

## Curriculum Vitae



1. Name **Dr. Naveen Kumar**
2. Designation: Associate Professor
3. Office Address: Department of Chemistry  
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+91-9996415102( Mob)
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vermanaveen17@gmail.com
6. Date of Birth: 17-10-1980
8. Field of Specialization: Chemistry
9. Teaching Experience: 12 Years  
Research Experience: 18 Years
10. Field of Research Interest: **Photocatalysis, Phosphor Materials, Composite materials, Solution Thermodynamics, Anodic oxide film on metals**
11. Personality traits: Enthusiastic, responsible, able to work independently using initiative, and as part of a team with a positive attitude. Proficient in teaching with innovative ideas.

### 13. Academic Awards/Achievements

- Qualified GATE (Graduate Aptitude Test in Engineering) in 2004.
- Qualified UGC-JRF NET for fellowship and lectureship in June 2004.

### 14. Educational qualifications

Degree	Year of passing	University/ Institute
<b>Ph. D</b>	2009	M. D. University, Rohtak, Haryana, India
<b>M. Sc.</b>	2004	M. D. University, Rohtak, Haryana, India
<b>B. Sc.</b>	2001	M. D. University, Rohtak, Haryana, India

### 15. Academic Societies Membership

- Life Member Indian Science Congress Association, Kolkata.
- Life Member Indian Chemical Society, Kolkata.
- Life Member Indian Thermodynamic society
- Indian Analytical Congress, UK, India

## 16. Career profile

Designation	Institute	Duration	
		From	To
Lecturer	Haryana Institute Of Technology, Asoda Haryana	July 2008	December 2008
Assistant Professor	Department of Chemistry, M.D. University, Rohtak	May 1, 2010	April 30, 2022
Associate Professor	Department of Chemistry, M.D. University, Rohtak	May 1, 2022	Till date

## 17. Project undertaken

Title of the project	Duration	Funding agency	Status
Anodic Oxide Films on Metals and Alloys	2011-2014	UGC, New Delhi	Completed
Photocatalytic Activity of ZnO composite on degradation of synthetic dye	2017-18	DSW, M D U Rohtak	Completed
Hybrid TiO <sub>2</sub> based Nanostructures: Synthesis, Characterization and their Photo catalytic activity	2018-19	DSW, M D U Rohtak	Completed
ZnO based hybrid materials –Synthesis, Characterization and application for degradation of pesticides	2019-20	DSW, M D U Rohtak	Completed
Synthesis and Characterization of Mixed metal oxide Semiconductor nano-composites for Environmental remediation	2020-21	DSW, M D U Rohtak	Completed

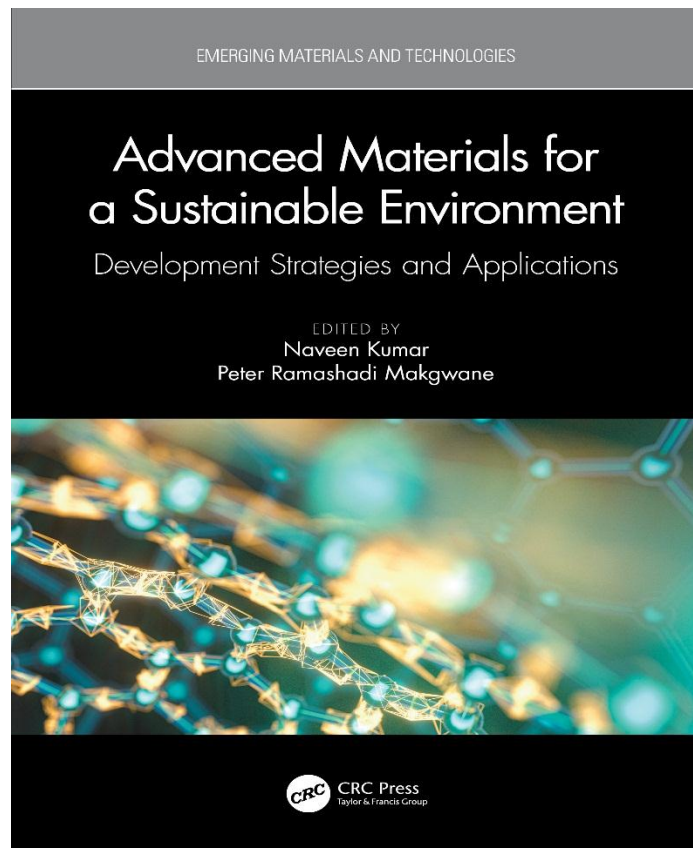
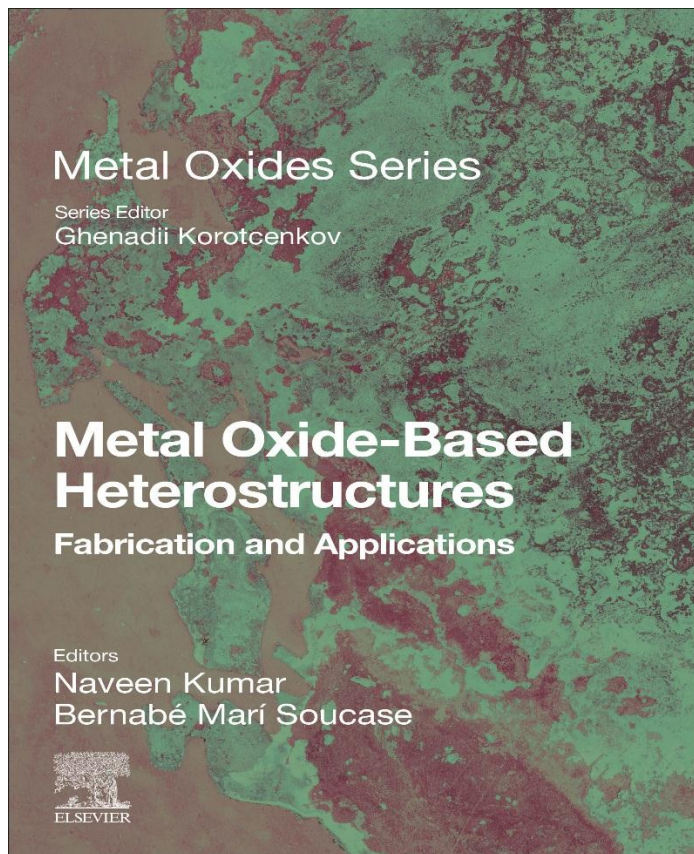
## 18. Publications

<https://www.researchgate.net/profile/Naveen-Kumar-64/research>

Research articles in published **68 (Published) +5 (Communicated)**

Book in Progress: **2 (As Editor) (Publisher: Elsevier-01, CRC-01)**

- (i) **Metal Oxide based heterostructures : Fabrication and Applications**  
Editors: Naveen Kumar, Bernabe Mari Soucase  
<https://www.elsevier.com/books/metal-oxide-based-heterostructures/kumar/978-0-323-85241-8>
- (ii) **Advanced Materials for a Sustainable Environment: Development Strategies and Applications**  
Editors: Naveen Kumar, Peter Ramashadi Makgwane  
<https://www.routledge.com/Advanced-Materials-for-A-Sustainable-Environment-Development-Strategies/Kumar-Makgwane/p/book/9781032073057>



**19. Participation in conferences/seminars 16**

**20. Research Guidance: Ph. D: Awarded 5, Submitted: Nil: Guiding - 4**

**Awarded**

- |   |                              |            |
|---|------------------------------|------------|
| [1] Jitender Jindal   | Supervisor: Dr. Naveen Kumar | Year: 2016 |
| <b>Title: Fabrication and characterization of anodic oxide film on valve metals</b>   |                              |            |
| [2] Anuj Mittal   | Supervisor: Dr. Naveen Kumar | Year: 2020 |
| <b>Title: Synthesis, Characterization and Photocatalytic Activity of the TiO<sub>2</sub> Based Materials for Environmental Applications</b> |                              |            |
| [3] Suprabha Yadav  | Supervisor: Dr. Naveen Kumar | Year: 2020 |
| <b>Title: Photocatalytic Degradation of Environmental Pollutants by Zinc Oxide Based Materials</b>  |                              |            |
| <b>In- Progress</b>   |                              |            |
| [4] Vijaya Kumari   | Supervisor: Dr. Naveen Kumar | Year: 2021 |
| <b>Title: Photocatalytic and biological application studies of titanium dioxide based materials</b>   |                              |            |
| [5] Shankar   | Supervisor: Dr. Naveen Kumar | Year: 2022 |

**21. Research Assignment outside M. D. University, Rohtak**

### International Visits:

- Visited Department of applied Physics, University of Politecnica, Valencia, Spain on FP7/IRSES for research work in the international research project entitled as “**DEVELOPMENT OF A NEW GENERATION CIGS BASED SOLAR CELLS**”[NANICIS-269279] in 2013 and 2014.

### 21. Assignments in M D University, Rohtak

- **Deputy Director**, Internal Quality assurance Cell (IQAC)
- **Mentor-Mentee Coordinator**, Department of Chemistry, M.D.U, Rohtak
- **Deputy Coordinator**, Special Assistance Programme (SAP) UGC, New Delhi
- **Coordinator**, Alumni Department of Chemistry, M.D.U, Rohtak
- Science Conclave 2011, organized by M.D.U. Rohtak and DST, Govt. of Haryana from Dec. 2-3, 2011. **(Organizer)**
- National Conference on Advances in Chemical Sciences (ACS-2013) organized by Department of Chemistry, M. D. University, Rohtak sponsored by Indian Society of Analytical Scientists –Delhi Chapter (ISAS-DC). **(Organizer)** March 1-2, 2013
- Science Conclave 2014, organized by M.D.U. Rohtak and DST, Govt. of Haryana from Feb. 22-23, 2014. **(Organizer)**
- National Conference on Recent Advances in Chemical Sciences NCRACS-2018, organized by Dept. of Chemistry, M.D. University, Rohtak on March 7, 2018. **(Organizer)**
- 1 st National Conference of Indian Science Congress Association – Rohtak Chapter on “Science and Technology for Sustainable Development” on 12th and 13th February 2019 held at Chem. Dept. M.D.U. Rohtak. **(Organizer)**
- 1 st National conference of Indian Science Congress Association – Rohtak Chapter on “Science & Technology for Sustainable Development” (NCSTSD – 2019) organized by Chemistry Department, M.D. University, Rohtak on Feb. 12-13, 2019. **(Organizer)**
- 2 nd National Conference in Association with ISCA – Rohtak Chapter sponsored by UGC-SAP on “Science and Technology for Rural Development” on 14th and 15th October 2019 held at Chem. Dept. M.D.U. Rohtak. Participated **(Organizer)**

## Last of Publications

- Adsorption performance of Enterobacter cloacae towards U(VI) ion and application of Enterobacter cloacae/carbon nanotubes to preconcentration and determination of low-levels of U(VI) in water samples**, Alireza Mohammadzadeh, Mustafa M. Kadhim, Taleeb Zedan Taban, Omirserik Baigenzhenov, Andrei Ivanets, Basant Lal Naveen Kumar, Ahmad Hosseini-Bandegharai  
**Chemosphere**, Available online 10 October 2022, 136804, In Press, Journal Pre-proof  
<https://doi.org/10.1016/j.chemosphere.2022.136804> **Impact factor: 8.943**
- TiO<sub>2</sub>/Bi<sub>2</sub>O<sub>3</sub>/PANI nanocomposite materials for enhanced photocatalytic decontamination of organic pollutants**, Shankar Sharma, Anuradha Sharma, Nar Sing Chauhan, Muhammad Tahir, Kavitha Kumari, Anuj Mittal, Naveen Kumar, **Inorganic Chemistry Communications**  
Available online 14 October 2022, 110093  
<https://doi.org/10.1016/j.inoche.2022.110093> **Impact factor: 3.428**
- A decennary update on diverse heterocycles and their intermediates as privileged scaffolds for cathepsin B inhibition**, Bhavna Saroha, Gourav Kumar Meena Kumari, Ravinder Kaur, Neera Raghav, Pawan K. Sharma, Naveen Kumar, Suresh Kumar, **International Journal of Biological Macromolecules**, Available online 8 October 2022 In Press, Corrected Proof  
<https://doi.org/10.1016/j.ijbiomac.2022.10.017> **Impact factor: 8.025**
- Numerical Simulation and Optimization of n-Al-ZnO/n-CdS/p-CIGS/p-Si/p-MoOx/Mo Tandem Solar Cell**, Abdelaziz Ait Abdelkadir, Essaadia Oublal, Mustapha Sahal, Benabé Mari Soucase, Abdelhadi Kotri, Mohmed Hangoure & Naveen Kumar, Silicon (2022)  
<https://doi.org/10.1007/s12633-022-02144-1> **Impact factor: 2.941**
- Polyaniline modified Cu<sup>2+</sup>-Bi<sub>2</sub>O<sub>3</sub> nanoparticles: Preparation and photocatalytic activity for Rhodamine B degradation**, Anuradha Sharma, Shankar Sharma, Mabel M. Mphahlele-Makgwane, Anuj Mittal, Kavitha Kumari, Naveen Kumar, **Journal of Molecular Structure**, 1271, 2023, 134110  
<https://doi.org/10.1016/j.molstruc.2022.134110> **Impact factor: 3.841**
- Molecular interaction analysis of 1-amino-2-propanol with alkyl acetate (C1-C4): Volumetric, acoustic, isentropic compressibility (T = 298.15–318.15 K) and IR spectroscopic investigations** Deepak Parmar, Kavitha Kumari, Manju Rani, Naveen Kumar, **Journal of Molecular Liquids** 366, 15, 2022, 120265  
<https://doi.org/10.1016/j.molliq.2022.120265> **Impact factor: 6.633**
- Insight into ZnO/carbon hybrid materials for photocatalytic reduction of CO<sub>2</sub>: An in-depth review**, Anuradha Sharma, Ahmad Hosseini-Bandegharai, Naveen Kumar, Suresh Kumar, Kavitha Kumari, **Journal of CO<sub>2</sub> Utilization**, 65, 2022, 102205  
<https://doi.org/10.1016/j.jcou.2022.102205> **Impact factor: 8.331**

8. **Performance enhancement investigations of the novel CZTGS thin-film solar cells**, Abdelaziz Ait Abdelkadir, Mustapha Sahal, Essaadia Oublal, Naveen Kumar, Abdellah Benami, **Optical Materials**, 133, November 2022, 112969  
<https://doi.org/10.1016/j.optmat.2022.112969> **Impact factor: 3.754**
9. **Ag@AgCl/Cu<sup>2+</sup>-Bi<sub>2</sub>O<sub>3</sub> nanocomposite for decontamination of Rhodamine B: adsorption, kinetics, thermodynamics, and photocatalytic aspects**, Anuradha Sharma, Shankar Sharma, Peter R. Makgwane, Vijaya Kumari, Kavitha Kumari, Jyoti Kataria & Naveen Kumar, **The European Physical Journal Plus**, 137,825 (2022)  
<https://doi.org/10.1140/epjp/s13360-022-02998-9> **Impact factor: 3.758**
10. **Recent Developments in Nanocatalyzed Green Synthetic Protocols of Biologically Potent Diverse O-Heterocycles—A Review**, Suresh Kumar, Bhavna Saroha, Gourav Kumar, Ekta Lathwal, Sanjeev Kumar, Badri Parshad, Meena Kumari, Naveen Kumar, Mabel M. Mphahlele-Makgwane, Peter R. Makgwane, **Catalysts** 2022, 12(6), 657;  
<https://doi.org/10.3390/catal12060657> **Impact factor: 4.501**
11. **Ultrasonically Pd functionalized, surface plasmon enhanced ZnO/CeO<sub>2</sub> heterostructure for degradation of organic pollutants in water**  
Vijaya Kumari, Mabel M. Mphahlele-Makgwane, Peter R. Makgwane, Anuradha Sharma, Deepak Parmar, Kavitha Kumari, Naveen Kumar, **European Physical Journal Plus**, 202,) 137:565  
<https://doi.org/10.1140/epjp/s13360-022-02762-z> **Impact factor: 3.758**
12. **Carbon nano-structures and functionalized associates: Adsorptive detoxification of organic and inorganic water pollutants**, Anuradha Sharma, Naveen Kumar, Mika Sillanpaa, Peter R. Makgwane, Suresh Kumar, Kavitha Kumari, **Inorganic Chemistry Communications** 141 (2022) 109579,  
<https://doi.org/10.1016/j.inoche.2022.109579> **Impact factor: 3.428**
13. **Mechanistic investigation of RhB photodegradation under low power visible LEDs using a Pd-modified TiO<sub>2</sub>/Bi<sub>2</sub>O<sub>3</sub> photocatalyst: Experimental and DFT studies**, Shankar Sharma, Anuj Mittal, Nar Singh Chauhan, Sangeeta Saini, Jyoti Yadav, Manoj Kushwaha, Rahul Chakraborty, Shantanu Sengupta, Kavitha Kumari, Naveen Kumar, **Journal of Physics and Chemistry of Solids**, 162, 2022, 110510, ISSN 0022-3697,  
<https://doi.org/10.1016/j.jpics.2021.11051> **Impact factor: 6.633**
14. **Cu<sup>2+</sup> doped  $\alpha$ - $\beta$  phase heterojunctions in Bi<sub>2</sub>O<sub>3</sub> nanoparticles for enhanced photocatalytic degradation of organic dye Rhodamine B** Anuradha Sharma, Anuj Mittal<sup>1</sup>, Shankar Sharma<sup>1</sup>, Kavitha Kumari<sup>2</sup>, Sanjeev Maken<sup>2</sup>, Naveen Kumar  
**Applied Nanoscience**, volume 12, 151–164 (2022),  
<https://doi.org/10.1007/s13204-021-02250-3> **Impact factor: 3.869**
15. **Thermodynamic modelling of density and viscosity data of binary mixtures of haloarenes with cyclohexane**, Anshu Sharma, Sweet Verma, Suman Gahlyan, Seetu Rana, Ankur Gaur, Hanjung Song, Naveen Kumar, Manju Rani, Sanjeev Maken & Pil Seung Chung, **Physics and Chemistry of Liquids**,

16. **Thermo-physical properties of 1,3-Diaminopropane + alkyl acetate (C1-C4) liquid mixtures: Investigation of molecular interactions by insight of IR spectroscopy and DFT studies**, Deepak Parmar, Manju Rani, Kavitha Kumari, Sanjeev Maken, Mandeep, Jogender, Naveen Kumar, **Journal of Molecular Liquids**, 349, 2022, 118385, ISSN 0167-7322, <https://doi.org/10.1016/j.molliq.2021.118385> **Impact factor: 6.633**
17. **Volumetric, acoustic and IR spectroscopic properties of binary mixtures (1,2-diaminopropane + methyl-, ethyl-, n-propyl- and n-butyl acetates: A combined experimental and first-principles investigation**, Deepak Parmar, Cecil H. Botchway, Nelson Y. Dzade, Kavitha Kumari, Sanjeev Maken, Manju Rani, Naveen Kumar, **Journal of Molecular Liquids**, 347, 2022, 118279, ISSN 0167-7322, <https://doi.org/10.1016/j.molliq.2021.118279>. **Impact factor: 6.633**
18. **Reply to “comments on volumetric, acoustic and IR spectroscopic properties of binary mixtures (1, 2-diaminopropane + methyl-, ethyl-, n-propyl- and n-butyl acetates: A combined experimental and first principles investigation”** Deepak Parmar, Cecil H. Botchway, Nelson Y. Dzade, Kavitha Kumari, Sanjeev Maken, Manju Rani, Naveen Kumar, **Journal of Molecular Liquids**, 354 (2022) 118810, <https://doi.org/10.1016/j.molliq.2022.118810> **Impact factor: 6.633**
19. **Ag sensitized ZnO/SnO<sub>2</sub> heterostructures for photocatalytic decontamination of water**, Suprabha Yadav, Anuj Mittal, Shankar Sharma, Anuradha Sharma, Kavitha Kumari, Naveen Kumar, **Applied Nanoscience** 11, (2021), pages 2537–2547, <https://doi.org/10.1007/s13204-021-02102-0> **Impact factor: 3.869**
20. **TiO<sub>2</sub>/SnO<sub>2</sub> nano-composite: New insights in synthetic, structural, optical and photocatalytic aspects**, Shankar Sharma, Naveen Kumar, Peter R. Makgwane, Nar Singh Chauhan, Kavitha Kumari, Manju Rani, Sanjeev Maken, **Inorganica Chimica Acta** (2021), 529, 120640, ISSN 0020-1693, <https://doi.org/10.1016/j.ica.2021.120640> **Impact factor: 3.118**
21. **Nano-Biocatalysts: Potential Biotechnological Applications**, Naveen Kumar, Nar Singh Chauhan, **Indian Journal of Microbiology**, 2021, 61, pages 441–448 (2021) <https://doi.org/10.1007/s12088-021-00975-x> **Impact factor: 2.461**
22. **Photocatalytic TiO<sub>2</sub>/CdS/ZnS nanocomposite induces Bacillus subtilis cell death by disrupting its metabolism and membrane integrity**, Naveen Kumar, Anuj Mittal, Monika Yadav, Shankar Sharma, Tarun Kumar, Rahul Chakraborty, Shantanu Sengupta, Nar Singh Chauhan, **Indian Journal of Microbiology**, 2021, 61(4):487-496.

<https://doi.org/10.1007/s12088-021-00973-z>

**Impact factor: 2.461**

23. **Developments in visible-light active TiO<sub>2</sub>/SnX (X = S and Se) and their environmental photocatalytic applications – A mini-review**, Shankar Sharma, Anuj Mittal, Nar Singh Chauhan, Peter R. Makgwane, Kavitha Kumari, Sanjeev Maken, Naveen Kumar, **Inorganic chemistry communication**, 2021, 133,108874, 1387-7003,  
<https://doi.org/10.1016/j.inoche.2021.108874> **Impact factor: 3.428**
24. **Highly efficient Ag<sub>2</sub>O loaded ZnO/Al<sub>2</sub>O<sub>3</sub> coupled catalyst and its photocatalytic application**, Suprabha Yadav, Anuj Mittal, Shankar Sharma, Anuradha Sharma, Kavitha Kumari, Naveen Kumar, **Inorganic Chemistry Communications**, 130, 2021, 108738, 1387-7003,  
<https://doi.org/10.1016/j.inoche.2021.108738>. **Impact factor: 3.428**
25. **Facile solution combustion synthesized, Li doped ZnO nanostructures for removal of abiotic contaminants**, Suprabha Yadav, Jitender Jindal, Anuj Mittal, Shankar Sharma, Kavitha Kumari, Naveen Kumar, **Journal of Physics and Chemistry of Solids**, 157, 2021, 110217, ISSN 0022-3697,  
<https://doi.org/10.1016/j.jpccs.2021.110217> **Impact factor: 4.383**
26. **Ag/ZnO nano-structures synthesized by single-step solution combustion approach for the photodegradation of Cibacron Red and Triclopyr**, Yadav, S., Kumar, N., Mari, B., Sharma, A., Kumari, K., **Applied Nanoscience**, 2021, 11(7), 1977–1991,  
<https://doi.org/10.1007/s13204-021-01943-z> **Impact factor: 3.869**
27. **Solution combustion synthesized TiO<sub>2</sub>/Bi<sub>2</sub>O<sub>3</sub>/CuO nano-composites and their photocatalytic activity using visible LEDs assisted photoreactor**, Shankar Sharma, Naveen Kumar, Bernabe Mari, Nar Singh Chauhan, Anuj Mittal, Sanjeev Maken, Kavitha Kumari, **Inorganic Chemistry Communications**, 125, 2021, 108418, ISSN 1387-7003,  
<https://doi.org/10.1016/j.inoche.2020.108418>. **Impact factor: 3.428**
28. **Hydrothermal synthesis conditions effect on hierarchical ZnO/CuO hybrid materials and their photocatalytic activity**, Vijaya Kumari, Shankar Sharma, Anuradha Sharma, Kavitha Kumari & Naveen Kumar, **Journal of Materials Science: Materials in Electronics**, 2021, 32(7), pp. 9596–9610,  
<https://doi.org/10.1007/s10854-021-05622-1> **Impact factor: 2.779**
29. **Carbon materials as CO<sub>2</sub> adsorbents: A review**  
A. Sharma, J. Jindal, A. Mittal, K. Kumari, Sanjeev Maken, N. Kumar, **Environmental Chemistry Letters**, 2021,19, 875–910,  
<https://doi.org/10.1007/s10311-020-01153-z> **Impact factor: 13.615**
30. **Surface Plasmon response of Pd deposited ZnO/CuO nanostructures with enhanced photocatalytic efficacy towards the degradation of organic pollutants**, Vijaya Kumari, Suprabha



Yadav, Anuj Mittal, Kavitha Kumari, Bernabe Mari, Naveen Kumar, **Inorganic Chemistry Communications**, 121, photodegradation of Cibacron red and Triclopyr, 2020, 108241, ISSN 1387-7003,  
<https://doi.org/10.1016/j.inoche.2020.108241>. **Impact factor: 3.428**

31. **Surfactant assisted hydrothermally synthesized novel TiO<sub>2</sub>/SnS@Pd nano-composite: Structural, morphological and photocatalytic activity**, A. Mittal, S. Sharma, T. Kumar, N. S. Chauhan, K. Kumari, S. Maken, N. Kumar, **Journal of Materials Science: Materials in Electronics**, 2020, 31, 2010-2021, ISSN: 1573-482X  
<https://doi.org/10.1007/s10854-019-02720-z> **Impact factor: 2.779**

32. **Hydrothermally synthesized nano-carrots ZnO with CeO<sub>2</sub> heterojunctions and their photocatalytic activity towards different organic pollutants**, V. Kumari, S. Yadav, A. Mittal, S. Sharma, K. Kumari, N. Kumar, **Journal of Materials Science: Materials in Electronics**, 2020 31(5), 5227-5240, ISSN: 1573-482X  
<https://doi.org/10.1007/s10854-020-03083-6> **Impact factor: 2.779**

33. **Synthesis and characterization of heterogeneous ZnO/CuO hierarchical nanostructures for photocatalytic degradation of organic pollutant**, V. Kumari, S. Yadav, J. Jindal, S. Sharma, K. Kumari, N. Kumar, **Advanced Powder Technology**, 2020, 31, 2658-2658. ISSN 0921-8831,  
<https://doi.org/10.1016/j.appt.2020.04.033> **Impact factor: 4.969**

34. **Low temperature synthesized ZnO/Al<sub>2</sub>O<sub>3</sub> nano-composites for photocatalytic and antibacterial applications**, Suprabha Yadav, Anuj Mittal, Shankar Sharma, Kavitha Kumari, Nar Singh Chauhan, Naveen Kumar, **Semiconductor Science and Technology**, 2020, 35 (5), 1-12, ISSN: 1361-6641  
<https://doi.org/10.1088/1361-6641/ab7776> **Impact factor: 2.048**

35. **Volumetric, enthalpic and VLE studies of binary mixtures of isomers of butyl chloride with cyclohexane at 298.15 K**, Suman Gahlyan, Naveen Verma, Sweety Verma, Manju Rani, So-Jin Park, Sanjeev Maken, **Journal of Molecular Liquids**, 2020, 298, 111946, 1-8, ISSN: 01677322, 18733166  
<https://doi.org/10.1016/j.molliq.2019.111946> **Impact factor: 6.633**

36. **Highly efficient, visible active TiO<sub>2</sub>/CdS/ZnS photocatalyst, study of activity in an ultra low energy consumption LED based photo reactor**, Anuj Mittal, Shankar Sharma, Vijaya Kumari, Suprabha Yadav, Nar Singh Chauhan, Naveen Kumar, **Journal of Materials Science: Materials in Electronics**, 30(19), 17933–17946 , 2019,  
<https://doi.org/10.1007/s10854-019-02147-6> **Impact factor: 2.779**

37. **Near Ultraviolet excited down conversion Eu and Er co-doped CaAl<sub>2</sub>O<sub>4</sub> color tunable nanophosphors: Structural, morphological and Photoluminescent Characteristics**, Naveen Kumar, Bernabe Marí, Jitender Jindal, Anuj Mittal, Kavitha Kumari, Sanjeev Maken, **Materials Today: Proceedings**, 2019, 19(2), 646-649.  
<https://doi.org/10.1016/j.matpr.2019.07.747> **Impact factor: 1.46**

38. **Photocatalytic degradation of Triclopyr, a persistent pesticide by ZnO/SnO<sub>2</sub> nanocomposites**, Suprabha Yadav, Naveen Kumar, Vijaya Kumari, Anuj Mittal, Shankar Sharma, **Materials Today: Proceedings** 2019, 19(2), 642-645.  
<https://doi.org/10.1016/j.matpr.2019.07.746> **Impact factor: 1.46**
39. **Novel mixed metal oxide (ZnO.La<sub>2</sub>O<sub>3</sub>.CeO<sub>2</sub>) synthesized via hydrothermal and solution combustion process -A comparative study and their photocatalytic properties**, Vijaya Kumari, Naveen Kumar, Suprabha Yadav, Anuj Mittal, Shankar Sharma, **Materials Today: Proceedings**, 2019, 19(2), 650-657  
<https://doi.org/10.1016/j.matpr.2019.07.748> **Impact factor: 1.46**
40. **S-, N- and C-doped ZnO as Semiconductor Photocatalysts: A Review**, Vijaya Kumari , Anuj Mittal , Jitender Jindal , Suprabha Yadav , Naveen Kumar, **Frontiers of Material Science** 13 (2019) 1-22.  
<https://doi.org/10.1007/s11706-019-0453-4> **Impact factor: 2.612**
41. **Curcumin Encapsulated PEGylated Nanoliposomes: A Potential Anti-Infective Therapeutic Agent**, Anuj Mittal, Naveen Kumar, Nar Singh Chauhan, **Indian Journal of Microbiology**, 59 (2019) 336-343,  
<https://doi.org/10.1007/s12088-019-00811-3> **Impact factor: 2.461**
42. **Non-metal modified TiO<sub>2</sub>: a step towards visible light photocatalysis**, Anuj Mittal, Bernabe Mari, Shankar Sharma, Vijaya Kumari, Sanjeev Maken, Kavitha Kumari, Naveen Kumar, **Journal of Materials Science: Materials in Electronics**, 30,(4), 3186–3207 (2019),  
<https://doi.org/10.1007/s10854-018-00651-9> **Impact factor: 2.779**
43. **Enhanced luminescence by tunable coupling of Eu<sup>3+</sup> and Tb<sup>3+</sup> in ZnAl<sub>2</sub>O<sub>4</sub>: Eu<sup>3+</sup>:Tb<sup>3+</sup> phosphor synthesized by solution combustion method**, Naveen Verma, Bernabe Mari, Krishan Chander Singh, Jitender Jindal, Suprabha Yadav, Anuj Mittal, **Journal of Australian Ceramic Society**, 55, 2019, 179-185,  
<https://doi.org/10.1007/s41779-018-0223-2> **Impact factor: 1.741**
44. **Synthesis and characterization of coupled ZnO/SnO<sub>2</sub> photocatalysts and their activity towards degradation of cibacron red dye**, Naveen Verma, Suprabha Yadav, Bernabe Mari, Anuj Mittal, Jitender Jindal, **Trans. Ind. Ceram. Soc.** 77 1-7 , 2018,  
<https://doi.org/10.1080/0371750X.2017.14170592020> **Impact factor: 2.355**
45. **Ionic Conduction at High Field in Anodic Oxide Films on Tantalum Metal in Aqueous Electrolyte at Various Temperatures**, Jitender, Naveen Verma, Krishan Chander Singh, **International Journal of Scientific Research in Science, Engineering and Technology**, 2018, 4,1349-1356. ISSN:-2278-0041

- Impact factor: 8.155**
46. **TiO<sub>2</sub> and its composites as promising biomaterials: a review**, Naveen Kumar, Nar Singh Chauhan, Anuj Mittal, Shankar Sharma, **Biomaterials**. 31(2) 147-159 , 2018  
<https://doi.org/10.1007/s10534-018-0078-6> **Impact factor: 3.378**
47. **Impedance and Corrosion Resistance Characteristics of Reanodized Anodic Alumina Film on AA 5052**, Naveen Verma, Krishan C Singh, Jitender Jindal, Anuj Mittal, **Der Pharma Chemica**, 2018, 10(4):39-43.
48. **Luminescence Properties of CaAl<sub>2</sub>O<sub>4</sub>:Eu<sup>3+</sup>, Gd<sup>3+</sup> Phosphors Synthesized by Combustion Synthesis Method**, Naveen Verma, K.C. Singh , B. Marí , M. Mollar , J. Jindal, **Acta Physica Polonica**, 132(4), 2017, 1261-1264,  
<https://doi.org/10.12693/APhysPolA.132.1261> **Impact factor: 0.725**
49. **Steady state kinetics of formation of oxide films on niobium and tantalum metals in malic acid electrolyte at different temperatures**, Naveen Verma, Jitender Jindal, Krishan Chander Singh, **Journal of Indian Chemical Society**, 94, 2017, 409-417. **Impact factor: 0.243**
50. **Optical properties of Yb-doped ZnO/MgO composites**, Bernabe Mari Soucase, K.C. Singh, Naveen Verma, Jitender Jindal, **Ceramic International** , 42(11), 2016, 13018-13023.  
<https://doi.org/10.1016/j.ceramint.2016.05.079> **Impact factor: 4.527**
51. **Structural and electrochemical impedance spectroscopic studies of anodic oxide film on zirconium fabricated in different aqueous electrolyte**, Naveen Verma, Krishan Chander Singh, Jitender Jindal, Bernabe Marí and Miguel Mollar, **Journal of Australian Ceramic Society** 52(2) 2016, 111-119 A
52. **Structural and optical properties of Ta<sub>2</sub>O<sub>5</sub>:Eu<sup>3+</sup>: Mg<sup>2+</sup> or Ca<sup>2+</sup> phosphor prepared by molten salt method**, Naveen Verma, Bernabe Mari, Krishan Chander Singh, Jitender Jindal, Miguel Mollar, Ravi Rana, A. L. J. Pereira , F. J. Manjón, **AIP Conference Proceedings** 1724, 020082 (2016);  
<https://doi.org/10.1063/1.4945202> **Impact factor: 0.402**
53. **Luminescence properties of ZnMoO<sub>4</sub>:Eu<sup>3+</sup>:Y<sup>3+</sup> materials synthesized by solution combustion synthesis method**, Naveen Verma, Bernabe Mari, Krishan Chander Singh, Jitender Jindal, Miguel Mollar, and Suprabha Yadav, **AIP Conference Proceedings** 1724, 020122 (2016)  
<https://doi.org/10.1063/1.4945242> **Impact factor: 0.402**
54. **Synthesis and characterization of nanoporous anodic oxide film on aluminum in H<sub>3</sub>PO<sub>4</sub> + KMnO<sub>4</sub> electrolyte mixture at different anodization conditions**, Naveen Verma, Jitender Jindal, Krishan Chander Singh, and Bernabe Mari, **AIP Conference Proceedings** 1724, 020044 (2016);  
<https://doi.org/10.1063/1.4945164> **Impact factor: 0.402**
55. **Anodic Oxide Films on Niobium and Tantalum in Different Aqueous Electrolytes and Their Impedance Characteristics**, Naveen Verma, K.C. Singh, B. Marí, M. Mollar, J. Jindal, **Acta Physica Polonica A**, 129(3) 297-303(2016),

<https://doi.org/10.12693/APhysPolA.129.297>

**Impact factor: 0.725**

56. **Luminescence Properties of the  $\text{Eu}^{2+}/\text{Eu}^{3+}$  Activated Barium Aluminate Phosphors with  $\text{Gd}^{3+}$  concentration Variation**, B. Mari, K. C. Singh, Naveen Verma, M. Mollar & J. Jindal, **Trans. Ind. Ceram. Soc.**, vol. 74(3) 3, 1-5, 2015,

<https://doi.org/10.1080/0371750X.2015.1082932>

**Impact factor: 2.355**

57. **Fabrication of Nanomaterials on Porous Anodic Alumina Template Using Various Techniques**, Naveen Verma, Krishan Chander Singh, Jitender Jindal, **Indian Journal of Advances in Chemical Science** 3(3) (2015) 235-246

58. **Influence of anodization parameters of first step on structural features of porous anodic alumina (PAA) finally formed in phosphoric acid**, Naveen Verma, Krishan Chander Singh, Bernabe Mari, Jitender Jindal, **Journal of Indian Chemical Society**, 92, 2015, 1237-1243.  
**Impact factor: 0.243**

59. **Ultrasonic studies of molecular interactions in binary mixtures of formamide with some isomers of butanol at 298.15 K and 308.15 K**. Manju Rani, Suman Gahlyan, Hari Om, Naveen Verma, Sanjeev Maken, **Journal of Molecular Liquids** 194 (2014) 100–109. ISSN: 0167-7322,  
<https://doi.org/10.1016/j.molliq.2014.01.016> **Impact factor: 6.633**

60. **Fabrication of Porous Anodic Alumina by Two Step Anodic Oxidation and Photo Luminescent Properties of doped and undoped Alumina**, Naveen Verma, Krishan Chander Singh, Bernabe Mari, Hari Om, Jitender Jindal, **Chem Sci Rev Lett** 2014, 3(11), 597-602, ISSN 2278-6783.  
**Impact factor: 6.748**

61. **Fabrication and Structural Studies of Porous Anodic Oxide Film on Pure Aluminium and Aluminium Alloy (AA 1100)**, Naveen Verma, Krishan Chander Singh, Bernabe Mari and Jitender, **Chemical Science Transactions** 2014, 3(2), 556-561, ISSN: 2278-3318.

62. **Porous anodic alumina film formation in oxalic and phosphoric acid solutions and their photoluminescence properties**, Naveen Kumar, Krishan Chander Singh, Hariom, Jitender, **Research and Reviews in electrochemistry**, 4(4), 2013, 117-120 ISSN : 0974 – 7540

63. **High field ionic conduction in anodic oxide films on tantalum in aqueous electrolytes**, Hariom, Naveen Verma, Krishan Chander Singh, **European Journal of Applied Engineering and Scientific Research**, 2013, 2 (1):25-35., ISSN: 2278 – 0041  
**Impact factor: 3.09**

64. **Excess Molar Enthalpies of mixing of *sec*- or *tert*- butyl chloride with aromatic hydrocarbons at temperature 308.15 K**, Naveen Verma, Hari Om, Krishan Chander Singh, **Journal of Chemical, Biological and Physical science**, Sec A, 2012, Vol.2, No. 4, 1736-46, E-ISSN: 2249-1929

**Impact factor: 2.307**

65. **Volumetric properties of *sec*- and *tert*-butyl chloride with benzene, toluene and xylenes at 308.15 K**. Naveen Verma, S. Maken, K.C. Singh, J.W. Park. **J. Molecular Liquids**. Volume 141, Issues 1-2, 30 May 2008, Pages 35-38,  
<https://doi.org/10.1016/j.molliq.2008.02.008>

**Impact factor: 6.633**

66. **Excess Gibb's free energy of butyl acetate with cyclohexane and aromatic hydrocarbons at 308.15 K.** S. Maken, Naveen Verma, Ankur Gaur, K.C. Singh, and J.W. Park. **Korean J. Chemical Engineering**. 25(2) 273-278(2008),  
<https://doi.org/10.1007/s11814-008-0048-8> **Impact factor: 3.309**
67. **Molar Excess Volume of *sec*- and *tert*-Butyl Chloride with Aromatic Hydrocarbons at 298.15 K.** Naveen Verma, Sanjeev Maken, Balraj Deshwal, Krishan Chander Singh, Jin-Won Park, J. **Chem. Eng. Data**, 2007,52, 2083-2085,  
<https://doi.org/10.1021/je7002918> **Impact factor: 3.199**
68. **Molar Excess Volume of Butyl Acetate with Cyclohexane or Aromatic Hydrocarbons at 298.15 K,** Sanjeev Maken , Ankur Gaur, Naveen Verma, K. C. Singh , Seungmoon Lee and Jin-Won Park **J. Ind. Eng. Chem.,** Vol. 13, No. 7, (2007) 1098-11 **Impact factor: 6.76**

## Annexure I B

### Conference Attended

Sr. No	Title of the paper presented	Presented by	Title of the conference/ seminar etc & organizer	Date of the event
1	Excess Gibb's free energy of butyl acetate with cyclohexane and aromatic hydrocarbons at 308.15 K	Naveen Verma	95th Indian Science congress held at Visakhapatnam	03-07 Jan, 2008
2	Volumetric properties of <i>sec</i> - and <i>tert</i> -butyl chloride with benzene, toluene and xylenes at 308.15"	Naveen Verma	95th Indian Science congress held at Visakhapatnam	03-07 Jan, 2008
3	Study of Thermodynamic molecular interactions in liquid mixtures containing isomeric chlorobutanes + cyclohexane or benzene or toluene mixtures at temperature 303.15 K	Naveen Verma	National conference on Global Challenges New Frontier in Chemical Sciences, Kurukshetra University Kurukshetra, Haryana	22-23 Sep, 2012

4	Excess molar enthalpies and isothermal (vapour liquid ) equilibria of sec butyl chloride + cyclohexane or benzene or toluene mixtures.	Naveen Verma	International conference on Green Technologies For Environmental Rehabilitation, Gurukul Kangri, Haridwar, Uttarakhand	11-13 Feb, 2012
5	Porous anodic alumina film formation in oxalic & phosphoric acid solutions and photoluminescence properties	Naveen Verma	National conference on Advances In Chemical Sciences, Maharshi Dayanand University, Rohtak.	1-2 March, 2013
6	Structural Studies Of Porous Anodic Alumina Formed In Phosphoric Acid By Two Step Anodic Oxidation And Influence Of Applied Voltage For Fabrication of Ordered Porous Structure.	Naveen Verma	International conference on Interdisciplinary Areas With Chemical Sciences, Punjab university, Chandigarh	30 Oct- 1 Nov. 2013
7	Improved porous structure of anodic alumina formed in Phosphoric acid by two step anodic oxidation	Naveen Verma	National Conference on Emerging Trends in Engineering & Sciences. Gurukul Kangri, Haridwar, Uttarakhand	9-10 Nov. 2013
8	Influence of anodization parameters of first step on structural features of porous anodic alumina (PAA) finally formed in phosphoric acid	Naveen Verma	101 <sup>st</sup> Indian Science Congress Association, University of Jammu, Jammu	3-7 Feb. 2014
9.	Surface and Electrochemical Impedence characteristics of Anodic Oxide Film on Ta and Nb in Different aqueous electrolyte	Naveen Verma	101 <sup>st</sup> Indian Science Congress Association, University of Mumbai, Mumbai	3-7 Jan 2015
10	Anodic oxide film on aluminium in H <sub>3</sub> PO <sub>4</sub> + KMnO <sub>4</sub> electrolyte mixture at different anodization conditions	Naveen Verma	National conference on Emerging Trends in Chemical Sciences and Technology(ETCST-15) CDLU -Sirsa	Feb 25, 2015
11	Luminescent Properties of CaAl <sub>2</sub> O <sub>4</sub> : Eu <sup>3+</sup> ,Gd <sup>3+</sup> phosphor synthesized by combustion synthesis method.	Naveen Verma	National conference on Science and technology for Indegenious development on India ISCA-Haridwar Chapter Gurukul Kangri University, haridwar, Uttrakhand	Sept. 28-30. 2015
12	Spectral properties of the Eu <sup>2+</sup> /Eu <sup>3+</sup> activated Barium aluminate phosphors with	Naveen Verma	International conference on Nascent development on chemical sciences	October 16-18, 2015

	varies Gd <sup>3+</sup> concentration by combustion method		BITS-PILANI	
13	Enhanced Luminescence by Tunable Coupling of Eu <sup>3+</sup> and Tb <sup>3+</sup> in ZnAl <sub>2</sub> O <sub>4</sub> :Eu <sup>3+</sup> :Tb <sup>3+</sup> phosphor synthesized by solution combustion method	Naveen Verma	National Conference on science and Technology for national Development Gurukul Kangri University, haridwar, Uttrakhand	November 20-22, 2016
14	Synthesis, characterization and Photocatalytic activity of visible active ternary TiO <sub>2</sub> /CdS/ZnS nano-composites.	Naveen Kumar	NCSTSD, Department of Chemistry, M D University, Rohtak	Feb12-2019 2019
15	Hydrothermally synthesized binary TiO <sub>2</sub> /SnS composite for photocatalytic activity	Naveen Kumar	NCSTRD, Department of Chemistry, M D University, Rohtak	Oct 14-15 2019
16	Novel mixed metal oxide (ZnO.La <sub>2</sub> O <sub>3</sub> .CeO <sub>2</sub> ) synthesized via hydrothermal and solution combustion process -A comparative study and their photocatalytic properties.	Naveen Kumar	1 <sup>st</sup> International conference on Manufacturing, Material Science & Engineering Hyderabad, India- 501401	August 16-17, 2019

#### Invited Lectures delivered outside Institute

- (i) Lecture delivered in Conference Title: Green Technologies: Issues and Challenges on Topic **"Visible Active Photocatalysts for environmental remediation"**
- (ii) Lecture delivered on in S G T University, Gurgaon on the topic **"ZnO as an efficient catalyst"**
- (iii) Lecture delivered in CRS University, Jind, Haryana, India **"Laboratory Experimental Instruction"**
- (iv) Lecture delivered in AIJHM College Rohtak, Haryana, India **"Raman Spectroscopy and its applications"**