

Dr. Ankit Verma

Assistant Professor

ICFAI University, Himachal Pradesh, India

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Personal Particulars:

- **Address** : Village Jamroti, Post office Bhumti, Tehsil, Arki, District Solan, Himachal Pradesh
- **Date of Birth** : 26/08/1994
- **Nationality** : INDIAN
- **Languages** : English, Hindi
- **Web Links:**
<https://scholar.google.com/citations?hl=en&user=YtBMHA4AAAAJ> (Google Scholar)
<https://www.scopus.com/authid/detail.uri?authorId=57213158980> (Scopus)

Present Position/ Experience:

- ❖ **Assistant Professor** Department of Chemistry, ICFAI University, Himachal Pradesh, India (April 2022 – Present).
- ❖ **Assistant Professor** Department of Chemistry, Shoolini Institute of Life Sciences & Business Management, Solan, H.P., India (20th July 2021 – 30th March 2022).

Project Experiences:

- ❖ Ph.D. project title is “Fabrication of multi-functional bio-inspired polymeric material for organic pollutant removal”.
- ❖ M.Sc. project title is “Magnetic Fe₃O₄/Cu₂O/Bi₂O₃ Ternary Nano Heterojunction for Environment applications”.

Research Performance:

- Oral presentation delivered in “One-Day International Conference on Recent Advances in Green & Sustainable Chemistry, 22nd December, 2022 ". Organized by the Maharaja Agrasen University.
- Oral presentation delivered in “International Conference on Cutting Edge Research in Chemistry and Sustainable Environmental Solutions, February 20-21, 2021". Organized by the Chitkara University.
- Oral presentation delivered in “International e-conference on Progress of Sciences and Technology During Pandemic (PSTDP-2021) September 11-12, 2021" Organized by the Him Sciences Congress Association.
- Poster presented in “International symposium on functional materials (Energy and Biomedical Applications) 2018”. Topic “Biopolymer based nanocomposite for the water remediation”.
- Poster presented in “Professor Ram Chand Paul National Symposium on Emerging Chemical Innovations for Swachh, Swasth & Sarvatra Bharat” 2020. Topic “Graphite modified sodium alginate hydrogel composite for efficient removal of cationic dye”.
- Attended five days “National e-Workshop on Instrumentation Techniques in Chemical Sciences (ITCS-2021)”, June 25-29, 2021.
- Attended three-days online international workshop on “Advanced Characterization Techniques for materials (ACTM-2021)”.

- Attended one-week short term course (Through online mode) on “Recent advances in nanoscience and nanotechnology (RANN-2020)”.
- Attended two days online National Workshop on “Research Methodology: Concepts and applications”.
- Attended International Symposium on “Understanding the Corona Pandemic & its implications”
- Attended online Conference on “Environmental Pollutants and Cancer”.
- Attended National workshop-cum training program on HPLC and GC-MS.

Membership:

- Life time Membership of Him Science Congress Association.

Research Interests:

- Hydrogel and hydrogel composites for potential applications.
- Synthesis and characterization of hydrogel.
- Hydrogels utilized for the removal of organic and inorganic pollutants from waste water.
- Hydrogels utilized for the in-vitro and in-vivo drug delivery.
- Ferrite-based nanomaterials used for the degradation of organic pollutants.

Instrumental Knowledge:

- UV Spectrometer
- TGA (Thermogravimetric Analysis)
- pH Meter
- XRD (X-ray Diffractometer)
- FESEM (Field Emitting Scanning Electron Microscopy)
- TEM (Transmission Electron Microscopy)
- FTIR (Fourier Transform Infrared Resonance) Spectrometer

Courses Taught:

- Statistical Thermodynamics
- Chemical Thermodynamics
- Quantum Chemistry
- Photochemistry
- Kinetics
- Resonance Spectroscopy
- Molecular Spectroscopy
- Coordination Chemistry
- Organometallics
- Polymer Chemistry

Key Publications:

1. **Ankit Verma**, Sourbh Thakur, Gcina Mamba, Raju Kumar Gupta, Pankaj Thakur, Vijay Kumar Thakur. Graphite modified sodium alginate hydrogel composite for efficient removal of malachite

- green dye. International Journal of Biological Macromolecules. (**Impact factor: 8.2**) (**Cite Score: 14.5**)
2. **Ankit Verma**, Bhawna Sharma, Susheel Kalia, Walaa Fahad Alsanie, Sourbh Thakur, Vijay Kumar Thakur. Carboxymethyl cellulose based sustainable hydrogel for colon-specific delivery of gentamicin. International Journal of Biological Macromolecules. (**Impact factor: 8.2**) (**Cite Score: 14.5**)
 3. Sourbh Thakur, **Ankit Verma**, Pankaj Raizada, Oguzhan Gunduz, Dawid Janas, Walaa F Alsanie, Fabrizio Scarpa, Vijay Kumar Thakur. Bentonite-based sodium alginate/dextrin cross-linked poly (acrylic acid) hydrogel nanohybrids for facile removal of paraquat herbicide from aqueous solutions. Chemosphere. (**Impact factor: 8.8**) (**Cite Score: 13.3**)
 4. Sourbh Thakur, **Ankit Verma**, Vinod Kumar, Xiao Jin Yang, Satheesh Krishnamurthy, Frederic Coulon, Vijay Kumar Thakur. Cellulosic biomass-based sustainable hydrogels for wastewater remediation: Chemistry and prospective. Fuel. (**Impact factor: 7.4**) (**Cite Score: 12.2**)
 5. Sourbh Thakur, Bhawna Sharma, **Ankit Verma**, Jyoti Chaudhary, Sigita Tamulevicius, Vijay Kumar Thakur. Recent progress in sodium alginate based sustainable hydrogels for environmental applications. Journal of cleaner production. (**Impact factor: 11.1**) (**Cite Score: 18.5**)

Total Publications:

1. Ankit Verma, Sourbh Thakur, Gcina Mamba, Raju Kumar Gupta, Pankaj Thakur, Vijay Kumar Thakur. Graphite modified sodium alginate hydrogel composite for efficient removal of malachite green dye. International Journal of Biological Macromolecules. 2020 Jan 16. (**Impact factor: 8.2**) (**Cite Score: 14.5**)
2. Ankit Verma, Bhawna Sharma, Susheel Kalia, Walaa Fahad Alsanie, Sourbh Thakur, Vijay Kumar Thakur. Carboxymethyl cellulose based sustainable hydrogel for colon-specific delivery of gentamicin. International Journal of Biological Macromolecules. (**Impact factor: 8.2**) (**Cite Score: 14.5**)
3. Sourbh Thakur, Ankit Verma, Vinod Kumar, Xiao Jin Yang, Satheesh Krishnamurthy, Frederic Coulon, Vijay Kumar Thakur. Cellulosic biomass-based sustainable hydrogels for wastewater remediation: Chemistry and prospective. Fuel. (**Impact factor: 7.4**) (**Cite Score: 12.2**)
4. Sourbh Thakur, Ankit Verma, Walaa F Alsanie, Graham Christie, Vijay Kumar Thakur. On the Graphene and Its Derivative Based Polymer Nanocomposites for Glucose Sensing. Materials Letters. (**Impact factor: 3**) (**Cite Score: 5.8**)
5. Sourbh Thakur, Ankit Verma, Bhawna Sharma, Jyoti Chaudhary, Sigita Tamulevicius, Vijay Kumar Thakur. Recent developments in recycling of polystyrene based plastics. Current Opinion in Green and Sustainable Chemistry. (**Impact factor: 9.3**) (**Cite Score: 13.2**)
6. Sourbh Thakur, Bhawna Sharma, Ankit Verma, Jyoti Chaudhary, Sigita Tamulevicius, Vijay Kumar Thakur. Recent progress in sodium alginate based sustainable hydrogels for environmental applications. Journal of cleaner production. (**Impact factor: 11.1**) (**Cite Score: 18.5**)
7. Sourbh Thakur, Bhawna Sharma, Ankit Verma, Jyoti Chaudhary, Sigita Tamulevicius, Vijay Kumar Thakur. Recent approaches in guar gum hydrogel synthesis for water purification. International Journal of Polymer Analysis and Characterization. (**Impact factor: 2.5**)

8. Sourbh Thakur, Jyoti Chaudhary, Bhawna Sharma, Ankit Verma, Sigita Tamulevicius, Vijay Kumar Thakur. Sustainability of bioplastics: Opportunities and challenges. *Current Opinion in Green and Sustainable Chemistry*. (**Impact factor: 9.3**) (**Cite Score: 13.2**)
9. Rohit Jasrotia, Virender Pratap Singh, Bhawna Sharma, Ankit Verma, Pooja Puri, Rajesh Sharma, Mahavir Singh. Sol-gel synthesized Ba-Nd-Cd-In nano-hexaferrites for high frequency and microwave devices applications. *Journal of Alloys and Compounds*. (**Impact factor: 6.2**) (**Cite Score: 10.9**)
10. Rohit Jasrotia, Pooja Puri, Ankit Verma, Virender Pratap Singh. Magnetic and electrical traits of sol-gel synthesized Ni-Cu-Zn nanosized spinel ferrites for multi-layer chip inductors application. *Journal of Solid-State Chemistry*. (**Impact factor: 3.3**) (**Cite Score: 5.6**)
11. Ankit Verma, Sourbh Thakur, Gaurav Goel, Jog Raj, Vijai Kumar Gupta, David Roberts, Vijay Kumar Thakur. Bio-based Sustainable Aerogels: New Sensation in CO₂ Capture. *Current Research in Green and Sustainable Chemistry*. (**Cite Score: 5.3**)
12. Satvinder Kour, Rohit Jasrotia, Pooja Puri, Ankit Verma, Bhawna Sharma, Virender Pratap Singh, Rajesh Kumar, Susheel Kalia. Improving photocatalytic efficiency of MnFe₂O₄ ferrites via doping with Zn²⁺/La³⁺ ions: photocatalytic dye degradation for water remediation. *Environmental Science and Pollution Research*. (**Impact factor: 5.8**)
13. Sourbh Thakur, Ankit Verma, Pankaj Raizada, Oguzhan Gunduz, Dawid Janas, Walaa F Alsanie, Fabrizio Scarpa, Vijay Kumar Thakur. Bentonite-based sodium alginate/dextrin cross-linked poly (acrylic acid) hydrogel nanohybrids for facile removal of paraquat herbicide from aqueous solutions. *Chemosphere*. (**Impact factor: 8.8**) (**Cite Score: 13.3**)
14. Jasrotia R, Verma A, Verma R, Godara SK, Ahmed J, Mehtab A, Ahmad T, Puri P, Kalia S. Photocatalytic degradation of malachite green pollutant using novel dysprosium modified Zn–Mg photocatalysts for wastewater remediation. *Ceramics International*. (**Impact factor: 5.2**) (**Cite Score: 8.8**)
15. Jasrotia R, Verma A, Verma R, Kumar S, Ahmed J, Krishan B, Kumari S, Tamboli AM, Sharma S, Kalia S. Nickel ions modified CoMg nanophotocatalysts for solar light-driven degradation of antimicrobial pharmaceutical effluents. *Journal of Water Process Engineering*. (**Impact factor: 7**) (**Cite Score: 9.7**)
16. Jasrotia R, Verma A, Verma R, Ahmed J, Godara SK, Kumar G, Mehtab A, Ahmad T, Kalia S. Photocatalytic dye degradation efficiency and reusability of Cu-substituted Zn–Mg spinel nanoferrites for wastewater remediation. *Journal of Water Process Engineering*. (**Impact factor: 7**) (**Cite Score: 9.7**)
17. Sharma A, Jasrotia R, Kumari N, Kumar S, Verma A, Godara SK, Ahmed J, Alshehri SM, Tamboli AM, Kalia S, Batoor KM. Tailoring the structural and magnetic traits of copper modified BaFe₁₂O₁₉ nanostructured hexaferrites for recording media application. *Journal of Magnetism and Magnetic Materials*. (**Impact factor: 2.7**) (**Cite Score: 5.6**)
18. Kumar S, Himanshi, Prakash J, Verma A, Suman, Jasrotia R, Kandwal A, Verma R, Kumar Godara S, Khan MM, Alshehri SM. A Review on Properties and Environmental Applications of Graphene and Its Derivative-Based Composites. *Catalysts*. 2023 Jan 4;13(1):111. (**Impact factor: 3.9**) (**Cite Score: 6.3**)
19. Kumar S, Prakash J, Verma A, Jasrotia R. A comprehensive review of synthesis, properties, and applications of BaFe₁₂O₁₉ hexaferrites. *Materials Today: Proceedings*. 2023 Mar 6. (**Cite Score:**

3.2)

20. Katoch G, Jasrotia R, Prakash J, Verma A, Kandwal A, Godara SK, Verma R, Raja V, Kumar G. Crystal structure, synthesis, properties and potential applications of cobalt spinel ferrite: A brief review. *Materials Today: Proceedings*. 2023 Apr 5. **(Cite Score: 3.2)**
21. Godara SK, Jasrotia R, Kaur V, Malhi PS, Ahmed J, Kandwal A, Verma S, Singh M, Kaur P, Dhaka RK, Chuchra K. A sustainable approach for the synthesis of $\text{PbFe}_{12}\text{O}_{19}$ materials using tomato pulp as a fuel: Structural, morphological, optical, magnetic, and dielectric traits. *Journal of Magnetism and Magnetic Materials*. 2023 May 1;573:170643. **(Impact factor: 2.7) (Cite Score: 5.6)**
22. Godara SK, Meena SS, Jasrotia R, Prakash J, Verma A, Singh R, Srivastava AK, Singh M, Maji PK, Jain A, Sood AK. Effect of Zn^{2+} - Zr^{4+} co-substitution on structural, magnetic and dielectric properties of $\text{Ba}_{0.5}\text{Ca}_{0.5}\text{Zn}_x\text{Zr}_x\text{Fe}_{12-2x}\text{O}_{19}$ hexaferrite. *Journal of Materials Science: Materials in Electronics*. 2023 May;34(15):1195. **(Impact factor: 2.8)**
23. Singha K, Jasrotia R, Liu LW, Prakash J, Verma A, Kumar P, Godara SK, Chandel M, Singh VP, Thakur S, Das R. A review of Z-type hexaferrite based magnetic nanomaterials: Structure, synthesis, properties, and potential applications. *Progress in Solid State Chemistry*. 2023 May 18:100404. **(Impact factor: 12) (Cite Score: 14.5)**
24. Katoch G, Prakash J, Jasrotia R, Verma A, Verma R, Kumari S, Ahmad T, Godara SK, Ahmed J, Kandwal A, Fazil M. Sol-gel auto-combustion developed Nd and Dy co-doped Mg nanoferrites for photocatalytic water treatment, electrocatalytic water splitting and biological applications. *Journal of Water Process Engineering*. 2023 Jul 1;53:103726. **(Impact factor: 7) (Cite Score: 9.7)**
25. Kotwal P, Jasrotia R, Prakash J, Ahmed J, Verma A, Verma R, Kandwal A, Godara SK, Kumari S, Maji PK, Fazil M. Magnetically recoverable sol-gel auto-combustion developed $\text{Ni}_{1-x}\text{Cu}_x\text{Dy}_y\text{Fe}_{2-y}\text{O}_4$ magnetic nanoparticles for photocatalytic, electrocatalytic, and antibacterial applications. *Environmental Research*. 2023 Aug 15;231:116103. **(Impact factor: 8.3) (Cite Score: 11)**
26. Godara SK, Prakash J, Jasrotia R, Ahmed J, Tamboli AM, Hossain A, Suman, Verma A, Kumar P, Singh M, Verma S. Green synthesis of magnetic nanoparticles of $\text{BaFe}_{12}\text{O}_{19}$ hexaferrites using tomato pulp: structural, morphological, optical, magnetic and dielectric traits. *Journal of Materials Science: Materials in Electronics*. 2023 Jul;34(20):1516. **(Impact factor: 2.8)**
27. Jasrotia R, Verma A, Nidhi AV, Ahmed J, Fazil M, Khanna V, Kumari S, Ahmad T, Alshehri SM, Kandwal A. Nanocrystalline Co/Ga substituted CuFe_2O_4 magnetic nanoferrites for green hydrogen generation. *International Journal of Hydrogen Energy*. 2023 Nov 10. **(Impact factor: 7.2) (Cite Score: 12.1)**
28. Jasrotia R, Verma A, Ahmed J, Khanna V, Godara SK, Fazil M, Ahmad T, Alshehri SM, Kumari S, Kandwal A. Photocatalytic and electrocatalytic hydrogen production promoted by Nd/La substituted cobalt–nickel magnetic nanomaterials. *International Journal of Hydrogen Energy*. 2023 Nov 11. **(Impact factor: 7.2) (Cite Score: 12.1)**
29. Jasrotia R, Verma A, Ahmed J, Khanna V, Fazil M, Alshehri SM, Kumari S, Kumar P, Ahmad T, Kandwal A. $\text{Mg}_{1-x}\text{Ni}_x\text{Ga}_y\text{Fe}_{2-y}\text{O}_4$ nano catalysts for green hydrogen generation with highly efficient photo/electro catalytic water splitting applications. *International Journal of Hydrogen Energy*. 2023 Nov 11. **(Impact factor: 7.2) (Cite Score: 12.1)**

30. Kotwal P, Jasrotia R, Nidhi AV, Ahmed J, Thakur S, Kandwal A, Fazil M, Alshehri SM, Ahmad T, Verma A, Sharma N. Photo/electro catalytic green hydrogen production promoted by Ga modified $\text{Co}_{0.6}\text{Cu}_{0.4}\text{Fe}_2\text{O}_4$ nano catalysts. Environmental Research. 2024 Jan 15;241:117669. **(Impact factor: 8.3) (Cite Score: 11)**

Book Chapters:

1. Jasrotia R, Suman AV, Godara SK, Sharma S, Kirti RK, Puri P, Kumar G. Hard ferrites for permanent magnets. An Introduction to Hard Ferrites: From Fundamentals to Practical Applications. 2023 Mar 5;142:121-51.
2. Jasrotia R, Suman AV, Kalia R, Himanshi RK, Prakash J, Godara SK, Puri P. An Overview of Hard Ferrites: Types and Structures. An Introduction to Hard Ferrites: From Fundamentals to Practical Applications. 2023 Mar 5;142:1-34.
3. Sharma B, Verma A, Bhogal S, Bhardwaj RK. Biopolymer/nanoferrite composites in environmental remediation. In Magnetic Nanoferrites and their Composites 2023 Jan 1 (pp. 295-316). Woodhead Publishing.
4. Khargotra R, András K, Kalia R, Prakash J, Verma A. Synthesis of novel hard/soft nanoferrite composites. In Magnetic Nanoferrites and their Composites 2023 Jan 1 (pp. 15-35). Woodhead Publishing.
5. Jara AD, Prakash J, Verma A, Godara SK, Siamregn WB. Fabrication of magnetic nanoferrites by green methods: structural, magnetic, and catalytic properties. In Magnetic Nanoferrites and their Composites 2023 Jan 1 (pp. 37-61). Woodhead Publishing.
6. Godara SK, Kaur S, Bhasin V, Chalotra VK, Verma A, Prakash J, Kandwal A. Antimicrobial and antibacterial applications of ferrites and their polymer composites. In Magnetic Nanoferrites and their Composites 2023 Jan 1 (pp. 207-235). Woodhead Publishing.
7. Jasrotia R, Suman, Khargotra R, Verma A, Sharma I, Verma R. Applications of multiferroics. Ferrites and Multiferroics: Fundamentals to Applications. 2021:195-213.

Patent:

Sr. No.	Title	Patent Filing /Grant Number	Filing Date	Filed/ Published/ Granted
1.	Ba-Nd-Cd-In Hexaferrite Based Nanomaterial and a process for the preparation thereof	443522	29-03-2020	Granted
2.	Mg-Ag-Mn Ferrite Based Nanomaterials and Process for the Preparation Thereof	462914	29-03-2020	Granted
3.	A method for waste water treatment by substitution of MgFe_2O_4 nanoferrites with Ce^{3+} and Ni^{2+}	202011034248	10-08-2020	Published

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|----|---|--------------|------------|-----------|
| 4. | Sol-Gel synthesized Zinc and Lanthanum doped Manganese nanoferrites with enhanced magnetic property and photocatalytic degradation of Malachite Green Dye for Waste Water Treatment | 202111006739 | 18-02-2020 | Published |
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Educational Qualification:

- ❖ **PhD (Physical Chemistry)** School of Advanced Chemical Sciences, Shoolini University, Solan (H.P.), 2022
- ❖ **M.Sc. (Physical Chemistry)** School of Chemistry, Shoolini University, Solan (H.P.), 2017
- ❖ **Advance diploma in Computer Applications** Government Degree College Arki, Solan (H.P.), 2015
- ❖ **B.Sc. (Non-Medical)** Government Degree College Arki, Solan (H.P.), 2015

References:

- **Professor Vijay Kumar Thakur (Highly Cited Researcher: Web of Science, 2020)**
 - Biorefining and Advanced Materials Research Center, Scotland's Rural College (SRUC), Kings Buildings, West Mains Road, Edinburgh, EH9 3JG, UK, vijay.thakur@sruc.ac.uk
 - Department of Mechanical Engineering, School of Engineering, Shiv Nadar University, Uttar Pradesh, 201314, India; vijay.thakur@snu.edu.in
- **Dr. Sourbh Thakur**
 - Assistant Professor, Department of Organic Chemistry, Bioorganic Chemistry and Biotechnology, Silesian University of Technology, B. Krzywoustego 4, 44-100 Gliwice, Poland; thakoursourbh@gmail.com



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