

Name: Prof. Mallika Pathak

Department: Department of Chemistry

Current Designation: Professor

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### Academic Qualifications:

1997-2000: 2000-2002:	B.Sc. (Hons) Chemistry, Miranda House, University of Delhi M.Sc. (Physical Chemistry), Miranda House, University of Delhi
2002-2003:	M.Phil. Chemistry, Department of Chemistry, University of Delhi
2003-2006:	Ph.D. Chemistry, Department of Chemistry, University of Delhi

Research Gate: https://www.researchgate.net/profile/Mallika-Pathak

Google scholar: <u>https://scholar.google.com/citations?hl=en&authuser=1&user=N4i5qoAAAAJ</u>

ORCID ID: https://orcid.org/0000-0003-4455-3750

Field of Specialization under the Subject/Discipline: Physical Chemistry, Computational Chemistry

**Total Teaching Experience: 17 years (since 2004)** 

Teaching at Miranda House since: July 2004

### **List of Publications**

Patent

Indian Patent granted, Patent no. 346864, Application no 201711036758, *Aqueous Wound Healing Compostion*, 16 October 2017

### Chapter in Books

- Kaur Lajpreet; Pathak Mallika; Dan Siddhartha; Singhal Rahul; Kumar Vinod; Ojha Himanshu (2022) Chapter- PDK inhibitors as therapeutic agents: An overview. Book: Protein kinase inhibitors from discovery to therapeutics Paperback ISBN: 9780323912877 Elsevier Inc. 207-243
- 2. Ojha Himanshu, Sethi Mamta, Kakkar Rita, Sharma Malti, Saini Manisha, Pathak Mallika. (2021) Chapter - Chem-bioinformatic approach for drug discovery: in silico screening of potential antimalarial



compounds. Book: Cheminformatics and bioinformatics in the pharmaceutical sciences. Paperback ISBN: 978-0-12-821748-1 , eBook ISBN: 9780128217474. Elsevier Inc. 207-243, https://doi.org/10.1016/B978-0-12-821748-1.00005-1

- Sharma Deepti, Sharma Navneet, Pathak Mallika, Agrawala Paban K, Basu Mitra, Ojha Himanshu. (2018) *Chapter*- Nanotechnology-based drug delivery systems: Challenges and opportunities. Book: Drug Targeting and Stimuli Sensitive Drug Delivery Systems, ISBN: 978-0-12-813689-8, 39-79, , Elsevier Inc., <u>https://doi.org/10.1016/B978-0-12-813689-8.00002-1</u>
- 4. Buragohain Mridul; Pathak Mallika; Oak Vimala and Kavitha S K. (2019) *Arsenic in Drinking Water*. RBPT resource packages developed for Centre of Excellence in Science and Mathematics Education (CoESME), IISER Pune, 20-23 January 2019.

### Publications In Peer Reviewed Journals

- Dan Siddhartha, Sharma Deeksha, Rastogi Kartikey, Shaloo, Ojha\* Himanshu, Pathak\* Mallika, Rahul Singhal Therapeutic and Diagnostic Applications of Nanocomposites in the Treatment Alzheimer's Disease Studies (2022) Biointerface Research in Applied Chemistry, 12 (1) 940-960 DOI https://doi.org/10.33263/BRIAC121.940960 E-ISSN:2069-5837
- Rahman Afreen Jahan; Kaur Lajpreet; Pathak Mallika; Singh Anju; Verma Piyush; Singhal Rahul; Kumar Vinod; Ojha Himanshu Spectroscopic Studies of Binding interactions of 2-Chloroethylphenyl Sulphide with Bovine Serum Albumin (2021) Journal of Molecular Liquids 340. DOI https://doi.org/10.1016/j.molliq.2021.117144 ISSN:0167-7322, IF 6.165
- Rahman Afreen Jahan; Sharma Deepti; Kumar Deepanshu; Pathak Mallika; Singh Anju; Kumar Vinod; Chawla Raman; Ojha Himanshu. Spectroscopic and molecular modelling study of binding mechanism of bovine serum albumin with phosmet. (2021) Spectrochimica Acta Part A: Molecular and Bimolecular Spectroscopy, 244. DOI https://doi.org/10.1016/j.saa.2020.118803, ISSN: 1386-1425, IF 4.098
- Chahal Varun; Nirwan Sonam; Pathak Mallika; Kakkar Rita. Identification of potent human carbonic anhydrase IX inhibitors: a combination of pharmacophore modeling, 3D-QSAR, virtual screening and molecular dynamics simulations (2020) Journal of Biomolecular Structure and Dynamics,1-16, DOI https://doi.org/10.1080/07391102.2020.1860132, ISSN: 0739-1102, (UGC list S.No. 12812, Journal No. 21655) IF 0.98
- Sharma Deepti; Singh Anju; Pathak Mallika; Kaur Lajpreet; Kumar Vinod; Roy Bal G; Ojha Himanshu. DNA binding and antiradical potential of ethyl pyruvate: Key to the DNA radioprotection (2020) Chemico-Biological Interactions, 332, 109313, DOI https://doi.org/10.1016/j.cbi.2020.109313, ISSN: 0009-2797 (UGC list S.No. 4166, Journal No. 5494) IF 3.723
- Singhal Sugandha; Pathak Mallika; Agrawala Paban K, Ojha Himanshu. Design and in silico screening of aryl allyl mercaptan analogs as potential histone deacetylases (HDAC) inhibitors. (2020) Heliyon, 6(5), e03517 https://doi.org/10.1016/j.heliyon.2020.e03517, E-ISSN 24058440 (UGC list S.No. 8845, Journal No. 17185)



- Sharma Deepti; Singh Anju; Kukreti Shrikant; Pathak Mallika; Kaur Lajpreet; Kaushik Vinod; Ojha Himanshu. Protection by Ethyl Pyruvate against Gamma Radiation Induced Damage in Bovine Serum Albumin (2020) International journal of biological macromolecules, 150, 1053-1060. DOI https://doi.org/10.1016/j.ijbiomac.2019.10.110, ISSN: 0141-8130, IF 5.162
- Pathak Mallika<sup>\*</sup>, Sharma Deepti, Sharma Navneet, Sharma Malti. *Spectroscopi.c and thermodynamic studies of the binding mechanism of metformin to pepsin.* (2018) Journal of Molecular Structure, 1166, 183-189. DOI 10.1016/j.molstruc.2018.04.032, ISSN: 0022-2860, IF 2.01. (UGC list S.No. 14693, Journal No. 24702)
- Sharma Malti, Pathak Mallika, Kapoor Pramesh N. *The Sol-Gel Method: Pathway to Ultrapure and Homogeneous Mixed Metal Oxide Nanoparticles*. (2018) Asian Journal Chemistry 30 (7), 1405-1412. ISSN: 9707077. DOI: 10.14233/ajchem.2018.20845, (UGC list S.No. 2291, Journal No. 8774)
- Pathak Mallika, Ojha Himanshu, Tiwari Anjani K, Sharma Deepti, Saini Manisha, Kakkar Rita Design, synthesis and biological evaluation of antimalarial activity of new derivatives of 2,4,6-s-triazine. (2017) Chemistry Central Journal 11, 132, 1-11 DOI: 10.1186/s13065-017-0362-5, ISSN: 1752-153X, IF 2.4, (UGC list S.No. 4181, Journal No. 5524)
- 11. Pasricha Sharda; Sharma Deepti; Ojha Himanshu; Gahlot Pragya; Pathak Mallika; Basu Mitra; Chawla Raman; Singhal Sugandha; Singh Anju; Goel Rajeev; Kukreti Shrikant; Shukla Shefali. *Luminescence, circular dichroism and in silico studies of binding interaction of synthesized naphthylchalcone derivatives with bovine serum albumin.* (2017) Luminescence 32 (7):1252–1262. DOI: 10.1002/bio.3319 Online ISSN: 1522-7243.IF 1.452, (UGC list S.No. 16939, Journal No. 5630)
- 12. Sharma Malti; Pathak Mallika<sup>\*</sup>; Ojha Himanshu; Roy Bani. *Green synthesis of Gold nanoparticles* (AuNPs) using Cinnamomum verum, Syzygium aromaticum and Piper nigrum extract. (2017) Asian Journal of Chemistry 29 (8), 1693-1696. ISSN: 2193-5815, (UGC list S.No. 2291, Journal No. 8774)
- 13. Tyagi Prateek; Tyagi Monika; Agrawal Swati; Chandra Sulekh; Ojha Himanshu; Pathak Mallika Synthesis, characterization of 1, 2, 4-triazole Schiff base derived 3d-metal complexes: Induces cytotoxicity in HepG2, MCF-7 cell line, BSA binding fluorescence and DFT study. (2017) Spectrochimica Acta Part A: Molecular and Biomolecular Spectroscopy 171, 246-257. ISSN: 1386-1425.IF 2.653 (UGC list S.No. 23025, Journal No. 33571)
- 14. Sharma Deepti; Pathak Mallika; Sharma Riya; Tyagi Prateek; Chawla Raman; Basu Mitra; Ojha Himanshu Homology modeling and docking studies of VP24 protein of Ebola virus with an antiviral drug and its derivatives. (2016) Chemical Biology Letters 4(1), 27-32. ISSN: 2347–9825.IF 2.777
- 15. Pathak Mallika; Mishra Rashmi; Agarwala Paban K; Ojha Himanshu; Singh Bhawna; Singh Anju; Kukreti Shrikant Binding of ethyl pyruvate to bovine serum albumin: Calorimetric, spectroscopic and molecular docking studies. (2016) Thermochimica Acta, 633, 140-148. ISSN: 0040-6031. IF 2.236, (UGC list S.No. 24089, Journal No. 1193)
- 16. Sharma Deepti; Ojha Himanshu; Pathak Mallika; Singh Bhawna; Sharma Navneet; Singh Anju; Kakkar Rita; Sharma Rakesh K. Spectroscopic and molecular modelling studies of binding mechanism of metformin with bovine serum albumin. (2016) Journal of Molecular structure, 1118, 267-274.ISSN: 0022-2860. IF 1.58, (UGC list S.No. 14693, Journal No. 24702)



- 17. Pathak Mallika; Sharma Malti; Ojha Himanshu; Kumari Rekha; Sharma Navneet; Roy Bani; Jain Gaurav Green synthesis, characterization and antibacterial activity of silver nanoparticles. (2016) Green Chemistry & Technology Letters, 2(2), 103-109. eISSN: 2455-3611.
- 18. Sharma Malti; Pathak Mallika; Roy Bani; Chand Ayushi; Dhanda Geetika; Abbasi Neha; Panchal Gunjan Green synthesis of Gold Nanoparticles and their characterization. (2016) Journal of Materials Nanoscience, 3(1), 8-10. ISSN: 2394-0867.
- 19. Sharma Malti; Pathak Mallika; Roy Bani; Jain Lovely; Yadav Nikanshi; Sarkar Bidushi; Kaur Milanpreet and Sharma Mansi *Quantitative estimation of Aspirin in Various Drugs: UV-vis absorption spectroscopy and colorimetric studies*. (2015) Journal of Undergraduate Research and Innovation 1, 157-162. ISSN: 2395-2334
- Ojha Himanshu; Gahlot Pragya; Tiwari Anjani K; Pathak Mallika; Kakkar Rita *Quantitative Structure* Activity Relationship Study of 2,4,6-Trisubstituted-s-triazine Derivatives as Antimalarial Inhibitors of Plasmodium Falciparum Dihydrofolate Reductase. (2011) Chemical biology & drug design 77(1):57-62. ISSN: 1747-0285. IF 2.396, (UGC list S.No. 4135, Journal No 5437)
- 21. Kakkar Rita; Pathak Mallika; Gahlot Pragya Effect of aqueous solvation on the structures of pyruvic acid isomers and their reactions in solution: A computational study (2008) Journal of Physical Organic Chemistry 21: 23-29. ISSN:1099-1395. IF 1.336, (UGC list S.No 15110, Journal no 19199)
- 22. Kakkar Rita; Pathak Mallika; RadhikaN. P. *A DFT study of the structures of pyruvic acid isomers and their decarboxylation* (2006) Organic & Biomolecular Chemistry 4: 886-95. ISSN: 1477-0520. **IF 3.564**, (UGC list S.No 19135, Journal no 36588)
- 23. Kakkar Rita; Pathak Mallika; Chadha Preeti *Theoretical study of unimolecular rearrangements of vinylidenes to acetylenes* (2005) International Journal of Quantum Chemistry 102: 189-99. ISSN :0020-7608. **IF 2.92**, (UGC list S.No 11365, Journal no 23434)
- 24. Kakkar Rita; Suruchi;Pathak Mallika QSAR studies on the mechanism of radioprotection by Hoechst 33258 analogues. (2005) Journal of Molecular Structure: THEOCHEM 714: 35-42 ISSN:0166-1280IF 1.549

# **Research Guidance**:

Mentor/ResourcePerson-Guided summer projects "Flavor of Research" under D S Kothari Centre for Research and Innovation in Science Education at Miranda House, June-July 2009, 2010, 2011, 2013,2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021.

# **Research Projects**:

- 3R: Reduce, Reuse, Recycle (DU Star Innovation Project MH03). (Completed). Sanctioned Amount: Rs. 36,00,000/- from December 2016 to November 2019. PIs: Dr Pratibha Jolly, Dr Bani Roy, Dr Amrita T Sheikh, Dr Mallika Pathak and Dr Jyoti Arora. Funding agency: University of Delhi.
- 2. Design of Affordable Water Purification devices using Green and Ecofriendly Silver Nanoparticles (MH 306). (Completed). Sanctioned Amount: **Rs. 6,00,000/- from September 2015 to November**



**2016. PIs: Dr Mallika Pathak, Dr Malti Sharma and Dr Rekha Kumari.** Funding agency: University of Delhi.

 Efficacy of natural dyes in dyeing and imparting antimicrobial properties to different textile materials (MH 203). (Completed). Sanctioned Amount: Rs. 4,50,000/- from November 2013 to July 2015. PIs: Dr Jyoti Arora, Dr Rekha Kumari and Dr Mallika Pathak. Funding agency: University of Delhi.

# Membership of Professional Bodies:

- Indian Biophysical Society (IBS)-(Life Member 1005)-Mar 2015
- Green Chemistry Network Centre(GCNC)- (Life Member 0292/15/219)-2015
- Indian Science Congress Association- (Life Member L29806) -June 2016
- Chemical Research Society Of India(CRSI)- Life Member (LM 928) 2007
- Association of Chemistry Teachers(ACT) Life Member (LM 1250) -2013
- Indian Society of Analytical Scientists (ISAS) Life Member (LMT-2013/07)-2013
- Asiapacific Chemical, Biological& Environmental Engineering Society(APCBEES)- Life Member 200965-May 2013
- Vijnana Bharati Life Member (LM 5552) Dec 2015
- World Academy of Science, Engineering And Technology (WASET)- Life Member
- International Association of Advanced Materials-Life Member 797182912360 July 2017
- Organization for Women in Science for the Developing World (owsd) Member ID: 6319 2017

# Administrative Responsibilities:

- 1. Teacher-in-Charge, Department of Chemistry, Miranda House, University of Delhi, 4 Feb 2019-4 Feb 2021.
- 2. Member, B.Sc. (H) Chemistry extended admission committee of Miranda House for academic year 2013-2015.
- 3. Course Coordinator, Chemistry Undergraduate Curriculum Revision 2019 based on Learning Outcome-based Curriculum Framework (LOCF), 2019.
- 4. Deputy Coordinator, UGC Pre-NET Crash Course, Department of Chemistry, Univerity of Delhi, 9-27 Nov 2016.
- 5. Member, NAAC Steering Committee, Report, 2016.
- 6. Member, Department Evaluative Report, NAAC Editorial team, 2016
- 7. Treasurer: Miranda House Staff Association, 2016-2019
- 8. Departmental Coordinator, DBT Star College, Department of Chemistry, Miranda House, 2010-till now.
- Coordinator-Add-on Certificate Course "Green Chemistry and Environment" 2010-2012, 2015-17



### Invited talks/Session chair/Resource person:

- 1. Journey towards Quality Workshop on "Quality Enhancement in Autonomous Colleges in AP", 20 to 30 Sep 2020 organised by Commissionerate of Collegiate Education, Government of Andhra Pradesh.
- 2. Conducted Hands on workshop sessions of Chemistry Experiments in School of Excellence, Khichripur, Delhi on 14 January 2020
- 3. *Business Ethics*, 6 June 2019, Doing Business in Emerging Markets, Intensive International Programme at HU Business School, Utrecht, University of Applied Sciences, Utrecht, The Netherlands, 3 June to 7 June 2019.
- 4. Conducted Hands on workshop sessions of Chemistry Experiments in G D Goenka Public School, East Delhi on 5 August 2019
- Research Based Pedagogy: An Alternative Approach for Teaching and Learning, AICTE Sponsored XXIX- Quality Improvement Programmeon Current Trends in Pharmacy, Delhi Institute of Pharmaceutical Sciences and Research, DPSRU, 8-12 April 2019.
- Research Based Pedagogical Tools, AICTE Sponsored XXXI- Quality Improvement Programmeon New Trends in Pharmaceuticl Sciences, Delhi Institute of Pharmaceutical Sciences and Research, DPSRU, 1-5 April 2019.
- 7. *Emerging Online market trends in India (Business Ethics)*, 6 June 2018, Doing Business in Emerging Markets, Intensive International Programme at HU Business School, Utrecht, University of Applied Sciences, Utrecht, The Netherlands, 4 June to 8 June 2018.
- 8. *Solid State*, 13 June 2018, DU Pre-Entrance Summer School-2018, University of Delhi, Training Undergraduate Students in the discipline of Chemistry, 1 June 2018 to 16 June 2018.
- 9. *Photochemistry*, 14 June 2018, DU Pre-Entrance Summer School-2018, University of Delhi, Training Undergraduate Students in the discipline of Chemistry, 1 June 2018 to 16 June 2018.
- 10. *Effect of Hazardous Chemicals: Security Perspectives*, 9 January 2018, Special Training ourse on CBRN Emergency Management for Parliament Security Services organised by Institute of Nuclear Medicine and Allied Sciences, 8-12 January 2018.
- Effect of Hazardous Chemicals: Security Perspectives, 5 February 2018, Specialised Training Course on CBRN Emergency Management for National Disaster Response Force organised by Institute of Nuclear Medicine and Allied Sciences, 5-9 February 2018.
- 12. Statistical thermodynamics, 5 November 2016, UGC Pre-NET Crash Course for Underprivileged students, Department of Chemistry, University of Delhi, Dec 2016.
- 13. Chemical kinetics, 3 December 2016, UGC Pre-NET Crash Course for Underprivileged students, Department of Chemistry, University of Delhi, Dec 2016



### **Conferences Organised (Last 5 years):**

- 1. Convener, International Conference on Chemistry-the Catalyst for Change (250 participants), organised by Department of Chemistry, Miranda House on 19 and 20 February 2021.
- Coordinator, ISLF-Vigyanika 2020 conducted from 22-25 December 2020 as part of India International Science Festival 2020 (IISF 2020) organised by Ministry of Science and Technology; Ministry of Earth Sciences and Ministry of Health and Family Welfare, GoI in collaboration of Vijnana Bharati (Vibha) by Council of Scientific and Industrial Research (CSIR)
- 3. Convener, International Webinar on Empowering Diversity in Science (165 participants), organised by Department of Chemistry, Miranda House on 12 February 2021.
- 4. Convener, National Webinar: Learnings from the Corona Pandemic (296 participants), organised by Department of Chemistry, Miranda House on 24 and 25 September 2020.
- Resource Person, Bridge Course on Laboratory Safety and Handling of Equipment, B.Sc. (P) Life Sciences (40 participants); organised by Department of Chemistry, Miranda House on 23 November and 7 December 2020.
- Coordinator and Resource Person, Bridge Course on Laboratory Safety and Handling of Equipment, B.Sc.(H) Chemistry (88 participants); organised by Department of Chemistry, Miranda House on 19, 20, 26 and 27 November 2020.
- 7. Convener, DBT Star College Sponsored, Symposium on Bonding to Create Future Leaders in Sciences, Miranda House, University of Delhi, 12 February 2020.
- 8. Member of Organising Committee in National Workshop on Nano Road Show-2020 held on 1 January 2020 at Miranda House, University of Delhi.
- 9. Member, Organising Committee, 12<sup>th</sup> Indo-Dutch Collaborative Programme, Intensive Interactive Programme on Management and Cultural Contexts orgainsed jointly by Miranda House, Shri Ram College of Commerce and Utrecht Business School, Hogeschool Utrecht University of Applied Sciences, Utrecht, The Netherlands, 27 January to 01 February 2020.
- 10. Organiser, Tech4Seva-Three Day National Workshop on Technology Outreach as an Enabler for Inclusive and Sustainable Development, IIT Delhi, 10-12 August 2019.
- 11. Coordinator, Bridge Course on Laboratory Safety and Handling of Equipment, B.Sc.(H) Chemistry (94 participants); organised by Department of Chemistry, Miranda House on 1 and 9 August 2019.
- 12. Co-Coordinator, DBT-Biotechnology Popularization Programme, Under the CTEP Programme of DBT, Miranda House, University of Delhi, 2 August 2019.
- 13. Convener, DST and DRDO Sponsored- Symposium on Empowering Women in Chemistry: A Global Networking Event, Miranda House, University of Delhi, 12 February 2019.
- 14. Member, Organising Committee, 11<sup>th</sup> Indo-Dutch Collaborative Programme, Intensive Interactive Programme on Management and Cultural Contexts orgainsed jointly by Miranda House, Shri Ram College of Commerce and Utrecht Business School, Hogeschool Utrecht University of Applied Sciences, Utrecht, The Netherlands, 28 January to 01 February 2019.



- 15. Member, Organising Committee, DST Inspire Scholars Science Conclave 2019: Research on the Frontiers, organized under the aegis of the D S Kothari Centre for Research and Innovation in Science Education, Miranda House, 16-18 January 2019.
- 16. Member, Organising Committee, Students' Science Village, India In.ternational Science Festival 2018, Indira Gandhi Pratishthan, Lucknow, 5-8 October 2018.
- Coordinator and Resource Person, Bridge Course on Laboratory Safety and Handling of Equipment (63 participants); organised by Department of Chemistry on 2<sup>nd</sup> and 3<sup>rd</sup> August 2018.
- 18. Resource Person, DU Pre-Entrance Summer School-2018, University of Delhi, Training Undergraduate Students in the discipline of Chemistry, 1 June 2018 to 16 June 2018
- 19. Member, Organising Committee, 10<sup>th</sup> Indo-Dutch Collaborative Programme, Intensive Interactive Programme on Management and Cultural Contexts orgainsed jointly by Miranda House, Shri Ram College of Commerce and Utrecht Business School, Hogeschool Utrecht University of Applied Sciences, Utrecht, The Netherlands, 27 January to 02 February 2018.
- 20. Member, Organising Committee, National Symposium cum Faculty Development Programme on "Genome Editing: Tools and Aplications", organised by D S Kothari Centre for Research and Innovation in Science Education, Miranda House held from 15-22 January 2018.
- Member, Organising Committee, Science Conclave: Research on the Frontiers, organized under the aegis of the D S Kothari Centre for Research and Innovation in Science Education, Miranda House, 10-12 January 2018.
- 22. Coordinator, Organizing Committee, INSPIRE INTERNSHIP PROGRAMME 2017, an initiative of Department of Science and Technology, Government of India held from 18 to 22 December 2017 held under the aegis of D S Kothari Centre for Research and Innovation in Science Education, Miranda House.
- 23. Member, Organising Committee, Indo-Hungarian Symposium on Recent Advances in Chemistry and Biology, organised by Department of Chemistry, Miranda House in association with Department of Pharmaceutical Chemistry, University of Debrecen, Hungary on 11 December 2017.
- 24. Guided summer projects under D S Kothari Centre for Research and Innovation in Science Education at Miranda House, June-July 2016.
- 25. Coordinator, Workshop on Catalyzing a Cultural Shift in Youth Entrepreneurship,(85 participants) organised by Biotechnology Industry Research Assistance Council (BIRAC), DBT and DSKC, Miranda House, 9 November 2017.
- 26. Member, Organizing Committee, Indian Science & Engineering Fair, Regional Fair (Delhi) conducted by Miranda House in association with Science Society of India, 13 October 2017.
- 27. Coordinator and Resource Person, Bridge Course on Laboratory Safety and Handling of Equipment (79 participants); organised by D epartment of Chemistry on 1 and 3 August 2017.
- 28. Coordinator, Workshop for Students on Using Gaussian software in Undergraduate Education (85 participants)organized by D S Kothari Centre for Research and Innovation in Science Education and Department of Chemistry, Miranda House, 3 August 2017



- 29. Coordinator, Workshop for School Teachers on Online Labs for school experiments (35 participants) organized by D S Kothari Centre for Research and Innovation in Science Education and Department of Chemistry, Miranda House in collaboration with Amrita University, Kerala, 11 April 2017.
- 30. Coordinator and Resource Person, Workshop on Green Chemistry and Environment (63 participants); organised by Department of Chemistry on 6-7 February, 2017.
- Deputy Coordinator, UGC Pre-NET Crash Course, Department of Chemistry, University of Delhi, 9-27 Nov 2016.
- 32. Resource Person and Member, Organizing Committee, RegionalWorkshop 'Research As Pedagogy a Science Teacher Education Program' (RAP a STEP) organised under the aegis of the MHRD supported Centre of Excellence for Science and Mathematics Education (COESME) of IISER Pune, with support from the Department of Biotechnology (DBT), Government of India from 29 September to 1 October, 2016 at the Punjabi University, Patiala, Punjab.
- Coordinator and Resource Person, Bridge Course on Laboratory Safety and Handling of Equipment (62 participants); organised by Department of Chemistry on 3-4 August, 2016
- 34. Convener, Material Chemistry Workshop for Beginners (35 participants) organised by Innovation Project *MH 306: Design of affordable water purification devices using green and eco-friendly silver nanoparticles* and Department of Chemistry on 27 July 2016.

### Workshops/FDPs attended (Last 5 years):

- 1. Weeklong Online Workshop on Assessment and Evaluation, 24-29 Aug 2020 organised by Teaching Learning Centre, Tezpur University under PMMMNMTT Scheme of Ministry of Education, Government of India.
- National Workshop on "ICT Tools for Online Learning" under PMMMNMTT-MHRD, Teaching-Learning Centre, Department of Educational Technology, SNDT Women's University, 20-28 April 2020.
- 3. Two Weeks Faculty Development Programme on "Managing Online Classes and Co-Creating MOOCS", TLC Ramanujan College under PMMMNMTT-MHRD, 20 April 06 May, 2020
- Two week National Workshop on Online and Blended Learning consisting of two sub-topics "ICT tools for Collaboration" and "Cooperative Learning" through online mode under PMMMNMTT-MHRD, Teaching-Learning Centre, Department of Educational Technology, SNDT Women's University, 9-21 Mar 2020. Grade O.
- 5. Online Refresher Course in Chemistry for Higher Education Faculty, SWAYAM Arpit Course for Career Advancement Scheme (CAS) promotion; with a "A" Grade in the proctored examination held on 30. 03. 2019, offered by Sri Guru Tegh Bahadur Khalsa College, Delhi.
- 6. Research Based Pedagogical Tools (RBPT) Writers Workshop for STEM Teachers, Level 3, 20-23 January 2019, IISER, Pune, conducted by a team of five experts from the Centre for Science Education, Sheffield Hallam University, UK. The workshop was jointly sponsored by the Department of Biotechnology (DBT), Newton Bhabha Fund of the British Council; Center of Excellence in Science and Mathematics Education (supported by MHRD), IISER, Pune.



- One week Faculty Development Programme Advancements in Integrated Sciences: Learning and Adaptation for Effective Teaching and Research jointly organised by Shyam Lal College, University of Delhi, UGC-Human Resource Development Centre, Jamia Millia Islamia and CSIR-Institute of Genomics & Integrative Biology, 10-16 December 2018.
- Faculty Development Program e-Learning, MOOCs and ICT Tools for Blended Learning FDP Code FDP01/11 of the Ministry of HRD, Government of India organised by Guru Angad Dev Teaching Learning Centre, Sri Guru Tegh Bahadur Khalsa College, University of Delhi, 02 July 2018- 07 July 2018.
- 9. Level 2 of the STEM Teacher Training Workshop on Research Based Pedagogical Tools for Teachers, 6-8 December 2017, INSA, Delhi, conducted by a team of five experts from the Centre for Science Education, Sheffield Hallam University, UK. The workshop was jointly sponsored by the Department of Biotechnolgy(DBT), Newton Bhabha Fund of the British Council; Center of Excellence in Science and Mathematics Education (supported by MHRD), IISER, Pune.
- 10. UGC-Sponsored Workshop on Innovative Teaching Methodologies and Use of ICT in Teaching organised by UGC-HRDC, Centre for Professional Development in Higher Education (CPDHE), University of Delhi, 20-26 October 2016.
- 11. Workshop on Research Based Pedagogical Tools for Teachers of Undergraduate Colleges, at IISER, Pune, 10-12 March 2016, conducted by a team of five experts from the Centre for Science Education, Sheffield Hallam University, UK. The workshop was jointly sponsored by the Newton Programme of the British Council; MHRD; DBT and IISER, Pune.