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Deputy Controller of Examinations (Dy.COE) &  
Assistant Professor,  
Department of Chemistry  
J. C. Bose University of Science & Technology, YMCA  
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## Educational Qualifications:

### **Ph.D. (Chemistry), 2013**

Indian Institute of Technology (IIT) Delhi, New Delhi, India, Aggregation and Prototropic Behavior within Ionic Liquid based Media

### **NET-JRF Chemical Sciences, 2008**

Council of Scientific and Industrial Research (CSIR), India

### **M.Sc. Chemistry, 2007**

Dr. Bhim Rao Ambedkar University, Agra, India

### **B.Sc. (Non-Medical), 2005**

Maharishi Dayanand Universty, Rohtak, Haryana, India

## Teaching Experience

- ❖ Assistant Professor in the Department of Chemistry, JC Bose University of Science & Technology, YMCA Faridabad, Haryana (05<sup>th</sup> February 2020 – Till date).
- ❖ Assistant Professor in the Department of Chemistry, Amity Institute of Applied Sciences (AIAS), Amity University, Noida Uttar Pradesh (26<sup>th</sup> August 2013 - 04<sup>th</sup> February 2020).
- ❖ IIT Delhi (January 2010- June 2012): Teaching assistantship for the BTech course CYL110 (PHYSICAL CHEMISTRY: CONCEPTS AND APPLICATIONS) during PhD programme.

## Patents

- ❖ “Method for preparation of highly fluorescent biocompatible sulphur doped graphene quantum dots from affordable agro-industrial bio-waste cane molasses using hydrothermal synthesis for bioimaging application” Gupta A.; Shakeel A.; Sangam S.; Suhag D.; **Kumar V.**; Bhattacharya R.; Sinha O.P.; Chakrabarti S.; Mukherjee M. (2017) E-101/27108/2017-DEL Application number 201711016713. CRN: 2462” **Patent Number 397183**

## International Publications

- ❖ Kasana, P.; Saloni; Ahmed, J.; **Kumar V.\*** "Ionic Liquid Induced Aggregation Behavior of Kryptocyanine Dye" *New Journal of Chemistry*, 2024, <https://doi.org/10.1039/D4NJ03627A>, Impact factor (2.7).
- ❖ Saloni; Kasana, P.; Ahmed, J.; **Kumar V.\*** "Ionic Liquid Induced Aggregation and Precipitation Behavior of Pinacyanol" *ChemistrySelect* **2024**, 9(30), e202402320, ISSN: 2365-6549, <https://doi.org/10.1002/slct.202402320>. Impact factor (1.9).
- ❖ Kasana, P.; Saloni; **Kumar V.\*** "How to Control Excited-State Prototropism of Photoacids via the Acidity of Ionic Liquids" *ChemistrySelect* **2024**, 9(23), e202400238, ISSN: 2365-6549, <https://doi.org/10.1002/slct.202400238> Impact factor (1.9).
- ❖ Kasana, P.; Soni, S.; Mukherjee, M.; Kumar, R.; **Kumar V.\*** "Ionic Liquid Induced p-Nitrophenol Prototropism" *Journal of Ionic Liquids (Elsevier)*, **2023**, 3(1), 100051, ISSN: 2772-4220, <https://doi.org/10.1016/j.jil.2023.100051>
- ❖ Jakhar, K. Dalal, M. **Kumar, V.** Mukherjee, M. Agarwal, A. Sharma, D. Sharma M. K. Om H. "Ab-initio DFT calculations and experimental investigations into optoelectronic and structural properties of  $\text{Ca}_9\text{Al}(\text{PO}_4)_7:\text{Sm}^{3+}$  orange phosphor" *Journal of Molecular structure*, **2023**, 1281, 135102. Online ISSN: 1872-8014, Print ISSN: 0022-2860. <https://doi.org/10.1016/j.molstruc.2023.135102>. Impact factor (4.0)
- ❖ Agarwal, A.; Jeevanandham, S.; Kar, C.; Rai, M. P.; **Kumar, V.**; Bohidar, H.; Biswas, S.; Mukherjee, M. "Crystalline Domains Nested on 2D Nanosheets as Heterogeneous Nanomachineries for the Sustainable Production of Bioactive Compounds" *ACS Sustainable Chemistry & Engineering* **2022** 10(30), 9732-9748. ISSN:2168-0485, <https://doi.org/10.1021/acssuschemeng.2c00861>. (Impact factor (7.1)
- ❖ Soni, S.; Rimi; **Kumar, V.**; Kikushima, K.; Dohi, T.; Zhdankin, V. V.; Kumar R. "Hypervalent Iodine (V) Catalyzed Reactions. *Arkivoc* **2022**, part vii, 27-56, ISSN: 1551-7004 (print); 1551-7012 (web) <https://doi.org/10.24820/ark.5550190.p011.800>, Impact factor (0.8)
- ❖ **Kumar, V.\***. "2-Naphthoic acid prototropism within ionic liquid based media" *Journal of Molecular Liquids*, **2021**, 339, 116831, ISSN: 016-77322, UGC Sr. No. 14685, Journal no. 24693/.<https://doi.org/10.1016/j.molliq.2021.116831>. Impact factor (5.3)
- ❖ **Kumar, V.\***; Behera, K.; Pandey, S. "Aggregation behavior of a model carbocyanine dye: Polar organic solvent versus ionic liquid mixture" *Journal of Molecular Liquids*, **2021**, 322, 114985; ISSN: 016-77322, UGC Sr. No. 14685, Journal no. 24693/.<https://doi.org/10.1016/j.molliq.2020.114985>. Impact factor (5.3)
- ❖ **Kumar, V.\***; Singh, M.; Behera, K.; Pandey, S. "Ionic Liquid Induced Removal of Rhodamine B From Water" *Journal of Molecular Liquids*, **2020**, 319, 114195. ISSN: 016-77322, UGC Sr. No. 14685, Journal no. 24693/<https://doi.org/10.1016/j.molliq.2020.114195>. Impact factor (5.3)

- ❖ Sangam, S.; Gupta, A.; Shakeel, A.; Suhag, D.; Bhattacharya, R.; Chakrabarti, S.; Garg, S.; Chattopadhyay, S.; Basu, B.; **Kumar, V.**; Rajput, S., Dutta, M.; Mukherjee, M. "Sustainable synthesis of single crystalline sulphur-doped graphene quantum dots for bioimaging and beyond" *Green Chemistry*, **2018**, 20, 4245-4259. ISSN:1463-9262, 1463-9270. UGC Sr. No. 444; Journal No.28099/<https://doi.org/10.1039/C8GC01638K>. **Impact factor (9.3)**
- ❖ Rai, R.; **Kumar, V.**; Pandey, S. "Aggregation of a Model Porphyrin within Poly(ethylene glycol) (PEG): Effect of Water, PEG Molecular Weight, Ionic Liquid, Salt, and Temperature" *Phys. Chem. Chem. Phys.* **2014**, 16, 7263-7273. ISSN: 1463-9076, 1463-9084. UGC Sr. No. 537; Journal No.30780/<https://doi.org/10.1039/C4CP00103F>. **Impact Factor (2.9)**
- ❖ **Kumar, V.**; Pandey, A.; Pandey, S. "Proton transfer reactions of acridine in water-added ionic liquid-rich mixtures" *ChemPhysChem*, **2013**, 14, 3944 – 3952. ISSN: 1439-7641. . UGC Sr. No. 2438; Journal No.18292/<https://doi.org/10.1002/cphc.201300817>. **Impact Factor (2.3).**
- ❖ **Kumar, V.**; Rai, R.; Pandey, S. "Controlling excited-state prototropism via acidity of ionic liquids" *RSC Advances.*, **2013**, 3, 11621- 11627. ISSN: 2046- 2069. UGC Sr. No. 1042; Journal No.23625/<https://doi.org/10.1039/C3RA41176A>. **Impact Factor (3.9)**
- ❖ **Kumar, V.**; Pandey, S. "Ionic liquid-controlled excited-state behaviour of naphthols" *ChemPhysChem*, **2013**, 14, 491 – 495. ISSN: 1439-7641. UGC Sr. No. 2438; Journal No.18292/<https://doi.org/10.1002/cphc.201200956>. **Impact Factor (2.3).**
- ❖ **Kumar, V.**; Pandey, S. "Selective quenching of 2-naphtholate fluorescence by imidazolium ionic liquids" *J. Phys. Chem. B* **2012**, 116, 12030-12037, ISSN: 1520-6106, 1520-5207. UGC Sr. No. 1986; Journal No.19193/<https://doi.org/10.1021/jp3080817>. **Impact Factor (2.8)**
- ❖ **Kumar, V.**; Baker G. A.; Pandey, S.; Baker, S. N.; Pandey, S. "Contrasting Behavior of classical salts versus ionic liquids towards aqueous phase J-aggregate dissociation of a cyanine dye" *Langmuir*, 2011, 27, 12884-12890. ISSN: 0743-7463, 1520-5827. UGC Sr. No. 20; Journal No.4326/<https://doi.org/10.1021/la203317t>. **Impact Factor (3.7)**
- ❖ **Kumar, V.**; Baker, G. A.; Pandey, S. "Ionic liquid-controlled J- versus H- aggregation of cyanine dyes" *Chem. Commun.*, **2011**, 47, 4730-4732. ISSN: 1359- 7345, 1364-548X. UGC Sr. No. 658; Journal No.5438/<https://doi.org/10.1039/C1CC00080B>. **Impact Factor (4.3)**
- ❖ Om, H.; Baker, G. A.; Behera, K.; **Kumar, V.**; Verma, K. K.; Pandey, S. "Self- Probing of Micellization within Phenyl Containing Surfactant Solutions" *ChemPhysChem* **2010**, 11, 2510-2513. ISSN: 1439-7641. UGC Sr. No. 2438; Journal No.18292/<https://doi.org/10.1002/cphc.201000390>. **Impact Factor (2.3).**
- ❖ Ali, M.; **Kumar, V.**; Pandey, S. "Unusual fluorescein prototropism within aqueous acidic 1-butyl-3-methylimidazolium tetrafluoroborate solution" *Chem. Commun.* **2010**, 46, 5112–5114. ISSN: 1359-7345, 1364-548X. UGC Sr. No. 658; Journal No.5438/<https://doi.org/10.1039/C0CC00620C>. **Impact Factor (4.3).**
- ❖ Behera, K.; **Kumar, V.**; Pandey, S. "Role of the surfactant structure in the behavior of hydrophobic ionic liquids within aqueous micellar solutions" *ChemPhysChem*. **2010**, 11, 1044-1052. ISSN: 1439-7641. UGC Sr. No. 2438; Journal No.18292/<https://doi.org/10.1002/cphc.200900982>. **Impact Factor (2.3).**
- ❖ Ali, M.; **Kumar, V.**; Baker, S. N.; Baker, G. A.; Pandey, S. "J-aggregation of ionic liquid solutions of meso-tetrakis(4-sulfonatophenyl)porphyrin" *Phys. Chem. Chem. Phys.* **2010**, 12, 1886-1894.

### **Book Chapters**

- ❖ *Jyoti Dhariwal, Deepti Verma, Chandra M. Srivastava, Dipti Vaya, Bharti Sheokand, Aman Verma, Vinod Kumar and Kamalakanta Behera*, Book Chapter on “Applications of MXenes in gas separation and energy storage” in *MXenes as Surface-Active Advanced Materials From Fundamentals to Industrial and Biomedical Applications A volume in Micro and Nano Technologies* Edited by: Mumtaz A. Quraishi, Chandrabhan Verma and Elyor Berdimurodov published by Elsevier, 2024, pages 267-289, ISBN:978-0-443-13589-7, <https://doi.org/10.1016/B978-0-443-13589-7.00002-X>
- ❖ *Ruchi Sharma, Preeti Kasana, Ashima Sharma, and Vinod Kumar* book chapter on “Protein Labelling for Molecular Recognition and Application” in *Functional Fluorescent Materials Applications in Sensing, Bioimaging, and Optoelectronics Edited By Vivek Mishra, Syed Sibtay Razi, Ajit Kumar* eBook ISBN 9781003352372, CRC Press <https://doi.org/10.1201/9781003352372>
- ❖ *Bhawna, Balapanuru, J., Rai, V., Kumar, V., Behera, K.* . Nanoporous Carbon Materials for Energy Harvesting, Storage, and Conversion. In: Grace, A.N., Sonar, P., Bhardwaj, P., Chakravorty, A. (eds) *Handbook of Porous Carbon Materials. Materials Horizons: From Nature to Nanomaterials*. Springer, Singapore. 2023, Print ISBN: 978-981-19-7187-7, Online ISBN: 978-981-19-7188-4. [https://doi.org/10.1007/978-981-19-7188-4\\_3](https://doi.org/10.1007/978-981-19-7188-4_3).

### **Conference Papers**

- ❖ Presented paper on “Effect of Ionic Liquids on Excited State Prototropism” in *Fusion of Science and Technology 10th International Symposium & International Workshop on “Sustainable Technologies for a Better Planet: Challenges & Our Preparedness for 2050” ISFT-2024*, January 4-8, 2024 held at JC Bose University, YMCA Faridabad Haryana.
- ❖ Presented a paper titled “New and alternative solvent media for chemical reactions : Ionic Liquids and Deep Eutectic Solvents” in the international conference on *Integrated Approaches in Science & Technology for Sustainable Future” IASTSF 2022* organized by J. C. Bose University of Science & Technology, YMCA held on National Science Day 28th February to 1st March 2022.

- ❖ Participated and presented paper “Effect of Ionic Liquids on Acid-Base Equilibria “(Oral) in the “International Conference on Chemistry: Frontiers & Challenges”, organized by Department of Chemistry, Aligarh Muslim University, Aligarh, India, held at Aligarh, March 2-3,2013.
- ❖ Participated and presented paper “Unusual Prototropism within Ionic Liquids” (Poster) in the “International Conference on Interface between Chemistry and Environment (ICICE)”, organized by Department of Chemistry, Ramjas College, University of Delhi, Delhi-110007, India, held at Ramjas College, December 13- 14, 2012.
- ❖ Participated and presented paper “A Tale of Two Salts: An Illustration of Contrasting Behavior for Classical Salts versus Ionic Liquids in Aqueous Phase J- aggregate Dissociation (Poster) in the “Conference on Photochemistry and Luminescence”, organized by Chemistry Department, IIT Guwahati, held at IIT Guwahati, March 9-10,2012.

### **Manuscripts Submitted**

- ❖ Vinod Kumar\*a, Sudeep Mishrab, Lalitesh Kumar Thakurb “Pesticides residue estimation and risk assessment in vegetables and fruits in Haryana, India” Environmental Science and Pollution Research (under review)
- ❖ Vinod Kumar\*a, Mukesh Kumar Singhb, Mahesh Kumar Sainic, Preeti Kasanaa, Salonia, Lalitesh Kumar Thakurb, and Sudeep Mishra\*b Environmental surveillance for pesticides residue: identification, estimation and risk assessment in vegetables, soil and water in Haryana, India Journal of Environmental Chemical Engineering (under review)
- ❖ Saloni, Preeti Kasana, and Vinod Kumar\*“Ionic Liquid Induced Aggregation and Precipitation Behavior of Pinacyanol” Spectrochimica Acta Part A: Molecular and Biomolecular Spectroscopy (under review)

### **Research Projects Funding:**

1. Research Seed Grant, Project Title: Excited State Proton Transfer within Ionic Liquid Based Media, Amount: Rs. 2,00,000/- (Rupees Two-Lakhs only)

### **Scholarships and Awards**

- ❖ Awarded “**IASc-INSA-NASI Summer Research Fellowship 2018**” by National Science Academies (Indian Academy of Sciences Bengaluru (IASc), Indian National Science Academy, New Delhi (INSA) and The National Academy of Sciences, Allahabad India (NASI)

- ❖ Recipient of Senior Research Fellowship (**SRF**) by Council of Scientific and Industrial Research (**CSIR**), Government of India (2011-2013)
- ❖ Recipient of Junior Research Fellowship (**JRF**) by Council of Scientific and Industrial Research (**CSIR**), Government of India (2009-2010).
- ❖ Qualified National Eligibility Test (**NET**) in Chemical Sciences conducted by **CSIR-UGC**, India in 2008.
- ❖ Qualified State Teachers Eligibility (Lecturer in Chemistry) conducted by B.S.E.H. Bhiwani, Haryana India.
- ❖ Awarded Merit Certificates by G.G.D.S.D. College Palwal, Haryana for first position in College, during BSc. (2002-2003, 2003-2004 and 2004-2005).
- ❖ Awarded National Service Scheme (N. S. S.) Merit Certificate by Maharshi Dayanand University, Rohtak India in 2004-2005.
- ❖ Awarded Certificates of Appreciation by Department of Chemistry, **IIT Delhi** for publishing article in High Impact Factor (> 3.5) journals during the academic years 2009-2010, 2010-2011.

#### **Resource Person/Invited Talks**

- ❖ **Resource person** for Faculty Development Programme (FDP) on “Fabrication and Characterization of Nanomaterials for Device Applications” Organized by K.R. Mangalam University in association with Mahatma Hansraj Malaviya Mission Teacher Training Session (MH-MMTTC) 30<sup>th</sup> May 2024. (27<sup>th</sup> May- 1<sup>st</sup> June 2024).
- ❖ **Resource person** for seminar on “Intellectual property Rights (IPR)” organized by Aggarwal College, Ballabgarh Faridabad on dated 17.03.2023.
- ❖ **Resource person** for seminar on “IPR-A Tool to Protect Innovations and Creations” held on 07<sup>th</sup> July 2022 at Rajeev Gandhi Ayurvedic Medical College and Hospital (RGAMC &H), Mahe, Govt of Puducherry in connection with Azadi ka Amrit Mahotsav.
- ❖ **Resource person** for guest lecture on “Raman Effect and its Applications” for MSc (Chemistry) and BSc (H) Chemistry students conducted by Aggarwal College, Ballabgarh, Faridabad on dated 16.06.2022.
- ❖ **Resource Person** for Webinar on “Fluorescence Spectroscopy and its Applications” Organized by the PG Department of Chemistry D.A.V. College, Bathinda on dated 20.01.2022 (under DBT star college scheme)
- ❖ **Resource Person** for in the Short Term program on ‘Bio privileged and Sustainable Chemistry’ and delivered a talk on “Sustainable synthesis of single crystalline sulphur-doped graphene

quantum dots for bioimaging and beyond" on dated 19.01.2022, organized by the Department of Chemistry, Manav Rachna University, Faridabad, India from January 17-21, 2022, to commemorate 25 years of Transforming Education (Silver Jubilee Celebration).

- ❖ **Resource Person** for one week online Value Added Course on "Advanced Materials and Their Pathways (AMTP-2021)" on the topic "Fluorescence Spectroscopy and Its Applications" 02<sup>nd</sup> June, 2021 organized by Department of Physics, J. C. Bose University of Science and Technology, YMCA, Faridabad from 31st May to 04th June 2021.
- ❖ **Resource Person** for One Day National Level Webinar on the topic 'IPR – A Tool to Protect Innovations and Creations' organized by Chemistry Association & Internal Quality Assurance Cell of GGD SD College Palwal, Haryana, held on Tuesday, 4<sup>th</sup> May, 2021.
- ❖ **Resource Person** for Webinar and Guest Lecture Series and delivered a talk entitled "ΣSigma Plot Exact Graphs and Data Analysis" on organized by the AICCRS, Amity University Noida Campus on 19 February 2021
- ❖ **Resource Person** for One Day International Level Webinar on the topic 'IPR – A Tool to Protect Innovations and Creations' organized by Research Cell in association with Internal Quality Assurance Cell of Nirmala Memorial Foundation College of Commerce & Science Mumbai, held on Friday, 8<sup>th</sup> January, 2021.
  
- ❖ **Resource Person** for training session on **ΣSIGMAPLOT** during One Week National e-Workshop cum Value Added Course on "HANDS-ON TRAINING & PRACTICES IN COMPUTATIONAL CHEMISTRY", Organized by: Department of Chemistry, J. C. BOSE University of Science and Technology, YMCA, Faridabad, November 23-28, 2020.
- ❖ **Resource Person** for "Spectroscopic investigations within Ionic Liquid based Media" in the OneWeek International Faculty Development Programme entitled "Advanced Topics in Chemical Sciences" organized by Post Graduate Department of Chemistry, Nallamuthu Gounder Mahalingam College, Pollachi.Coimbatore-Dist, Tamil Nadu, India, dated 18.05.2020.

#### **Faculty Induction/Orientation Programme**

- ❖ Successfully completed two-week online Refresher Course on "Advanced Research Methodology" conducted by the Teaching Learning Center, Ramanujan College, University of Delhi from 22 March - 05 April, 2023.
- ❖ Successfully completed 02 Week online Inter-Disciplinary Refersher Course/ Faculty Development Programme on "Research Methodology and Data Analysis" conducted by the Teaching Learning Center, Ramanujan College, University of Delhi from May 17–May 31, 2021.
- ❖ Successfully completed Faculty Induction-Orientation Training Programme conducted by the

Teaching Learning Center, Ramanujan College, University of Delhi in collaboration with Central University of Tamil Nadu, VCSG Uttarakhand University of Horticulture and Forestry, Bharsar, Uttarakhand and DhoteBandhu Science College, Gondia, Maharashtra from November 10 - December 09, 2020.

### **Events Organized**

- ❖ Organized Industrial Visit to Institute of Pesticide Formulation Technology (IPFT) in Gurugram, Haryana for M.Sc. and Ph.D. Chemistry students on dated 03<sup>rd</sup> April 2024.
- ❖ Member organizing committee in the 30th International Conference of the International Academy of Physical Sciences (CONIAPS XXX), focusing on Recent Advances in Science and Technology towards Sustainability (RASTS-2024), organized by J.C. Bose University of Science and Technology, YMCA, Faridabad, Haryana, February 28-29, 2024.
- ❖ Successfully co-ordinated meeting of **Expert Committee of Engineering Science- FIST program** of DST, Govt. of India on dated 7th July, 2023 held at JC Bose University of Science and Technology, YMCA Faridabad.
- ❖ Organized one day workshop on “Intellectual Property Rights Awareness” in collaboration with The Office of the Controller General of Patents, Designs and Trademarks (GPDTM) on dated 24.03.2023.
- ❖ Organized one day workshop on “Dynamic Light Scattering System (Particle Size and Zeta Potential Analyzer)” in collaboration with Anton Paar, India on dated 05<sup>th</sup> August 2022.
- ❖ Member of the Organizing Committee for one week online short term course (STC) on “Advanced material for Aatmanirbhar Bharat” organized by the Department of Chemistry in association with American Chemical Society (ACS) International Student chapter & Vigyan Bharti (VIBHA) from 13 to 28<sup>th</sup> February 2021 at J.C. Bose University of Science & Technology, YMCA, Faridabad, Feb 18, 2021.
- ❖ Member of the Organizing Committee for One Day national Seminar on “Teacher’s Role in National Education Policy-2020 Implementation” at J.C. Bose University of Science & Technology, YMCA, Faridabad, Feb 18, 2021.
- ❖ FDP Coordinator for One Week Online FDP on “Spectroscopic and Analytical Techniques: Applications” in the Department of Chemistry, J. C. Bose University of Science and technology, YMCA, Faridabad in collaboration with Guru Angad Dev Teaching Learning Centre of MHRD under Pandit Madan Mohan Malaviya National Mission on Teachers and Teaching (PMMMNMTT), from 25-29<sup>th</sup> May 2020.

### **Faculty Development Programme**



- ❖ Attended MDP on topic " Finance for non-finance professionals" organized by the Department of Management Studies, JC Bose University of Science and Technology, YMCA Faridabad Haryana on dated 9th April 2024
- ❖ Participated and completed AICTE sponsored Faculty Development Programme titled "Work-Life Balance for Technocrats" from 20.05.2022-24.05.2022 (5 Days) organized by the Department of Management Studies and Department of Electronics Engineering J. C. Bose University of Science and Technology, YMCA Faridabad.
- ❖ Participated in Online Faculty Development Programme on "Cardinal Role of Quality Education in Developing Self-Reliant India" organized by IQAC, Aggarwal College, Ballabgarh, Faridabad July 7-14, 2021.
- ❖ Participated in Online One-Week Faculty Development Programme on "Green Technologies and Environmental Sustainability (GTES-2020)" jointly organized by Department of Environmental Sciences and Department of Civil Engineering, J.C. Bose University of Science & Technology, YMCA, Faridabad, September 7-12, 2020.
- ❖ Completed 02 Weeks online FDP on "Managing online classes and co-creating MOOCs" from 25<sup>th</sup> July-10<sup>th</sup> August 2020, conducted by Teaching Learning Centre, Ramanujan College, University of Delhi under the aegis of Ministry of Human Resource Development, Pandit Madan Mohan Malaviya National Mission on Teachers and Teaching (PMMMNMTT).
- ❖ Completed Five Day FDP on Innovative Teaching Learning Methodologies conducted by Teaching Learning Centre (Under PMMMNMTT, Department of Higher Education, MHRD, GoI) Coimbatore Institute of Technology (Government Aided Autonomous Institution) CIT – TLC from 06 to 10 July 2020.
- ❖ Attended One Week Online Staff Development Program (SDP) on Basic Computer Skills and ICT Tools "Google Classroom" conducted by the Department of Electrical Engineering, J. C. Bose University of Science and Technology, YMCA, Faridabad during July 10-14, 2020.
- ❖ Completed One Week Virtual International Faculty Development Programme (FDP) entitled "Advanced Topics in Chemical Sciences" organized by Post Graduate Department of Chemistry, Nallamuthu Gounder Mahalingam College, Pollachi Coimbatore-Dist, Tamil Nadu, India, from 15.05.2020 to 21.05.2020.
- ❖ Participated and completed One Week Online Faculty Development Programme on "Climbing the Ladder of Education System Through Innovation & E- Learning Tools" from 04.05.2020 to 09.05.2020 organized by Information Technology Department, Sir Visvesvaraya Institute of Technology. Nasik, Maharashtra, India. attended

- ❖ Participated in Faculty Development Programme: National Webinar entitled “ Challenges and Opportunities before Indian Higher Education due to Covid-19” organized by Guru Angad Dev, Teaching learning Centre SGTB Khalsa College University of Delhi, under Pandit Madan Mohan Malaviya National Misson on Teachers and Teaching (PMMMNMTT) held on May 2<sup>nd</sup>, 2020.
- ❖ Participated in Faculty Development Programme: National Webinar entitled “ Towards Excellence in Higher Education in India in the 21<sup>st</sup> Century: Challenges and Opportunities ” organized by Guru Angad Dev, Teaching learning Centre SGTB Khalsa College University of Delhi, under Pandit Madan Mohan Malaviya National Misson on Teachers and Teaching (PMMMNMTT) held on April 29<sup>th</sup>, 2020.
- ❖ Participated in Faculty Development Programme: National Webinar entitled “ ICT Enabled Higher Education in India: Challenges and Opportunities ” organized by Guru Angad Dev, Teaching learning Centre SGTB Khalsa College University of Delhi, under Pandit Madan Mohan Malaviya National Misson on Teachers and Teaching (PMMMNMTT) held on April 17<sup>th</sup>, 2020.
- ❖ Participated in Faculty Development Programme: National Webinar entitled “ Development of Higher Education in India : An Overview” organized by Guru Angad Dev, Teaching learning Centre SGTB Khalsa College University of Delhi, under Pandit Madan Mohan Malaviya National Misson on Teachers and Teaching (PMMMNMTT) held on April 16<sup>th</sup>, 2020.
- ❖ Successfully completed two week course on “Digital Transformation in Teaching Learning Process” April 6<sup>th</sup> -April 22<sup>nd</sup>, 2020 offered by TEQIP, NPIU and IIT Bombay.
- ❖ Participated in faculty development programme on “Statistical Techniques for Data Analysis” held on 20-21<sup>th</sup> July 2017 at Amity University, NoidaUP.
- ❖ Attended faculty development programme on “Exploring Mathematical & Statistical Tools: AUTOGRAPH” held on 8th Dec 2015 at Amity University, Noida UP.
- ❖ Attended faculty development programme on “Amity Academic Structure & System” organized by Amity Academic Staff College on dated 12-13 September, 2013 at Amity University, Noida, Uttar Pradesh.

### Session Chaired

- ❖ **Chaired Technical Session** in the Indian Analytical Congress-2024 (IAC-2024) held on 5-7 June, 2024 at CSIR-IIP, Dehradun, organized by Indian Society of Analytical Scientists (ISAS) – Delhi Chapter in collaboration with CSIR-Indian Institute of Petroleum (IIP), Dehradun, UK, India.
- ❖ Chaired the Technical Session (Paper International Conference on Advanced Developments in Chemistry and Allied Sciences-2021 (ADCAS-21) organized by the Department of Chemistry,

Deenbandhu Chhotu Ram University of Science and Technology, Murthal, Haryana, India held on 16-17<sup>th</sup> December, 2021.

- ❖ **Session Chaired** in "International Conference (Virtual) on Recent Advancements in Chemical Sciences - 2021 [ICRACS-2021]" conducted by J. C. Bose University of Science and Technology, YMCA from July 14 to July 16, 2021.

### **Conference Attended**

- ❖ Participated in one day national seminar on "Modern trends in quality education" organized by J. C. Bose University of Science and Technology, YMCA, Faridabad in association with Indira Gandhi University, Meerpur, Rewari.
- ❖ Attended online International Symposium conference on "Covid 19 & Beyond: The New Normal in HEIs", conducted by IQAC, J. C. Bose University of Science and Technology, YMCA Faridabad on 10<sup>th</sup> June 2020.
- ❖ Participated and attended One Day National Webinar on "Intellectual Property Rights" organized by IQAC cell of Lokmanya Mahavidhyalaya Warora, on 02, July 2020.
- ❖ Participated and attended webinar on "Virtual Lab: Effective Tools for Teaching and Learning" organized by NITK Suratkal, on 10<sup>th</sup> July 2020.
- ❖ Participated in One day National Webinar on "Career Advancement Scheme (CAS) for promotion of teachers & Filling of API forms" Organized by Department Of Chemistry, Nevjabai Hitkarini College, Bramhapuri on 3rd July 2020.
- ❖ Participated in One day National Webinar on "NIRF & AISHE: Role of Teachers" Organized by Department Of Chemistry, Nevjabai Hitkarini College, Bramhapuri on 2nd July 2020.
- ❖ Participated in two days international virtual conference on Modern Instrumental and Characterization Techniques in Applied Sciences-2020 (MICTAS-2020) organized by MIET Kumaon Haldwani & Department of Chemistry, H.N.B. Govt. P. G. College, Khatima, Uttarakhand in collaboration with USERC DST Dehradun & Department of Chemistry, R.H. Govt. P. G. College, Kashipur, Uttarakhand, India on July 5-6, 2020 at *e-platform*.
- ❖ Participated in the "International Conference on Recent Trends in Materials and Devices", ICRTMD-2015 organized by Amity Institute for Advanced Research & Studies (material and Devices) & Amity Institute of Applied Sciences (AIAS), Amity University, Noida, India, held at Noida from 15-17<sup>th</sup> December, 2015.
- ❖ Participated in the "International Conference on Recent Trends in Materials and Devices",

organized by Amity Institute of Applied Sciences (AIAS), Amity University, Noida, India, held at Noida from 30-31<sup>st</sup> October 2013.

- ❖ Participated in the “9<sup>th</sup> Conference organized by International Academy of Physical Sciences”, CONIAPS 1X 2007, held at Institute of Basic Sciences Khandari, Agra 2007.

#### **Workshop and Symposium Attended**

- ❖ Participated in IP Awareness/Training program under National Intellectual Property Awareness Mission organized by Intellectual Property Office, India on February 16, 2022.
- ❖ Participated in two days online workshop on “Chem Draw & Chem Sketch Software Learning” organized by ACS international students chapter and Lovoisier Association Department of Chemistry, faculty of Sciences, SGT University, Gurugram on date 28-29, Jan 2022.
- ❖ Participated in Webinar on “Chemistry: A Central Science of Nature” organized by the Department of Chemistry, Shivaji College, University of Delhi under the aegis of DBT sponsored Star College Scheme on August 28, 2021.
- ❖ Attended one day workshop on “Intellectual Property Rights” conducted by Research and Development Section of J. C. Bose University of Science and Technology, YMCA Faridabad on 19<sup>th</sup> June 2021.
- ❖ Attended one day workshop on “Research Methodology” conducted by Research and Development Section of J. C. Bose University of Science and Technology, YMCA Faridabad on 26<sup>th</sup> June 2021.
- ❖ Attended “Science Leadership Workshop” organized by Central University of Punjab, Bathinda from June 22-28, 2020.
- ❖ Participated in the Workshop titled “Deep Eutectic Solvents for Environmental Remediation and Energy Storage”, sponsored by Scheme for Promotion of Academic and Research Collaboration (SPARC) through Ministry of Human Resource Development (MHRD), Government of India, held at Indian Institute of Technology Guwahati, Assam, India from July 29<sup>th</sup>–30<sup>th</sup> 2020.
- ❖ Attended workshop titled “The BodhiTree and SAFE Tools for Effective Online Teaching: A Hands-On Workshop” organised by the Teaching Learning Centre (ICT) at IIT Bombay, funded by the Pandit Madan Mohan Malaviya National Mission on Teachers and Teaching (PMMMNMTT), MHRD, Govt. of India held from 18 to 24 June 2020.
- ❖ Participated in Online National Workshop entitled “Creating Video Lecture using OBS Studio” organized by Internal Quality Assurance Cell (IQAC) of Mahatma Phule Mahavidyalaya, Kingaon, Latur, Maharashtra on 10<sup>th</sup> May, 2020.
- ❖ Attended IEEE Authorship Workshop-India “How to Publish Technical Paper with IEEE” organized

by IEEE, held at Amity University, Noida on 12.09.2019

- ❖ Attended two Days` Workshop on “Multi-Scale Modeling & Simulation of Nanomaterials” organized by Amity Institute of Nanotechnology, held at Amity University Noida on 22nd- 23rd May 2018,
- ❖ Attended one-day National Symposium on “Geogenic Contamination of Groundwater: Its Impact & Mitigation Measure” (GCG) on 22nd April 2016 in TERI University, New Delhi.
- ❖ Participated in the “BIOTIKOS 2016: National Symposium on Nano biotechnology” held at the TERI University, Vasant Kunj, New Delhi, from 31st March 2016 to 1st April 2016.
- ❖ Attended Two day National Workshop on “Awareness on Intellectual Property Rights” held at Amity University, Noida on dated 25-26<sup>th</sup> June 2015 organized by Amity Institute of Information Technology, Noida In association with Department of Electronics and Information Technology, Ministry of Communication and Information Technology, Govt. of India.
- ❖ Attended and presented poster in “National Workshop on Fluorescence and Raman Techniques” held at IISER Pune, India from December 13-19, 2014.
- ❖ Participated in Symposium on “Emerging Trends in Glycoscience and Glycotechnology (ETGG-2014)” organized at Delhi during 8-10 January, 2014.
- ❖ Participated in 6<sup>th</sup> Science Conclave 2013 “ A congregation of Novel Laureates and Eminent Scientists- an MHRD-DST initiative” at Indian Institute of information Technology, Allahabad (III-A) during December 08-14, 2013.
- ❖ Attended faculty development programme organized by Amity University, Noida UP, on dated 12 & 13 September, 2013.
- ❖ Participated and presented paper “Selective Quenching of 2-Naphtholate Fluorescence by Imidazolium Ionic Liquids” (Poster) in the “Symposium on New Directions in Chemical Sciences, NDCS”, organized by Chemistry Department, IIT Delhi, held at IIT Delhi, December 7-9, 2012.
- ❖ Participated and presented paper “Ionic Liquids: Recovering Monomer Units from Aqueous Phase J-aggregates of Cyanine Dye TDBC” (Poster) in National Fluorescence Workshop (FCS2011) on Spectroscopy and Microscopy in Biology and Chemistry, held at Delhi in between November 14-18, 2011.

#### **Short Term Courses and Professional Development Programme**

- ❖ Participated in one week Professional Development Programme (PDP) organized by J. C. Bose University of Science and Technology, YMCA Faridabad from June 28 - July 03, 2021.

- ❖ Completed Mendeleev training course, conducted by Agarwal College, Ballabgarh on June 07, 2020.
- ❖ Completed QIP short term course on “Fluorescence Spectroscopy and its Application” conducted by the **Centre for Development of Technical Education, IIT Kanpur** during November 13-19,2017.
- ❖ Completed QIP short term course on “Fluorescence Spectroscopy and its Application” conducted by the **Centre for Development of Technical Education, IIT Kanpur** during November 23-27, 2015.

#### **Guest Editor**

- ❖ Special issue on “Spectroscopic Investigation on Ionic Liquid-Based Systems” **Journal of Spectroscopy** by **Hindawi Publishing Corporation**.
- ❖ Special Issue on “Application of Ionic Liquids in Various Chemical and Biochemical Systems” **Advances in Physical Chemistry** by **Hindawi Publishing Corporation**.

#### **Editorial Board Member**

- ❖ Editorial Board Member in “Science Journal of Chemistry (SJC); ISSN Print: 2330-0981 ISSN Online: 2330-099X
- ❖ Editorial Board Member in “International Journal of Chemistry and Chemical Engineering (IJCCE)” ISSN: 2693 – 356X

#### **Professional Skills and Experience**

- ❖ Proficiency in presentations, paper writing, project conception and implementation.
- ❖ Have research experience in the fields of Optical Spectroscopy, Photophysical processes within environmentally-benign systems such as ionic liquid-based solutions, Surfactant-based systems etc.
- ❖ Scientific instruments handled are Uv-vis spectrophotometer, Fluorescence spectroscopy, Time resolved fluorescence techniques, FT-IR spectroscopy, Electrical conductometer, Viscometer, and Dynamic Light Scattering (DLS) technique, Ultrafast fluorescence upconversion technique, Femtosecond laser technique.
- ❖ Softwares handled are SigmaPlot10, Origin, and DAS6.

#### **Courses Taught (J. C. Bose University, YMCA)**

##### **PG Courses**

- ❖ [CH-422A]: Physical chemistry (Special –II), MSc (Chemistry)

- ❖ [CH-424A]: Physical chemistry (Special –IV), MSc (Chemistry)
- ❖ [CH-103A]: Physical chemistry (General-I), MSc (Chemistry)

#### UG Courses

- ❖ [BCH 102]: Physical Chemistry – I, BSc (H) Chemistry
- ❖ [BCH 202]: Physical Chemistry – II, BSc (H) Chemistry

#### Courses Taught (Amity University, Noida)

#### PhD Courses

- ❖ [PST902] Research Methodology, PhD

#### PG Courses

- ❖ [CHEM603] Physical Chemistry, MSc (Chemistry)
- ❖ [CHEM704] Solid State Chemistry, MSc (Chemistry)

#### UG Courses

- ❖ [CHEM101] Applied Chemistry BTech.
- ❖ [CHEM211] (Physical Chemistry- III, B.Sc. (H) Chemistry
- ❖ [CHEM211] Physical Chemistry- III , B.Sc. (H) Chemistry
- ❖ [CHEM104] Physical Chemistry- I, B.Sc. (H) Chemistry

#### References

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(Dr. Vinod Kumar)