

Template for short CV



Name: **Dr. Ramesh Kumar**

Designation: **Assistant Professor (Chemistry)**

Specialisation: **Physical Chemistry & Material Science**

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Research papers:

PAPER PUBLISHED IN INTERNATIONAL JOURNALS

- 1) Utilization of ZnO Nanocones for the Photocatalytic Degradation of Acridine Orange. *Journal of Nanoscience and Nanotechnology*, (2011), 11, 1. (I.F. 1.354)
- 2) Large-scale synthesis of ZnO balls made of fluffy thin nanosheets by simple solution process: Structural, optical and photocatalytic properties. *Journal of colloid and Interface Science* (2011) 363, 521. (I.F.6.361)
- 3) Applications of ZnO Nanoflowers as Antimicrobial Agents for Escherichia coli and Enzyme-Free Glucose Sensor. *J. Biomed. Nanotechnol.* (2013) 9, 10. (I.F. 5.068)
- 4) Facile growth and characterization of α - Fe₂O₃ nanoparticles for photocatalytic degradation of methyl orange. *Journal of Nanoscience and Nanotechnology*, (2014)14, 6153. (I.F. 1.354)

- 5) ZnO Nanoparticles: Efficient material for the detection of hazardous chemical. **Sensor letters (2014) 12, 1393.**
- 6) Iron-doped ZnO nanoparticles as potential scaffold for hydrazine chemical sensor. **Sensor letters (2014) 12, 1273.**
- 7) Ag-Doped ZnO Nanoellipsoids: Potential scaffold for photocatalytic and sensing applications. **Talanta (2015) 137, 204. (I.F. 4.916)**
- 8) Zinc based hydroxide/oxide and Zinc Hydroxy Stannate nanostructures as potential scaffold for environmental remediation. **New J. Chem., (2015), 39, 4624. (I.F. 3.069)**
- 9) Selective Fluorescence Detection of Cyanide Ions, Efficient Photocatalytic and Antimicrobial Properties of Cadmium Oxide Nanodiscs. **Talanta (2016), 153, 57. (I.F. 4.916)**
- 10) Facile growth, of CdS nanoparticles characterization and its photocatalytic and antimicrobial applications. **Ceramic International. (2016), 42 (6) 6601. (I.F. 3.450)**
- 11) Synthesis, Characterization and sensing application of iron oxide nanoparticles against hydroquinone. **Sci Adv Mater. (2015), 7, 2747. (I.F. 3.585)**
- 12) Synthesis, Characterization and photocatalytic application of iron oxide nanocubes. **Nanosc. and Nanotech. Letter. (2016), 8, 1014. (I.F. 2.917)**
- 13) Fe-doped ZnO nanoellipsoids for enhanced photocatalytic and highly sensitive and selective picric acid sensor. **Material Research Bulletin (2018) 102, 282. (I.F.3.355)**
- 14) Iron Oxide Nanoparticles as Potential Scaffold for Photocatalytic and Sensing Applications. **Journal of Nanoscience and Nanotechnology (2019)19(5), 2695. (I.F. 1.354)**
- 15) Synthesis, Characterization, Photocatalytic and Sensing Properties of Mn-Doped ZnO Nanoparticles. **Journal of nanoscience and nanotechnology (2019) (12), 8095-8103. (I.F. 1.354)**
- 16) ZnO–SnO₂ Nanocubes for Fluorescence Sensing and Dye Degradation Applications. **Ceramics International (2021), 47(5), 6201-6210 (I.F. 3.450)**

- 17) Low-temperature synthesis of cadmium-doped zinc oxide nanosheets for enhanced sensing and environmental remediation applications. *Journal of Alloys and Compounds*. (2021), 863, 158649. **(I.F. 4.175)**
- 18) Spindle-like $\text{Co}_3\text{O}_4\text{-ZnO}$ Nanocomposites Scaffold for Hydrazine Sensing and Photocatalytic Degradation of Rhodamine B Dye. *Engineered Science*, (2021), 16, 288–300. **(Scopus 14.9, Cite Score 2023)**
- 19) Effective Fluorescence Detection of Hydrazine and the Photocatalytic Degradation of Rhodamine B Dye Using CdO-ZnO Nanocomposites. *Coatings* (2022), 12, 1959. **(I.F. 2.9)**

Ongoing projects:

Courses and Trainings completed:

BOOKS PUBLISHED

- 1) Published a book entitled as “**Atomic Structure, Bonding, General Organic Chemistry & Aliphatic Hydrocarbons Lab**” Publisher: Akash Publishing House with **ISBN 93-91743-00-5**
- 2) Published a book entitled as “**States Of Matter, Chemical Kinetics & Functional Organic Chemistry Lab**” Publisher: Akash Publishing House with **ISBN 93-91743-03-X**
- 3) Published a book entitled as “**Solutions, Phase Equilibrium, Conductance, Electrochemistry & Organic Chemistry Lab**” Publisher: Akash Publishing House with **ISBN 93-91743-70-6**
- 4) Published a book entitled as “**Chemistry of Main Group Elements, Chemical Energetics and Equilibria Lab**” Publisher: Akash Publishing House with **ISBN 93-91743-71-4**
- 5) Published a book entitled as “**Quantum Chemistry, Molecular Spectroscopy & Photochemistry Lab**” Publisher: Akash Publishing House with **ISBN 81-961713-3-1**

- 6) Published a book entitled as “**Polymer Chemistry Lab**” Publisher: Akash Publishing House with **ISBN 81-961713-4-X**

ABSTRACTS PUBLISHED IN NATIONAL AND INTERNATIONAL CONFERENCES

- 1) Presented a research paper entitled as “Biomedical and High Frequency Applications of gadolinium doped Mg Ferrite” in International Conference on “Advances in Mathematical Sciences, Scientific Computing and its Applications” held on March 22–23, 2024 organized by Centre of Excellence, Govt. College Sajauli, Shimla, H.P. funded by DBT-Govt. of India.
- 2) Presented a research paper entitled as “Food Adulteration: Its Effects on Nutritional Balance and Our Health” in International Conference on Communicating Health, Happiness & Longevity For Sustainable Growth, hybrid mode held on 2nd – 4th December 2023 organized by Government College, Ani, Kullu & HFRI Shimla-9 in association with SMS, HP, HNE Health Care, Haryana, Zyxxes Strategy Labs Pvt. Ltd., and Berry Markets Ltd., Dubai.
- 3) Presented a research paper entitled as “Low Temperature Large Scale Synthesis of Novel Co₃O₄-ZnO Heterostructure Nanomaterial for Enhanced Photocatalytic and Chemical Sensing Properties” in International Conference on “Environmental Concerns, Climate Change, and Resource Management in the Western Himalayas” on the occasion of World Environment Day, from 5th to 6th June 2023, organized by Rabindranath Tagore Government College Sarkaghat, Distt. Mandi (H.P.).
- 4) Presented a research paper entitled as “Environmental Remediation Applications of Metal Oxide and Transition Metal Doped ZnO Nanostructures Synthesized via Facile Solution Process” in National Seminar on “Environmental Concern in the Himalayan Region” being organized by Government. College Jukhala, Himachal Pradesh on 20th May, 2023.

- 5)** Presented a research paper entitled as “Highly Effective and Significantly Enhanced Water Decontamination as well as Chemical Sensing Applications of ZnO Nanorods” in International Conference on Empowering Individuals for a better future, multi-disciplinary, Hybrid mode held on 12th- 14th May, 2023 organized by Science and Management Society, Himachal Pradesh at APG Shimla University, Shimla-171013, H.P.
- 6)** Presented a research paper entitled as “Chemical Synthesis, Characterization and Environmental Remediation Applications of Ni doped ZnO Nanoparticles Synthesized via Facile Solution Approach in National Conference on “Novel Progressions in Science & Technology-2022” held on 28-29th November 2022 at St. Bede's College Shimla, H.P.
- 7)** Presented a research paper entitled as “Improved Sensing and Photocatalytic Properties of Cadmium-doped Zinc Oxide Nanostructures” in International conference on “Recent Trends in Bio and Material Sciences’ RTBMS-2022 held on 10-11 October, 2022 at Sardar Patel University, Mandi, H.P. organized by Him Science Congress Association (HSCA).
- 8)** National conference on “Higher Education for Nation Building” organized by Himachal Pradesh Mahavidyalaya Shaikshik Sangh at Rajeev Gandhi Government College Chaura Maidan, Shimla on 2nd January 2020.
- 9)** National conference on “Issues and Challenges in Higher Education-II” organized by Himachal Government College Teachers’ Association (HGCTA) at Hotel Peterof Shimla on 5th December, 2019.
- 10)** Presented a research paper entitled as “Enhanced Photocatalytic and Chemical Sensing Applications of Co-Doped ZnO Nanoparticles Synthesized by Facile Solution Process” in National Seminar on Future India: Science And Technology, organized by Indian Science Congress Association Shimla Chapter And Himachal Pradesh University Summerhill Shimla-171005 on dated 22nd May 2019.
- 11)** National Conference on Smart Materials: Advances in Research and Technologies (SMART-2015) held at Shoolini University, Solan, on 26-27 Nov., 2015

- 12)** National seminar on frontiers in polymer science-II (FPS-2013) organized by Department of Chemistry, H.P. University, Shimla on 12-13 December, 2013
- 13)** 1st Annual National Conference on Science Emerging Scenario and Future Challenges Organised by Him Science Congress Association Himachal Pradesh in Shoolni University from 8-10 March, 2013.
- 14)** 7th National conference on Thermodynamics of Chemical, Biological and Environmental Processes Organised by Sri Venkateswara University, Trupati from 10-12 December, 2012.
- 15)** Chemical Constellation Cheminar-2012, Theme: Chemistry for Sustainable Development and Innovations (An International Conference) organised by Department of Chemistry, Dr. B.R. Ambedkar NIT, Jalandhar, Punjab on 10-12 Sept., 2012
- 16)** National Seminar on Experimental and Computational Techniques in Material Science Organised by Department of Physics Himachal Pradesh University, Shimla from 31st March to 2nd April, 2012.
- 17)** National seminar on frontiers in polymer science organized by Department of Chemistry, H.P. University, Shimla on 18-19 November, 2011.
- 18)** National conference on emerging trends in chemistry-biology interface held in Department of Chemistry, Kumaun University, Nainital on 3-5 November, 2011.
- 19)** National symposium on chemistry innovation for human well being held in Department of Chemistry, H.P. University, Shimla on 21-22 October, 2011.
- 20)** National conference on recent trends in materials sciences, organized by Department of Physics, Jaypee University, Solan on 8-10 October, 2011.
- 21)** National workshop cum seminar on advances in electron microscopy & allied fields held in Department of Physics & Chemistry, Shoolini University, Solan on 23-29 September, 2011.
- 22)** International conference on Chemistry: Frontiers and Challenges, organised by Department of Chemistry, AMU, Aligarh on 5-6 March, 2011.

23) Prof. Ram Chand Paul, International Conference on Emerging Trends in Chemistry, organised by Department of Chemistry, Panjab University, Chandigarh on Feb. 11-12, 2011.

24) 3rd National Symposium on Analytical Sciences (NSAS) on Recent Advances in Analytical Sciences organised by Department of Chemistry, Himachal Pradesh University, Summer Hill, Shimla on 12-14 April, 2010.

NATIONAL AND INTERNATIONAL WEBINARS ATTENDED

- 1)** International webinar on “Nanotechnology for Environmental Remediation” organized by P.G. Department of Chemistry, DAV College Abohar, Punjab held on 2nd June 2020.
- 2)** National Webinar on “Jal Shakti Abhiyan: Water and Environment” organised by Ek Bharat Shreshtha Bharat (EBSB) Club and Department of Chemistry, Govt. College Bilaspur, H.P. held on 5th June, 2020.
- 3)** International webinar on “ Recent Progress In Therapeutic Intervention For COVID-19” organized by Department of Zoology and Environmental Sciences, School of Basic and Applied Sciences, Maharaja Agrasen University Baddi, Solan held on 6th June 2020.
- 4)** National webinar on "Let's Talk About Science: How, What And Why” organized by School of Basic and Applied Sciences, Maharaja Agrasen University, Atal Shiksha Kunj, Kalujhanda, Baddi, Solan held on 08th June, 2020.
- 5)** National webinar on “Material Science: Advances and Applications” organized by Department of Chemistry, MCM DAV College Kangra (H.P.) held on 13th June 2020.
- 6)** International Symposium on “Synthesis and Characterization of Smart Materials and Their Potential Applications (ISSCSMPA-2020)” organized by University School of Basic and Applied Sciences, Guru Gobind Singh Indraprastha University, New Delhi, India during 14th -17th June, 2020.
- 7)** National webinar on “Electrochemical Biosensor for Covid-19 detection” organized by Sinsil International Pvt. Ltd. held on 16th June, 2020.

- 8)** National webinar on “Stereochemistry” organized by P.G. Department of Chemistry, DAV College Abohar, Punjab held on 16th June 2020.
- 9)** International Webinar on "Robotics and the Future of Healthcare" organized by St. Xavier's College, Nevta, Jaipur, Rajasthan held on 19th June, 2020.
- 10)** National webinar on “Research on Nanocatalysis and its Recent Trends in Organic Synthesis” organized by PG Department of Chemistry, DAV College Dasuya, Punjab held on 22nd June, 2020.
- 11)** International webinar on “Better Understanding of Pandemic COVID-19” organized by IQAC of Kharagpur College, West Bengal, India held on 23rd June, 2020.
- 12)** National Webinar on “Artificial Intelligence Robotics” organized by Department of EEE & ECE of Gandhi Institute of Excellent Technocrats Ghangapatna, Bhubaneswar, Odisha held on 26th June 2020.
- 13)** International Webinar on “Inclusive Education: Reaching the Unreached” organized by State Council of Educational Research and Training (SCERT), New Delhi, India held on 27th June 2020.
- 14)** Indo-Korea Virtual Conference on Development of Advanced Materials for Future Technologies (DAMFT-2020) Jointly Organized by VIT Chennai, India & Jeonbuk National University, Jeonju, South Korea held during 9th -10th July, 2020.
- 15)** National webinar entitled as ‘Towards Excellence in Higher Education in India in 21st Century’ organized by Department of Chemistry, Dr. B. R. Ambedkar National Institute of Technology, Jalandhar held on 15th July, 2020.
- 16)** National webinar on “Concepts, Innovations and Methods when Chemistry meets Biology” organized by Department of Chemistry Kharagpur College and NASI India, Kolkata Chapter held on 17th July, 2020.
- 17)** National webinar on “Plastic Pollution amidst COVID-19: Protector or Polluter” organized by TERI (The Energy and Resources Institute) ENVIS, Resource Partner on Renewable Energy and Climate Change, Indian Habitat Centre, New Delhi held on 31st July 2020.

- 18)** One Week Online Short Term Course on “Chemistry for Engineering Applications” organized by Department of Chemistry, Dr. B. R. Ambedkar National Institute of Technology Jalandhar, Punjab -144011 held during 14th -18th September , 2020.
- 19)** International Webinar on “Applications of Mass Spectroscopy in Chemistry and Beyond” organized by Department of Chemistry, BMS Institute of Technology & Management, Bengaluru, India on 19th September, 2020.
- 20)** International Webinar on “RASPD+: Machine Learning for Fast Protein-Ligand Binding Free Energy Prediction and its Applications to SARS -CoV-2 Targets” organized by Department of Chemistry, BMS Institute of Technology & Management, Bengaluru, India on 3rd October, 2020.
- 21)** Webinar Series 2020 on “Characterization Techniques for Nanoparticles & Data Analysis” organized by Rayat Bahra University, Mohali, Punjab on 13th -14th October, 2020
- 22)** National Webinar on “Teaching and Learning Practices” organized by Department of Biotechnology and Bioinformatics, Jaypee University of Information Technology, Waknaghat, Solan (H.P.) on 17th October , 2020.
- 23)** National Webinar on "Environmental Sustainability Through Green Technologies: Present & Future" jointly organized by Jhargram Raj College Physics Alumni Association (JRCPAA), and Department of Physics, Jhargram Raj College, West Bengal on 17th October, 2020.
- 24)** Crossing biological barriers – smart modalities to improve performance of polymer nanocarriers” under International Lecture Series entitled “Multifaceted Chemistry: An ever-evolving domain of science” held on 07/03/2021 through online mode organized by Department of Chemistry, Deshbandhu College, University of Delhi, Kalkaji, New Delhi, India- 110019
- 25)** 5-Day Faculty Development Programme on “Accelerating Innovations In Material Science-Surface Characterization”, organized by Department of Chemistry, BMS Institute of Technology & Management, Bengaluru, India from 18th to 22nd May, 2021.

- 26)** Two days online Workshop on Analytical Instrumentation organized by Sophisticated Analytical Instrumentation Facility, Panjab University, Chandigarh and Maharaja Lakshman Sen Memorial College Sundernagar, Mandi, H.P. on July 1 & 2 , 2021
- 27)** National Webinar on Virtual Training Programme on School Safety- Sirmaur District, Himachal Pradesh organized by Zone 4 Solution, New Delhi, India in association with DDMA Sirmaur on 1st September , 2021.
- 28)** A talk session on “NEP-2020 and the Directions of Change in Higher Education” by Prof. N.V. Varghese, Vice Chancellor, NIEPA, New Delhi, organised by the Internal Quality Assurance Cell of St. Bede’s College, Shimla on 16th September, 2021.

ORAL PRESENTATIONS IN NATIONAL/INTERNATIONAL WEBINARS:

- 1)** Presented a paper entitled as “Photocatalytic and Electrochemical Sensing Applications of Co₃O₄-Doped ZnO Nanospindles” in the Indo-Korea Virtual Conference on Development of Advanced Materials for Future Technologies (DAMFT-2020) Jointly Organized by VIT Chennai, India & Jeonbuk National University, Jeonju, South Korea held during 9th -10th July, 2020.

SHORT TERM COURSE:

- 1)** Participated in TEQIP-III sponsored One Week Online Short Term Course on “Chemistry for Engineering Applications” organized by Department of Chemistry, Dr. B. R. Ambedkar National Institute of Technology Jalandhar, Punjab -144011 held during 14th -18th September , 2020)

FACULTY DEVELOPMENT PROGRAMME

- 1) 5-Day Faculty Development Programme on “Accelerating Innovations In Material Science-Surface Characterization”, organized by Department of Chemistry, BMS Institute of Technology & Management, Bengaluru, India from 18th to 22nd May, 2021.

TRAINING PROGRAMME

- (1) Attended and Successfully completed “**Two Days Residential Training Programme for Mentors of Standard Clubs**” held on 15th and 16th December, 2022 at Hotel Oyster, Sector 17, Chandigarh organized by **Bureau of Indian Standard, (Ministry of Consumer affairs, Food & Public Distribution, Govt. of India) Himachal Pradesh Branch Office, Parwanoo-713220, Distt. Solan, (H.P.)**
- (2) Attended and successfully completed IP Awareness/Training program under National Intellectual Properties Awareness Mission on 17th March, 2023 organized by Ministry of Commerce and Industry, Department for Promotion of Industry and Internal Trade, Office of the Controller General of Patents, Designs and Trade Marks, Government of India.

WORKSHOPS

- (1) Participation in one day workshop on the theme “Improving Transparency and Accountability in Government through effective implementation of Right to Information Act” held on dated 31st March, 2023 organized by Govt. College Solan, in collaboration with District Administration Solan.
- (2) Attended Science and Technology Teacher’s Workshop on Artificial intelligence and IoT/Advances in Biotechnology and Bioinformatics in Third National Science Day

Symposium (NSDS-2024) held on 28th February 2024 organized by Jay Pee University of Information Technology, Wagnaghat, Solan, H.P.

FIP/ ORIENTATION COURSE/ REFRESHER COURSE

- (1) Successfully completed a 4-Week Faculty Induction/Orientation Programme for “Faculty in Universities/Colleges/Institutes of Higher Education” from 22nd March to 20th April, 2023 and obtained Grade A⁺ organized by Teaching Learning Centre Ramanujan College, University of Delhi under the aegis of Ministry of Education Pandit Madan Mohan Malaviya National Mission on Teachers and Teaching.

REFRESHER COURSE

- (1) Successfully completed a Two Week Refresher Course in Chemistry from 28th April to 11th May, 2024 and obtained **Grade A⁺** organized by Teaching Learning Centre Ramanujan College, University of Delhi under the aegis of Ministry of Education Pandit Madan Mohan Malaviya National Mission on Teachers and Teaching.

RESOURCE PERSON:

- 1) An awareness program about “**Plastic Pollution: Harmful Effects and Solution**” on 2nd October, 2019, at Government College Rajgarh, District Sirmaur-173101, Sirmaur, Himachal Pradesh, India under “Swachhata Hi

Sewa (SHS) 2019 Campaign, a jan andolan for Swachhata (w.e.f. 11th September, 2019 to 2nd October, 2019), and Plastic Waste Management (w.e.f. 3rd October to 27th October, 2019) initiated by Department of Drinking Water and Sanitation, Ministry of Jal Shakti, Government of India.

- 2) To acquaint the faculty with **Advanced Reference Management Tool For Effective Research Writing**, an invited talk was delivered in Conference room on dated 29th September, 2023 organised by Research and Development Cell Govt. College Solan.
- 3) Six Days In-Service Teachers Training Programme for School lectures/PGT Chemistry organized by State Council of Education Research and Training (SCERT) Rabon, Solan (H.P.) 173211, on dated 11-09-2024.

Awards and Recognition: