. Chaudhary, B. S. Kaith, S. Kalia, H. C. Swart, "Application of biodegradable superabsorbent hydrogel composite based on gum ghatti-co-poly(acrylic acid-aniline) for controlled drug delivery", *Polymer Degradation and Stability* 124 (2016) 101-111. (I.F. = 5.9)
30. B. S. Kaith, R. Sharma, **Kashma Sharma**, S. Choudhary, Vijay Kumar, S. P. Lochab, "Effects of O^{7+} and Ni^{9+} swift heavy ions on polyacrylamide grafted Gum acacia thin film and sorption of methylene blue", *Vacuum* 111 (2015) 73-82. (I.F. = 4.0)
31. **Kashma Sharma**, B. S. Kaith, S. Kalia, Vijay Kumar, H. C. Swart, "Gum ghatti based biodegradable and conductive carriers for colon-specific drug delivery", *Colloid and Polymer Science* 293 (2015) 1181-1190. (I.F. = 2.4)
32. **Kashma Sharma**, B. S. Kaith, Vijay Kumar, S. Kalia, V. Kumar, H. C. Swart, "Water retention and dyes adsorption behaviour of Gg-cl-poly(acrylic-aniline) based conducting hydrogels", *Geoderma* 232-234 (2014) 45-55. (I.F. = 6.1)
33. **Kashma Sharma**, Vijay Kumar, B. S. Kaith, V. Kumar, S. Som, S. Kalia, H. C. Swart, "A study of biodegradation behaviour of poly(methacrylic acid/aniline) grafted gum ghatti by a soil burial method", *RSC Advances* 4 (2014) 25637. (I.F. = 3.9)
34. **Kashma Sharma**, B. S. Kaith, Vijay Kumar, S. Kalia, V. Kumar, H. C. Swart, "Synthesis and biodegradation studies of gamma irradiated electrically conductive hydrogels", *Polymer Degradation and Stability* 107 (2014) 166-177. (I.F. = 5.9)
35. B. S. Kaith, **Kashma Sharma**, **Vijay Kumar**, S. Kalia, H. C. Swart, "Fabrication and characterization of gum ghatti-polymethacrylic acid based electrically conductive hydrogels", *Synthetic Metals* 187 (2014) 61-67. (I.F. = 4.4)
36. **Kashma Sharma**, B. S. Kaith, Vijay Kumar, S. Kalia, V. Kumar, S. Som, H. C. Swart, "Gum ghatti based novel electrically conductive biomaterials: A study of conductivity and surface morphology", *eXPRESS Polymer Letters* 8 (2014) 267-281. (I.F. = 3.3)
37. Vijay Kumar, Y. Ali, **Kashma Sharma**, V. Kumar, R. G. Sonkawade, A. S. Dhaliwal, H. C. Swart, "Swift heavy ions induced surface modifications in Ag-polypyrrole composite films synthesized by electrochemical route", *Nuclear Instrument and Methods in Physics Research B* 323 (2014) 7-13. (I.F. = 1.3)
38. B. S. Kaith, **Kashma Sharma**, Vijay Kumar, V. Kumar, H. C. Swart, S. Kalia, "Effects of swift heavy ion irradiation on the structural and morphological properties of poly(methacrylic acid) cross-linked gum ghatti," *Vacuum* 101 (2014) 166-170. [**Rapid Communication**]. (I.F. = 4.0)

39. **Kashma Sharma**, Vijay Kumar, B. S. Kaith, V. Kumar, S. Som, S. Kalia, H. C. Swart, "Synthesis, characterization and water retention study of biodegradable gum ghatti-poly(acrylic acid-aniline) hydrogels", *Polymer Degradation and Stability* 111 (2015) 20-31. (I.F. = 5.9)
40. **Kashma Sharma**, B. S. Kaith, Vijay Kumar, V. Kumar, S. Kalia, B. K. Kapur, H. C. Swart, "A comparative study of the effect of Ni⁹⁺ and Au⁹⁺ ion beams on poly(methacrylic acid) grafted gum ghatti films", *Radiation Physics and Chemistry* 97 (2014) 253-261. (I.F. = 2.9)
41. **Kashma Sharma**, B. S. Kaith, Vijay Kumar, V. Kumar, S. Som, S. Kalia, H. C. Swart, "Synthesis and properties of poly(acrylamide-aniline)-grafted gum ghatti based nanospikes," *RSC Advances* 3 (2013) 25830-25839. (I.F. = 3.9)
42. Y. Ali, **Kashma Sharma**, Vijay Kumar, R. G. Sonkawade, A. S. Dhaliwal, "Polypyrrole microspheroidals decorated with Ag nanostructures: Synthesis and their characterization", *Applied Surface Science* 280 (2013) 950-956. (I.F. = 6.707)

Papers Published in Peer-Reviewed Conference Proceedings

1. **Kashma Sharma**, Karanpreet Virk, Vijay Kumar, S. K. Sharma, Vishal Sharma, "Preparation and Characterizations Graft Copolymer of Poly(acrylamide-aniline)-Grafted Gum Ghatti," *Materials Today: Proceedings* 21 (2020) 1856-1861.

Book Chapters

1. **Sharma K.**, Kumar V., Kaith B.S., Kalia S., Swart H.C. (2017) Conducting Polymer Hydrogels and Their Applications. In: Kumar V., Kalia S., Swart H. (eds) *Conducting Polymer Hybrids*. Springer Series on Polymer and Composite Materials. Springer, Cham. https://doi.org/10.1007/978-3-319-46458-9_7
2. **Sharma K.**, Sharma V., Kumar V. (2019) Synthesis of Hydrogels by Modification of Natural Polysaccharides Through Radiation Cross-Linking Polymerization for Use in Drug Delivery. In: Kumar V., Chaudhary B., Sharma V., Verma K. (eds) *Radiation Effects in Polymeric Materials*. Springer Series on Polymer and Composite Materials. Springer, Cham. https://doi.org/10.1007/978-3-030-05770-1_8
3. Choudhary S., **Sharma K.**, Sharma V., & Kumar V. (2020) Grafting Polymers. In: Gutiérrez T.J. (eds) *Reactive and Functional Polymers Volume Two*. ISBN: 978-3-030-45134-9, Springer, Cham. https://doi.org/10.1007/978-3-030-45135-6_8
4. Mankotia P., **Sharma K.**, Sharma V., Kumar V. (2020) Interpenetrating Polymer Networks in Sustained Drug-Releasing. In: Nayak A., Hasnain M. (eds) *Advanced Biopolymeric Systems for Drug Delivery*. *Advances in Material Research and Technology*. ISBN: 978-3-030-46922-1, Springer, Cham. https://doi.org/10.1007/978-3-030-46923-8_9
5. Nath J., **Sharma K.**, Kumar S., Sharma V., Kumar V., Sehgal R. (2021) Electrospun Nanofibers for Wastewater Treatment. In: Tiwari S.K., Sharma K., Sharma V., Kumar V. (eds) *Electrospun Nanofibers*. Springer Series on Polymer and Composite Materials. ISBN: 978-3-030-79979-3, Springer, Cham. https://doi.org/10.1007/978-3-030-79979-3_4
6. Singh J., Thakur S., Sehgal R., Dhaliwal A.S., **Kumar V.** (2021) Surface Engineering of Nanofiber Membranes via Electrospinning-Embedded Nanoparticles for Wastewater Treatment. In: Tiwari S.K., Sharma K., Sharma V., Kumar V. (eds) *Electrospun Nanofibers*. Springer Series on Polymer and Composite Materials. ISBN: 978-3-030-79979-3, Springer, Cham. https://doi.org/10.1007/978-3-030-79979-3_10

7. Mankotia P., **Sharma K.**, Sharma V., Sehgal R., Kumar V. (2021) Polymer and Ceramic-Based Hollow Nanofibers via Electrospinning. In: Tiwari S.K., Sharma K., Sharma V., Kumar V. (eds) Electrospun Nanofibers. Springer Series on Polymer and Composite Materials. Springer, Cham. https://doi.org/10.1007/978-3-030-79979-3_9
8. Choudhary S., **Sharma K.** (2020) Isothiocyanate: A potential chemotherapeutic agent. In: Mehta S.K., Sharma S. (eds) Spectrum of Isothiocyanate Chemistry and its Applications. Nova Science Publishers, Inc. 201-235. ISBN: 978-153619005-2, 978-153616478-7.
9. Nath J., **Sharma K.**, Kumar S., Kumar V., Sehgal R. (2022) Polymer/Carbon Nanocomposites for Biomedical Applications. In: Hasnain M.S., Nayak A.K., Alkahtani S. (eds) Polymeric and Natural Composites. Advances in Material Research and Technology. Springer, Cham. https://doi.org/10.1007/978-3-030-70266-3_4
10. Choudhary, S., **Sharma, K.**, Sharma, V., Kumar, V., Sehgal, R. (2022). Marine Collagen for Delivery of Therapeutics. In: Jana, S., Jana, S. (eds) Marine Biomaterials. Springer, Singapore. https://doi.org/10.1007/978-981-16-5374-2_4
11. Jagdeep Singh, A.S. Dhaliwal, **Kashma Sharma**, Rakesh Sehgal, Vijay Kumar, 14 - Conductive polymer-based composite photocatalysts for environment and energy applications, Editor(s): Vijay Kumar, Kashma Sharma, Rakesh Sehgal, Susheel Kalia, In Woodhead Publishing Series in Electronic and Optical Materials, Conjugated Polymers for Next-Generation Applications, Woodhead Publishing, Volume 1, 2022, Pages 505-538, ISBN 9780128234426. <https://doi.org/10.1016/B978-0-12-823442-6.00011-8>
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14. Priyanka Mankotia, Kartikey Verma, **Kashma Sharma**, Vishal Sharma, Vijay Kumar, Rakesh Sehgal, Mass Spectroscopy in Biomedical Nanotechnology, Ajeet Kaushik, Sessa S. Srinivasan, Yogendra Kumar Mishra (Eds.) Analytical Techniques for Biomedical Nanotechnology. ISBN: 978-0-7503-3379-5, Institute of Physics (IOP). (Accepted). <https://iopscience.iop.org/book/edit/978-0-7503-3379-5/chapter/bk978-0-7503-3379-5ch8>
15. Jyotendra Nath, **Kashma Sharma**, Rishabh Sehgal, Shashikant Kumar, Vishal Sharma, Rakesh Sehgal, Vijay Kumar (2024) Polysaccharide based superabsorbent hydrogels, Shakeel Ahmed, Akbar Ali (Eds), Polysaccharides based Hydrogels, ISBN: 978-0-323-99341-8, Publisher: Elsevier. <https://doi.org/10.1016/B978-0-323-99341-8.00009-0>
16. Shabnum Saleem, **Kashma Sharma**, Vishal Sharma, Vaneet Kumar, Rakesh Sehgal, Vijay Kumar (2024) Polysaccharide-based super moisture absorbent hydrogels in sustainable agricultural applications, Shakeel Ahmed, Akbar Ali (Eds), Polysaccharides based Hydrogels, Publisher: Elsevier. <https://doi.org/10.1016/B978-0-323-99341-8.00017-X>
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18. Farooq, K., Kumawat, Y.K., **Sharma, K.**, Kumar, V. (2024). Bio-nanocomposites: Fundamentals and Recent Advances. In: Sharma, K., Tiwari, S.K., Kumar, V., Kalia, S. (eds) Novel Bio-nanocomposites for Biomedical Applications. Springer Series on Polymer and Composite Materials. Springer, Cham. https://doi.org/10.1007/978-3-031-69654-1_1
19. Kibrya Farooq, **Kashma Sharma**, Vishal Sharma, Vaneet Kumar, Vijay Kumar, Grafted Biopolymers in Drug Delivery, Amit Kumar Nayak, Md Saquib Hasnain, Tejraj M. Aminabhavi (Eds), Engineered Biomaterials for Drug Delivery, Publisher: Elsevier. (**Submitted**).

Scientific Speeches

- Delivered an invited talk titled 'Hydrogel: Smart materials with multifunctional applications' at the International Conference on Green Energy for Sustainable Future: Innovations, Policies, and Global Collaborations, MCM DAV College Kangra (H.P.) from 21-23 March 2024.
- Delivered Expert talk on the topic "Natural Materials: Green Solutions to Environmental Problems with Hydrogels" at the National Science Day Celebration "ECO-VATION" Mission life for Sustainable living, organized by the Punjab State Council for Science & Technology and National Council for Science & Technology Communication, Department of Science Technology, Govt. Of India at DAV College, Chandigarh, held on 4th March 2024.
- Delivered an Expert talk on "Infra-Red Spectroscopy" for Applied Sciences, Chandigarh Engineering College students on 23rd November 2022.
- Delivered an Expert talk on "Funding opportunities available for the Young College Faculty" under the aegis of the Vidya Vistar Scheme, University of Delhi, online on the Google Meet platform on July 30, 2022.

Seminar Conducted

- Organized an Orientation Program on August 28, 2024, under the Leadership Experience Opportunity (LEO) Club of DAV College, Chandigarh.
- Organized interdisciplinary Seminar on "Decoding your Future: Exploring Career Options after Graduation by Mr. Suresh Jokta (Alumnus of DAV College & founder of Jokta Academy) on August 17, 2023.
- Organized educational visit to the Institute of Forensic Science and Criminology at Panjab University, Chandigarh, for the Students of the undergraduate and postgraduate levels of DAV College, Chandigarh, on 27th March 2023.
- Organized interdisciplinary Seminar on "Star performer of Big Science" by Prof. P.K. Alhuwalia (President, Indian Association of Physics Teachers & Former Professor of Physics HPU) on March 03, 2023.
- Organized interdisciplinary Seminar on "Forensic Science by Dr. Vishal Sharma" (Chairperson, Forensic Science and Criminology, Panjab University, Chandigarh) on 21st September 2022.

Outreach Activities as a Coordinator

- Judge for Research of Pioneer (Project Display Chemistry) organized by the Department of Applied Sciences in association with the Department of Student Welfare, for the celebration of National Science Day held on 28th February 2024 in Chandigarh Group of College, Landra,

Mohali (PB).

- Organized educational visit to the Institute of Forensic Science and Criminology at Panjab University, Chandigarh, for the Students of the undergraduate and postgraduate levels of DAV College, Chandigarh, on 27th March 2023.
- Organized educational visit to SAIF/CIL, Panjab University for the Students of the 2nd year MSc. Chemistry and 3rd year BSc of DAV College, Chandigarh, on 19 April 2022.
- Session Chaired in the National Workshop on “Computer & Voice Forensics” organized by the Institute of Forensic Science & Criminology Panjab University, Chandigarh, on March 29, 2019.

Reviewer (Journals)

RSC Advances; New Journal of Chemistry, Carbohydrate Polymers; International Journal of Biological Macromolecules; Vacuum; Iranian Polymer Journal, Pharmaceutics, MDPI Polymers, Journal of Drug Delivery Science and Technology.

Conferences/ Workshops/ Seminars Attended

1. Attended the 3rd International Conference on Water Technologies 2023 (ICWT 2023), organized by the Water Innovation Center: Technology, Research & Education, IIT Bombay, held from December 4-7, 2023. **Oral Presentation**
2. Attended Faculty Development Programme on “Intellectual Property” organized by DPIIT – IPR Chair & Department of Law with HRDC, Panjab University under RUSA 2.0 grant from 7 May – 13 May 2022.
3. Attended a day Workshop on HPLC organized by CIL DAV College, Sector 10, Chandigarh, on 17 April 2022.
4. Attended UGC-sponsored 127th Faculty Induction Program organized by UGC-HRDC Panjab University, Chandigarh, from 17 December 2021 to 13 January 2022.
5. Attended the TEQIP III Sponsored One Week Short Term Course (Through Online Mode) on "Recent Advances in Nanoscience and Nanotechnology (RANN-2020)" held at the National Institute of Technology Srinagar from August 24 to 28, 2020.
6. Attended a Faculty Development Programme (Through Online Mode) On MOOCs: Instructional Design, Development, and Learning Analytics during April 4-9, 2020, Organized by Centre for Academic Leadership and Education Management (CALEM), Panjab University, Chandigarh.
7. National seminar cum workshop on “**Academic integrity, plagiarism, and Intellectual Property Rights**” organized by CALEM under the aegis of PMMMMNMTT, MHRD, GOI in collaboration with the Department of Chemistry & Institute of Forensic Science & criminology, Panjab University, Chandigarh during December 23-24, 2019
8. International Conference on “**Chemical Constellation Cheminar - 2019**” organized by Dr. B R Ambedkar National Institute of Technology, Jalandhar, from October 12-13, 2019. **Oral Presentation.**
9. Attended TEQIP III Sponsored short-term course on "**Materials Characterization Techniques**" organized by the Department of Physics, National Institute of Technology Srinagar, from 24-28 June 2019.

10. National workshop on **“Computer & Voice Forensics”** organized by the Institute of Forensic Science & Criminology Panjab University, Chandigarh on March 29, 2019.
11. **6th South African Conference on Photonic Materials**, Mabula Game Lodge in South Africa from 5-7 May 2015.
12. Second annual national conference on **“Science Emerging Scenario and Future Challenges-2014”** organized by Him Science Congress Association, Shimla May 17-18, 2014.
13. One-day National conference on **“Innovation in Engineering, Pharmaceutical, Legal and Management Sciences”** Bahra University, Shimla Hills, on May 30, 2014. **Oral Presentation.**
14. International Conference on **“Structural and Physical Properties of Solids (SPPS-2013)”** Department of Applied Physics, Indian School of Mines, Dhanbad, India during 18-20 November 2013. **Oral Presentation.**
15. National Conference on **“Material Science-Applications in Energy & Environment”** DAV College Jalandhar (Pb.) during 2-3 March 2012.
16. International Conference on **“Radiation Environment-Assessment, Measurement and its Impact (RADENVIRON-2012)”** Babasaheb Bhimrao Ambedkar University, Lucknow during April 12-14, 2012.
17. International Conference on **“Chemical Constellation Cheminar - 2012”** Dr. B R Ambedkar National Institute of Technology, Jalandhar September 10-12, 2012.
18. UGC Sponsored a National Seminar on **“Chemistry in Our Lives”** organized by Sanatan Dharma College (Lahore), Ambala Cantt, on March 23, 2011.
19. Seven days National Workshop Cum Seminar on **“Advances in Electron Microscopy & Allied Fields”** Organized by the Department of Chemistry, Shoolini University, Solan, during 23-29 September 2011.
20. 2nd National Conference on **“Advanced Materials and Radiation Physics (AMRP-2011)”** Sant Longowal Institute of Engineering and Technology (SLIET), Longowal during 4-5 November 2011.
21. Two-day National Conference on **“Accelerator and Low-Level Radiation Safety (NCALLRS-2009)”** Organized by Inter-University Accelerator Centre (IUAC), New Delhi, from November 18-20, 2009.