

Dr. Kulvinder Singh

Name : Kulvinder Singh
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Chandigarh, 140901, India.
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Current Position:

Assistant Professor (Chemistry) in Department of Chemistry, DAV College, Sector 10, Chandigarh, 160011, India.

Academic Qualification:

April 2010-Sept. 2015 **Ph.D.**, Chemistry “*Synthesis and Characterization of Nanostructured Metal Oxides for Electrochemical Sensor and Other Potential Applications*” Department of Chemistry, Panjab University, Chandigarh (India).
Aug 2006-July2008: **M.Sc.**, Chemistry, JCDAV College, Panjab University Chandigarh (India).
Aug 2002-July2005: **B.Sc., (Non-Medical)** G.P.G. College Nalagarh, Himachal Pradesh University, Shimla, Himachal Pradesh (India).
June 2002: Senior School Certificate, Non-medical, G.S.S.S. Barotiwala, Himachal Pradesh (India).
June 2000: Secondary School Examination, Surendra Public School Nalagarh, Himachal Pradesh (India).

Research Experience: (9 Years)

July 17th 2017- till date Research Supervisor (3 students) at Maharaja Agrasen University, Baddi (H.P.), India.
Feb. 9th 2016–March 21st2017: **Postdoctoral Fellow** at Institute of Nano Science and Technology, Mohali (Punjab), India. The topic of research is “*Carbon based Heterostructures for Super Capacitance and Sensing Applications*”.
Apr. 22nd 2010 –7th Sept. 2015: **Research Fellow** under DST Purse Scheme in Department of Chemistry, Panjab University, Chandigarh “*Synthesis and Characterization of Nanostructured Metal Oxides for Electrochemical Sensor and Other Potential Applications*”.

Publication details: (Annexure –A)

Cumulative Impact Factor: **216.12**

International Research Papers: **55**, Book Chapter **4**, Conference Proceeding: **2**

Conference/Symposia and Workshops: **18 (Annexure B)**

Total Citations: **2006** (*h-index: 24, i10-index: 40*) as on 13th Feb 2025.

Research Area of Interest:

- Synthesis and Characterization of novel 2D nanomaterials.
- Synthesis of carbon-based heterostructures for the development of optical and electrochemical biosensors.
- Graphitic C₃N₄ and its hybrid for the development of supercapacitor application.
- Development of 2D materials for energy storage devices and water splitting applications.
- Synthesis of mesoporous nanostructures using a soft/hard template for energy storage applications.
- Development of real solid-state devices for supercapacitor applications.

Research Skills:

- Synthesized nanomaterials with hydrothermal, solvothermal, nano casting (hard/soft templating), sonochemical, sol-gel, chemical, co-precipitation, spin-dip coating and microwave techniques.
- Handled sophisticated instruments like Cyclic Voltammeter, X-ray diffractometer, BET surface area analyzer, SEM, UV-Vis Spectrophotometer, Photoluminescence spectrophotometer, Particle size analyzer, Spin-Dip Coater, LB film coater, FTIR Spectrometer, DSC, TGA and DTA Analyzer.
- Handled Computational Chemistry Software like Gaussian, ORCA, GAMESS.

Awards and Recognitions:

- Qualified **UGC-NET** conducted by Council of Scientific and Industrial Research **June 2009**.
- G. Gopalrao award in “**31st Annual Conference Indian Council of Chemists**” organized by the **Department of Chemistry Saurashtra University, Rajkot**, 26th-28th December 2012.
- **Institute of Nano Science and Technology (DST)** sponsored Postdoctoral Fellowship on Feb. 2016.
- Best Poster Award In-House Symposium **Institute of Nano Science and Technology** Nov. 2016.

Teaching Experience: (9 Years till now)

2 Jan. 2015 –30 June 2015:	Assistant Professor (Contractual Faculty), Physical Chemistry in PEC University of Technology, Sector 12 (Chandigarh), India.
10 Aug. 2015 –08 Dec.2015:	Assistant Professor (Guest Faculty), Physical Chemistry in PEC University of Technology, Sector 12 (Chandigarh), India.
17 th July 2017- 22 nd April 2021	Assistant Professor (Chemistry), Physical Chemistry in Maharaja Agrasen University, Kalujhanda, Distt. Solan, (H.P.), India.
22 nd April 2021- till date	Assistant Professor (Chemistry) in DAV College, Sector 10 Chandigarh India.

Role as Reviewer (205 as per Publons):

Sensor Letters, Spectrochimica Acta A: Molecular and Biomolecular Spectroscopy (4), International Journal of Environmental Analytical Chemistry (2), Journal of Hazardous Materials (13), Indian Journal of Pharmaceutical Sciences (1), Journal of Physics and Chemistry of Solids (2), Mini-Review in Organic Chemistry (3), Material Today: Proceedings (26), Food Chemistry (2), Combinatorial Chemistry & High Throughput Screening (7), Trends in Food Science & Technology (3), Journal of Nanostructure in Chemistry (2), Material Research Express (1), International Journal of Chemical Kinetics (1), Turkish journal of fisheries and Aquatic sciences (1), and International Conference on Innovative Technologies for Clean and Sustainable Development (5).

Role as Editor:

- Associate Editorial Board Member **Current Analytical Chemistry** (IF 1.365).
- Associate Editorial Board Member **Journal of Environmental Materials and Sustainable Energy**.
- Guest Editor, Special Issue on **Environmental Research and Its Remediation: Polymer Science, Macromolecular Symposia, Wiley**.
- Guest Editor, Special Issue on Real-world Sustainability in **Environmental Science and Pollution Research (IF: 3.056), Springer**.
- Editorial Board Member **Discover Applied Sciences** (IF 2.8).
- Editorial board Member **Scientific Reports** (3.8).

Role as Research Guide:

1. Dr. Sugandha Sangar completed her Ph.D. entitled "Synthesis and Characterization of Bioinspired Silver nanoparticles for Optical Sensing and other Potential Applications" on 4th Oct. 2021.
2. Dr. Ekta Sharma completed her Ph.D. entitled "Development of Highly Fluorescent Carbonaceous Quantum Dots for optical Sensing Applications" on 14th Feb. 2022.
3. Dr. Vaishali Thakur completed her Ph.D. entitled "Utilization of Agricultural Waste as an Effective and Low Cost Biosorbent for the Application of Environmental Remediation" on 10th August 2023.
4. Ms. Rollania Negi pursuing her Ph.D. entitled "Functionalization of nanomaterials using Silatranyl linkers for monitoring emerging toxins in aquifers."
5. Ms. Harpreet Kaur pursuing her PhD "title yet to decide."

Key Attributes:

- Innovative and technical attitude towards research activities.
- Extremely hard working, disciplined & self-motivated.
- Take the initiative to shoulder responsibility and welcome challenges.
- Zeal for learning and exploring new opportunities.
- Quite flexible in any kind of environment.

References:

1. Prof. S.K. Mehta (Ph.D. Supervisor)
Professor, Department of Chemistry
Panjab University Chandigarh 160014 India
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Ph. No. +919417786061
2. Prof. Sukhjinder Singh (Ph. D. Supervisor)
Professor, Department of Chemistry
Panjab University, Chandigarh India 160014
Email: sukhis@pu.ac.in
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3. Dr. Kaushik Ghosh (Post-Doctoral Mentor)
Associate Dean Academic, Assistant Professor (Scientist D),
Institute of Nano Science & Technology Habitat Centre,
Sector- 64, Phase X, Mohali-160062 (Punjab) India.
Email: kaushik@inst.ac.in
Ph. No: +918427017574

Personal Information:

Father's Name : Late Sh. Roop Singh
Date of Birth : 12th March 1984
Sex : Male
Marital Status : Married
Spouse Name : Dr. Shikha Sharma
Address : Village Lower Tipra, P.O. Surajpur, Tehsil Baddi, District
Solan, Himachal Pradesh, India 174103.

Declaration:

I hereby declare that the above information is true to the best of my knowledge.



Date: 23/08/2024

Kulvinder Singh

Annexure A

Research Articles published in peer reviewed journals:

1. S.K. Mehta, **Kulvinder Singh**, A. Umar, G.R. Chaudhary and S. Singh, “Well-Crystalline α -Fe₂O₃ Nanoparticles for Hydrazine Chemical Sensor Application” *Science of Advanced Materials* 3 (2011) 962–967. (ISSN No: 1947-2935, I.F. 1.474 Citations 22)
2. S.K. Mehta, S. Gupta, Khushboo, **Kulvinder Singh**, and G.R. Chaudhary, “Multicomponent Gold Hybrid Structures: Synthesis and Applications” *Reviews in Advanced Sciences and Engineering* 1 (2012) 103-118. (ISSN No: 2157-9121, I.F. NA, Citations 6)
3. S.K. Mehta, **Kulvinder Singh**, A. Umar, G.R. Chaudhary and S. Singh, “Ultra-high sensitive hydrazine chemical sensor based on low temperature grown ZnO nanoparticles” *Electrochimica Acta* 69 (2012) 128-133. (ISSN No: 0013-4686, I.F. 6.6, Citations 84)
4. **Kulvinder Singh**, A. Umar, A. Kumar, G.R. Chaudhary, S. Singh and S.K. Mehta, “Non-Enzymatic glucose sensor based on well-crystalline ZnO nanoparticles” *Science of Advanced Materials* 4 (2012) 994-1000. (ISSN No: 1947-2935, I.F. 1.474, Citations 48)
5. **Kulvinder Singh**, G.R. Chaudhary, S. Singh and S.K. Mehta, “Synthesis of highly luminescent water stable ZnO quantum dots as photoluminescent sensor for picric acid” *Journal of Luminescence* 154 (2014) 148-154. (ISSN: 0022-2313, I.F. 3.6, Citations 49)
6. **Kulvinder Singh**, A.A. Ibrahim, A. Umar, A. Kumar, G.R. Chaudhary, S. Singh and S.K. Mehta, “Synthesis of CeO₂-ZnO nanoellipsoids as potential scaffold for the efficient detection of 4-nitrophenol” *Sensors and Actuators B: Chemical* 202 (2014) 1044-1050. (ISSN: 0925-4005, I.F. 8.4, Citations 98)
7. **Kulvinder Singh**, A. Kaur, A. Umar, G.R. Chaudhary, S. Singh and S.K. Mehta, “A comparison on the performance of zinc oxide and hematite nanoparticles for highly selective and sensitive detection of para-nitrophenol” *Journal of Applied Electrochemistry* 45 (2015) 253-261. (ISSN: 0021-891X, I.F. 2.9, Citations 44)

8. **Kulvinder Singh** and S.K. Mehta “Utilization of ZnO Nanoflowers as Efficient Electrochemical Catalyst for the Oxidation of Hydrazine” *Sensor Letters* 13 (2015) 1002-1006. (ISSN: 1546-198X, I.F. NA, Citations 22)
9. **Kulvinder Singh** and S.K. Mehta, “Luminescent ZnO quantum dots as an efficient sensor for free chlorine detection in water” *Analyst* 141 (2016) 2487-2492. (ISSN 1364-5528, I.F. 4.2, Citations 63)
10. **Kulvinder Singh** and S.K. Mehta, “Electrochemical Determination of Hydrazine Using ZnO Nanoellipsoids Modified Gold Electrode” *Sensor Letters* 14 (2016) 577-582. (ISSN: 1546-198X, I.F. NA, Citations 4)
11. V. Kumar, **Kulvinder Singh**, S. Panwar and S.K. Mehta “Green Synthesis of Manganese oxide nanoparticles for electrochemical sensing of p-nitrophenol” *International Nano Letters* 7 (2017) 123–131. (ISSN:2228-5326, I.F. 3.7, Citations 75)
12. V. Kumar, **Kulvinder Singh**, H. Kaur, M.Shorie and P. Sharma “Rapid Acetone Detection using Indium loaded WO₃/SnO₂ Nanohybrid Sensor” *Sensor and Actuators: B. Chemical* 253 (2017) 703-713. (ISSN: 0925-4005, I.F. 8.4, Citations 121)
13. **Kulvinder Singh**, S. Kumar, K. Agarwal, K. Soni, V.R. Gedela and K. Ghosh, “Three-Dimensional Graphene with MoS₂ Nanohybrid as Potential Energy Storage/Transfer Device” *Scientific Reports* 7 (2017) 9758. (ISSN: 2045-2322, I.F. 4.6, Citations 85)
14. M. Shorie, V. Kumar, H. Kaur, **Kulvinder Singh**, V.K. Tomer and P. Sabherwal, “Plasmonic DNA hotspots made from tungsten disulfide nanosheets and gold nanoparticles for ultrasensitive aptamer-based SERS detection of myoglobin” *Microchimica Acta* 185 (2018) 158-165. (ISSN: 0026-3672, I.F. 5.7, Citations 68)
15. A. Umar, **Kulvinder Singh**, S. K. Mehta, H. Fouad, and O.Y. Alothman “Highly Sensitive Enzyme-Less Glucose Biosensor Based on α -Fe₂O₃ Nanoparticles” *Nanoscience and Nanotechnology Letters* 10 (2018) 429-434. (ISSN: 1941-4900, I.F. 1.128, Citations 18)
16. Y. Al-Hadeethi, A.Umar, **Kulvinder Singh**, A. A. Ibrahim, H. S. Al-Heniti, B.M. Raffah, and A. Cochis, “Highly Sensitive Picric Acid Chemical Sensor Based on Samarium (Sm) Doped ZnO Nanorods” *Journal of Nanoscience and Nanotechnology* 19 (2019) 3637-3642. (ISSN: 1533-4880, I.F. 1.354, Citations 6)
17. M. Shorie, H. Kaur, G. Chadha, **Kulvinder Singh**, and P. Sabherwal “Graphitic carbon nitride QDs impregnated biocompatible agarose cartridge for removal of

- heavy metals from contaminated water samples” *Journal of Hazardous Materials* 367 (2019) 629-638. (ISSN: 0304-3894, I.F. 13.6, Citations 88)
18. Y. Al-Hadeethi, A. Umar, **Kulvinder Singh**, A. A. Ibrahim, S. Al-Heniti and B. M. Raffah “Ytterbium-Doped ZnO Flowers Based Phenyl Hydrazine Chemical Sensor” *Journal of Nanoscience and Nanotechnology* 19 (2019) 4199-4204. (ISSN: 1533-4880, I.F. 1.354, Citations 12)
 19. S. Sangar, S. Sharma, V.K. Vats, S.K. Mehta and **Kulvinder Singh*** “Biosynthesis of silver nanocrystals, their kinetic profile from nucleation to growth and optical sensing of mercuric ions” *Journal of Cleaner Production* 228 (2019) 294-302. (ISSN: 0959-6526, I.F. 11.1, Citations 30)
 20. E. Sharma, D. Vashisht, A. Vashisht, V.K. Vats, S.K. Mehta and **Kulvinder Singh*** “Facile synthesis of sulfur and nitrogen codoped graphene quantum dots for optical sensing of Hg and Ag ions” *Chemical Physics Letters* 730 (2019) 436-444. (ISSN: 0009-2614, I.F. 2.8, Citations 33)
 21. A. Rani, **Kulvinder Singh***, A.S. Patel, A. Chakraborti, S. Kumar, K. Ghosh and P. Sharma “Visible light driven photocatalysis of organic dyes using SnO₂ decorated MoS₂ nanocomposites” *Chemical Physics Letters* 738 (2020) 136874. (ISSN: 0009-2614, I.F. 2.8, Citations 74)
 22. D. Vashisht, E. Sharma, M. Kaur, A. Vashisht, S.K. Mehta and **Kulvinder Singh*** “Solvothermal assisted phosphate functionalized graphitic carbon nitride quantum dots for optical sensing of Fe ions and its thermodynamic aspects” *Spectrochimica Acta Part A: Molecular and Biomolecular Spectroscopy* 228 (2020) 117773. (ISSN: 1386-1425, I.F. 4.4, Citations 30)
 23. A. Singh, Chayawan, S.K. Mehta and **Kulvinder Singh*** “Catalyst free enantioselective amination via S_N2 nucleophilic substitution reaction: a computational study” *Molecular Simulation* 4 (2020) 942-946. (ISSN: 0892-7022, I.F. 2.1, Citations 2)
 24. S. Kumar, S. Riyajuddin, **Kulvinder Singh**, L. Yadav, T. Maruyama and K. Ghosh “Strategy to improve the super-capacitive and hydrogen evolution performance of graphitic carbon nitrides via enrichment of carbon content” *Journal of Alloys and Compounds* 858 (2021) 15761. (ISSN: 0925-8388, I.F. 6.2, Citations: 8)
 25. A. Singh, A. Singh, Amanjot, **Kulvinder Singh**, G. Singh and A. Saroa “Role of non-conventional hydrogen bonding in controlling regioselectivity for nucleophilic

- aromatic substitution of 4,6-dinitroisoindoline-1,3-dione with 1,2,3-triazole isomers: a computational studies” *Structural Chemistry* 32 (2021) 1269-1278. (ISSN:1040-0400, I.F.1.7, Citations: 2)
26. A. Rani, A.S. Patel, A. Chakraborti, **Kulvinder Singh*** and P. Sharma “Enhanced photocatalytic activity of plasmonic Au nanoparticles incorporated MoS₂ nanosheets for degradation of organic dyes” *Journal of Materials Science: Materials in Electronics* 32 (2021) 6168-6184. (ISSN:0957-4522, I.F. 2.8, Citations: 19)
 27. V. Thakur, A. Guleria, S. Kumar, S. Sharma and **Kulvinder Singh*** “Recent advancements in nanocellulose processing, functionalization and applications: A review” *Materials Advances* 2 (2021) 1872-1895. (ISSN:2633-5409 I.F. 5.0, Citation: 131)
 28. D. Vashisht, S. Sangar, M. Kaur, E. Sharma, A. Vashisht, A.O. Ibadon, S. Sharma, S. K. Mehta and **Kulvinder Singh*** “Biosynthesis of silver nanospheres, kinetic profiling and their application in the optical sensing of mercury and chlorite ions in aqueous solutions” *Environmental Research* 197 (2021) 111142 (ISSN: 0013-9351 I.F. 8.3, Citations 10).
 29. E. Sharma, D Vashisht, V. Thakur, A. Vashisht, S.K. Mehta and **Kulvinder Singh*** “Graphene quantum dots functionalized with Bovine Serum Albumin for sensing of hypochlorite ions” *Materials Chemistry and Physics* 273 (2021) 125088. (ISSN: 0254-0584, I.F. 4.778, Citations 5).
 30. K. Sen, S. Ali, D. Rana, **Kulvinder Singh** and N. Gupta “Development of metal free melamine modified graphene oxide for electrochemical sensing of epinephrine” *FlatChem* 30 (2021) 100288. (ISSN: 0254-0584, I.F. 6.2, Citations 22).
 31. N. Bhardwaj, P. Sharma, **Kulvinder Singh***, D. Rana and Vineet Kumar “*Phyllanthus emblica* seed extract as corrosion inhibitor for stainless steel used in petroleum industry (SS-410) in acidic medium” *Chemical Physics Impact* 3 (2021) 100038. (ISSN: 2667-0224, I.F. 2.2, Citations 18).
 32. A. Guleria, G. Kumari, E.C. Lima, D.K. Ashish, V. Thakur and **Kulvinder Singh*** “Recent progress on cleaner approach towards sustainable biomass based adsorbents for removal of inorganic toxic contaminants from wastewaters” *Science Of The Total Environment* 823, (2022) 153689. (ISSN: 0048-9697, I.F. 9.8, Citations 45).
 33. S. Kumar, S.K. Mehta, V. Thakur, A. Vashisht and **Kulvinder Singh*** “Exploring the Surfactant structure efficacy in controlling growth and stability of HgS

- Nanoparticles in aqueous medium” *Chemical Physics Impact*, 4 (2022) 100070. (ISSN: 2667-0224, I.F. 2.2, Citations 3).
34. A. Soni, **Kulvinder Singh** and P. Sharma “Investigation of Visible Light Photocatalytic Degradation of Organic Dyes by MoS₂ Nanosheets Synthesized by Different Routes” *Bulletin of Materials Science* 45 (2022) 63. (ISSN:0250-4707, I.F. 1.8, Citations: 9)
 35. Amanjot, R. Kumar, A. Singh, **Kulvinder Singh**, M.D. Sharma, A. Singh, P. Sharma, and A. Saroa “Comparative computational studies for nucleophilic aromatic substitution of dinitro-substituted benzannulated heterocycles with 1H-1, 2, 3-triazole” *Structural Chemistry* (2022) (ISSN: 1572-9001, I.F. 1.7, Citations NA).
 36. M. Kaur, A. Gautam, P. Guleria, **Kulvinder Singh***, and V. Kumar “Green synthesis of metal nanoparticles and their environmental applications” *Current Opinion in Environmental Science & Health*, 29 (2022) 100390 (ISSN: 2468-5844, I.F. 8.1, Citations 37)
 37. S. Kumar, A. Awasthi, M.D. Sharma, **Kulvinder Singh***, and D. Singh “Functionalized multiwall carbon nanotube-molybdenum disulphide nanocomposite based electrochemical ultrasensitive detection of neurotransmitter epinephrine” *Materials Chemistry and Physics*, 290 (2022) 126656 (ISSN: 0254-0584, I.F. 4.6, Citations 11)
 38. B Singh, R. Kaur, R. Kaur, **Kulvinder Singh**, and S. Rana, “A highly stable solid-state supercapacitor device based on robust layer-by-layer electrodeposited poly-(3, 4-ethylenedioxythiophene)-reduced graphene oxide–molybdenum disulfide nanocomposite electrode” *Journal of Energy Storage* 56 (2022) 105926 (ISSN: 2352-152X, I.F. 9.4, Citations 10).
 39. K. Mansi, R. Kumar, D. Narula, S.K. Pandey, V. Kumar, and **Kulvinder Singh*** “Microwave-Induced CuO Nanorods: A Comparative Approach between Curcumin, Quercetin, and Rutin to Study Their Antioxidant, Antimicrobial, and Anticancer Effects against Normal Skin Cells and Human Breast Cancer Cell Lines MCF-7 and T-47D” *ACS Appl. Bio Mater.* 5 (2022) 5762–5778. (ISSN: 2576-6422, I.F. 4.7, Citations 4).
 40. Amanjot, R. Kumar, A. Singh, S. Kumar, A. Singh, A. Saroa, Vivek, **Kulvinder Singh*** “Efficiency of C = Se as hydrogen bond acceptor in controlling regioselective amination of 5,7-dinitroquinazoline-4-selenone: Quantum mechanical, AIM and

- docking analysis by density functional method” *Computational and Theoretical Chemistry* 1219 (2023) 113962 (ISSN: 2210-2728, I.F. 2.8, Citations NA)
41. A. Gyanjyoti, P. Guleria, A. Awasthi, **Kulvinder Singh***, V. Kumar “Recent advancement in fluorescent materials for optical sensing of pesticides” *Materialstoday Communication*, 34 (2023) 105193. (ISSN: 2352-4928, I.F. 3.8, Citations 4)
 42. K. Mansi, R. Kumar, N. Jindal, **Kulvinder Singh*** “Biocompatible nanocarriers an emerging platform for augmenting the antiviral attributes of bioactive polyphenols: A review” *Journal of Drug Delivery Science and Technology*, 81 (2023) 104269. (ISSN: 2588-8943, I.F. 5.0, Citations 4).
 43. S. Kumar, D. Singh, D. Pathania, A. Awasthi, **Kulvinder Singh*** “Molybdenum disulphide-nitrogen doped reduced graphene oxide heterostructure based electrochemical sensing of epinephrine” *Materials Chemistry and Physics* 297 (2023) 127446. (ISSN: 0254-0584, I.F. 4.6, Citations 9).
 44. J. Singh, N. Jindal, V. Kumar, **Kulvinder Singh*** “Role of green chemistry in synthesis and modification of graphene oxide and its application: A review study” *Chemical Physics Impact*, 6 (2023) 100185. (ISSN: 2667-0224, I.F. 2.2, Citations 11).
 45. A. Rani, **Kulvinder Singh**, A.S. Patel, P. Sharma “Factors affecting photocatalytic degradation of methyl red by MoS₂ nanostructures prepared by hydrothermal technique” *Bulletin of Materials Science* 46 (2023) 94. (ISSN: 0973-7669, I.F. 1.8 Citations 2).
 46. V. Thakur, P. Sharma, A. Awasthi, A. Guleria, **Kulvinder Singh*** “Utility of Acrylic Acid Grafted Lignocellulosic Waste Sugarcane Bagasse for the Comparative study of Cationic and Anionic Dyes Adsorption Applications” *Environmental Nanotechnology, Monitoring & Management* 20 (2023) 100824. (ISSN: 2215-1532, I.F. NA Citations 10).
 47. Amanjot, R. Kumar, A. Singh, **Kulvinder Singh***, M.D. Sharma, A. Singh, P. Sharma, A. Saroa “Comparative computational studies for nucleophilic aromatic substitution of dinitro-substituted benzannulated heterocycles with 1H-1, 2, 3-triazole” *Struct. Chem.* 34 (2023) 505–517. (ISSN: 1572-9001, I.F. 1.7, Citations 0)
 48. Namisha, N. Jindal, V. Kumar, **Kulvinder Singh*** “Advancements in Photocatalytic Applications of Metal Ferrites for Water Pollution Remediation: A Focus on Biosynthesis and Innovations” *Chemistry Africa* 7 (2023) 35-51. (ISSN: 2522-5766, I.F. 2.6, Citations 0)

49. M. Kaur, V. Kumar, A. Awasthi, **Kulvinder Singh*** “Gum arabic–assisted green synthesis of biocompatible MoS₂ nanoparticles for methylene blue photodegradation” *Environ. Sci. Pollut. Res.* 30 (2023) 112847–112862. (ISSN: 1614-7499, I.F. 5.8, Citations 0)
50. A. Saroa, A. Singh, N. Jindal, R. Kumar, **Kulvinder Singh**, P. Guleria, R. Boopathy, V. Kumar “Nanotechnology-assisted treatment of pharmaceuticals contaminated water” *Bioengineered* 14 (2023) 1. (ISSN: 2165-5979, I.F. 4.9, Citations 3).
51. D. Balram, K.-Y. Lian, N. Sebastian, V. Kumar, V. K. Yadav, A. Patel, **Kulvinder Singh** “Graphene-metal sulfide composite based gas sensors for environmental sustainability: A review” *Sensors International* 5 (2024) 100269. (ISSN: 2666-3511, I.F. NA, Citation 0).
52. S. Kumar, R. Sharma, D. Singh, A. Awasthi, V. Kumar, **Kulvinder Singh*** “Tungsten sulphide decorated carbon nanotube based electroanalytical sensing of neurotransmitter dopamine” *Electrochim. Acta* 475 (2024) 143584. (ISSN: 1873-3859, I.F. 6.6, Citation 3).
53. M. Kaur, J. Singh, M. Chauhan, V. Kumar, **Kulvinder Singh*** “Green synthesis of TiO₂-Al₂O₃-ZnFe₂O₄ nanocomposite using the *Hibiscus rosa sinesis* and evaluation of its photocatalytic applications” *Open Ceramics* 18 (2024) 100571. (ISSN: 2666-5395, I.F. NA, Citation 0).
54. R. Negi, S. Thakur, R. Singh, V. Kaur, **Kulvinder Singh** “Double-layer protection of stainless steel by using triethylammonium-3-silatranylpropyldithiocarbamate as a corrosion inhibitor: Experimental and computational studies” *Journal of Molecular Structure* 1309 (2024) 138166. (ISSN: 1872-8014, I.F. 3.8, Citation 0).
55. M. Kaur, **Kulvinder Singh***, Vineet Kumar “Green Synthesis of Silver Nanoparticles Using *Penicillium camemberti* and its Biological Applications” *BioNanoScience* 2024. (ISSN: 2191-1649, I.F. 3.0, Citation 0).
56. M. Kaur, D. Rohilla, M. Chauhan, V. Kumar, **Kulvinder Singh*** “Synthesis and application of natural clam shell derived adsorbents for removal of azo dyes from wastewater” *Cleaner Engineering and Technology* 23 (2024), 100854. (ISSN: 2666-7908, I.F. 5.3, Citation 0).
57. V. Thakur, P. Sharma, A. Awasthi, S. Sharma, A. Guleria, **Kulvinder Singh*** “Adsorptive capacity of acrylonitrile grafted cellulosic wheat straw for the analysis on anionic and cationic dye removal” *Biomass Conv. Bioref.* (2024).

Book Chapters

1. **Kulvinder Singh** “Nanosensors for food safety and environmental Monitoring” *Nanotechnology for Food Agriculture and, Environment*, Springer Cham, Page: 63-84, ISSN No. 978-3-030-31938, DOI: https://doi.org/10.1007/978-3-030-31938-0_4.
2. N. Jindal, **Kulvinder Singh** “Fabrication and Functionalization of Ionic Liquids” *Functionalized Nanomaterials I* CRC Press.
3. Garima Kumari, Eder Lima, **Kulvinder Singh**, Nitesh Kumar, Anupam Guleria, Dinesh Kumar, Ashish Guleria “Cellulose-Based Nanoadsorbents for Wastewater Remediation” *Removal of Refractory Pollutants from Wastewater Treatment Plants*, CRC Press DOI <https://doi.org/10.1201/9781003204442>.
4. G. Kumari, A. Guleria, Kulvinder Singh, N. Kumar, A. Guleria, D. Kumar and E. Lima “Lignocellulosic biopolymers as potential biosorbents” *Biomass, Biofuels, Biochemicals*, Elsevier, DOI: <https://doi.org/10.1016/B978-0-12-824419-7.00022-4>.
5. E. Sharma, A. Guleria, Kulvinder Singh, R. Malik, and V.K. Tomer “Carbon nitride-based optical sensors for metal ion detection” Elsevier, DOI: <https://doi.org/10.1016/B978-0-12-823961-2.00005-7>.
6. A. Thakur, A. Kumar, H. Kaur, **Kulvinder Singh** “Nanomaterials in Environmental Remediation: An Ecotoxicity and Risk Analysis” Bentham Science DOI: <https://doi.org/10.2174/97898152236131240101>.
7. E. Sharma, V. Thakur, **Kulvinder Singh** “Carbonaceous Quantum Dots and Their Application in Environmental Remediation” Bentham Science, DOI: <https://doi.org/10.2174/97898152236131240101>.

Conference Proceeding

1. E. Sharma, V. Thakur, S. Sangar, **Kulvinder Singh** “Recent Progress on Heterostructures of Photocatalysts for Environmental Remediation” *Material Today: Proceeding* 32 (2020) 584-593. (ISSN: 2214-7853 IF:NA Citations 7)
2. V. Thakur, E. Sharma, A. Guleria, S. Sangar, **Kulvinder Singh** “Modification and Management of lignocellulosic waste as an ecofriendly biosorbent for the application of heavy metal ions sorption” *Material Today: Proceeding* 32 (2020) 608-619. (ISSN: 2214-7853 IF:NA Citations 18)

Annexure-B

CONFERENCE AND SYMPOSIA ATTENDED

International:

1. Presented poster in “**Professor Ram Chand Paul International Conference**” on emerging trends in chemistry organized by the **Department of Chemistry, Panjab University, Chandigarh**, 11-12 Feb 2011.
2. Presented poster in “**International Conference on Innovations in Chemistry for Sustainable Development (ICSD-2011)**” organized by the **Department of Chemistry, Panjab University, Chandigarh**, held on 1-3 Dec 2011.
3. Presented Poster in “**International Conference on Frontier in Nanoscience, Nanotechnology and Their Applications (NanoSciTech 2012)**” organized by **Department of Chemical Engineering, Panjab University, Chandigarh**, held on 16-18 Feb 2012.
4. Presented a paper in “**Pharmacology for Future: Towards Translational Approach for Next Generation Pharmacologists**” Sponsored by SERB, Govt. of India, at Maharaja Agrasen University, Baddi, 4-6 October 2018.

National:

1. Presented poster at “**13th Panjab Science Congress**” organized by the **Panjab University, Chandigarh**, 7th-9th February 2010.
2. Presented poster in “**Professor Ram Chand Paul VI National Annual Symposium**” on **Emerging areas in Chemical Sciences**” organized by the **Department of Chemistry, Panjab University, Chandigarh**, 5th -6th March 2010.
3. Presented poster in “**4th Chandigarh Science Congress CHASCON**” organized by the **Panjab University, Chandigarh**, 19th -20th March 2010.
4. Presented poster in “**Biotechnica Chandigarh**” organized by the **Panjab University, Chandigarh**, 16th -18th November 2010.
5. Presented poster in “**29th Annual Conference Indian Council of Chemists**” organized by the **Department of Chemistry, Panjab University, Chandigarh**, 19th -21st December 2010.
6. Presented poster in “**5th Chandigarh Science Congress CHASCON**” organized by the **Panjab University, Chandigarh**, 26th -28th February 2011.

7. Presented poster at “**Chemical Research Society of India North Zone Meeting**” organized by the **University of Jammu, Jammu**, 22nd -24th September 2011.
8. Presented poster in “**National Symposium on Chemistry Innovations for Human Well Being**” organized by the **Department of Chemistry Himachal Pradesh University, Shimla**, 21st -22nd October 2011.
9. Presented poster in “**National Symposium on Recent Advances in Chemical Sciences**” organized by the **Panjab University, Chandigarh**, 20th September 2012.
10. Presented poster in “**Professor Ram Chand Paul National Symposium on Frontier in Chemical Sciences**” organized by the **Department of Chemistry, Panjab University, Chandigarh**, 24th -25th February 2012.
11. Presented a poster in “**6th Chandigarh Science Congress CHASCON**” organized by the **Panjab University, Chandigarh**, 26th -28th February 2012.
12. Presented a talk in “**31st Annual Conference Indian Council of Chemists**” organized by the **Department of Chemistry Saurashtra University, Rajkot**, 26th -28th December 2012.
13. Presented a paper in two-days National Conference on “**Strategies to Mitigate the Effect of Climate Change: Step toward Sustainable Development**” by School of Basic and Applied Sciences, Maharaja Agrasen University, Baddi, 8-9 December 2017.
14. Invited Talk in “**FACT-2018**” organized by the **Chandigarh region innovation and knowledge cluster (CRIKC), Panjab University, Chandigarh**, 28-29th April 2018.
15. Attended one-week workshop on “**Research Methodology & Data Analysis**”, organized by Maharaja Agrasen University, Baddi, 9-15 July 2018.
16. Participated in workshop on “**Nanostructured Metal Oxides for Sensing and Environmental Applications**” organized by Global Initiative for Academic Networks, Panjab University Chandigarh, 6-10 August 2018.
17. Participated in One-week Workshop on “**ICT Tools for Teaching, Learning Process & Institutes**” Organized jointly by MNIT Jaipur, NIT Patna, IIITDM Jabalpur, IIT Guwahati, Under Scheme of Financial Assistance for Setting up of Electronics and ICT Academics by the Ministry of Electronics and Information Technology (MeitY) Government of India, 13-17 January 2020.

18. Attended Faculty Development Program “**GURU DAKSHATA: Faculty Induction Programme (FIP-3)**” from 7th Feb to 12th March 2022 organized by Jai Narain Vyas University, Jodhpur-342001, Rajasthan.
19. Attended Refresher course “**Managing Online Classes & Co- creating MOOCS 27.0**” from 6th – 20th June, 2023 organized by Ramanujan College, University of Delhi.
20. Attended one week refresher course as **Resource Person** on topic “**Green Chemistry in supercapacitors**” in “**Role of Nanotechnology for Environmental Remediation**” organized by Maharaja Agrasen University on 11 Nov 2024.