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Permanent Address:

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Personal

Date of Birth: 03. 03. 1983
Nationality: Indian
Sex: Male

Scopus Author ID: 36699278700**Citations: 597, H-index: 14****ORCID: orcid.org/0000-0003-4533-6459**

Presently working as Assistant Professor at Government Degree College, Kashmir Higher Education Department, Jammu and Kashmir, India

Career Objective

Academic: I recognize well the intensity and solemnity of the responsibilities, curricular and extra-curricular, that the designation demands. I consider myself as a candidate with advantage to teach contemporary/emerging topics of Chemistry like Structure Elucidation using Spectroscopic Methods, Material Chemistry, Design, characterization and applications of soft system-based nano-assemblies, in addition to orthodox topics. I can be of use to initiate collaborations with national institutes like BARC Mumbai etc. for projects of academic interests, student exchange programs, refresher courses etc.

Research: I have been trained for seven years in the broader discipline of Colloid and Gel Chemistry. Design, synthesis, characterization and applications of self-assembled **nanosturcures** for potential applications in transportation, drug delivery, light-havesting, catalysis etc. I plan to submit project to Department of Atomic Energy (DAE) titled "**Synthesis, characterization of smart nano-balls for protection and on-demand/controlled delivery applications**". The findings will solely be used to setup basic infrastructural facilities to pursue the specified research plans.

- 1. Preparation of DUAL responsive polymer-surfactant complexes for efficient transport and drug delivery:** The biocompatible polymers polyacrylate based polymers (pH responsive) can be blend with biocompatible surfactants (Thermo-responsive) to achieve new material with dual responsiveness.
- 2. Design, synthesis and formulation of aqueous bio-compatible nano-carriers for protection of bioactives like Citral, and encapsulation/controlled release of perfumes:** Stability and lasting perception of the fragrant molecules are the principal requirements for their acceptance in perfumery industries. Being both strongly hydrophobic and volatile organic compounds, they require special delivery systems which can improve their solubility and also increase their substantivity. Micelle based nano-carriers can be efficiently used for encapsulation and delayed release of solutes. (Our results are promising).

Education

2010-2015	Ph.D. in Chemistry , Department of Chemistry, University of Kashmir, J&K, India.
2008-2010	M.Phil. in Chemistry , Department of Chemistry, University of Kashmir, J&K, India.
2005-2007	Master of Science (M.Sc. Physical Chemistry) , Department of Chemistry, University of Kashmir, J&K, India.
2002-2005	Bachelor of Science (Chemistry, Zoology, Botany) , Govt. Degree College Pulwama, J&K, India.

Teaching Experience

Feb 2021 to Till date	Assistant Prof. , Taught Chemistry to Undergraduate students at Government Degree (Boys) Kupwara
April 2017 to Feb 2021	Assistant Prof. , Taught Chemistry to Undergraduate students at Government Degree College (Boys) Pulwama
March 2016 to March 2017	Assistant Prof. (Contract) , Taught Chemistry (Physical Chemistry) to M.Sc. 1st , & 2nd Sem students in Department of Chemistry, University of Kashmir
May 2015 to Jan. 2016	Assistant Prof. (Contract) , Taught Chemistry (Physical Chemistry) to M.Sc. 1st ,3rd & 4th Sem students in Department of Chemistry, University of Kashmir.
May 2012 to June. 2013	Teaching Assistant (UGC fellow), Taught Chemistry (Physical Chemistry) to M.Sc. 1st ,3rd & 4th Sem students in Department of Chemistry, University of Kashmir.
Aug. 2011 to Jan. 2012	Lecturer (Guest), Taught Chemistry to B.Tech students in Department of Electronics, University of Kashmir.
Nov. 2010 to April 2011	Lecturer (Guest), Taught Chemistry to B.Tech students in Department of Electronics, University of Kashmir.

Awards

Nov. 2016	Cracked State Eligibility Test (SET) , conducted by J&K SET Agency
Feb. 2014 to May. 2014	Awarded DST, Govt. of India Faculty/Student Exchange Fellowship to pursue research work at Bhabha Atomic Research Centre (BARC) Mumbai.
Aug.2010-Aug.-2013	Awarded SRF (Meritorious) by UGC , Govt. of India, New Delhi.
Aug.2008-Aug.-2010	Awarded JRF (Meritorious) by UGC , Govt. of India, New Delhi. Dec.
2008	Cracked National Eligibility Test (NET) , conducted by CSIR -UGC.
June 2008	Cracked National Eligibility Test (NET) , conducted by CSIR -UGC.
Dec. 2007	Cracked National Eligibility Test (NET) , conducted by CSIR -UGC.

Doctoral Thesis Project Thesis

title:

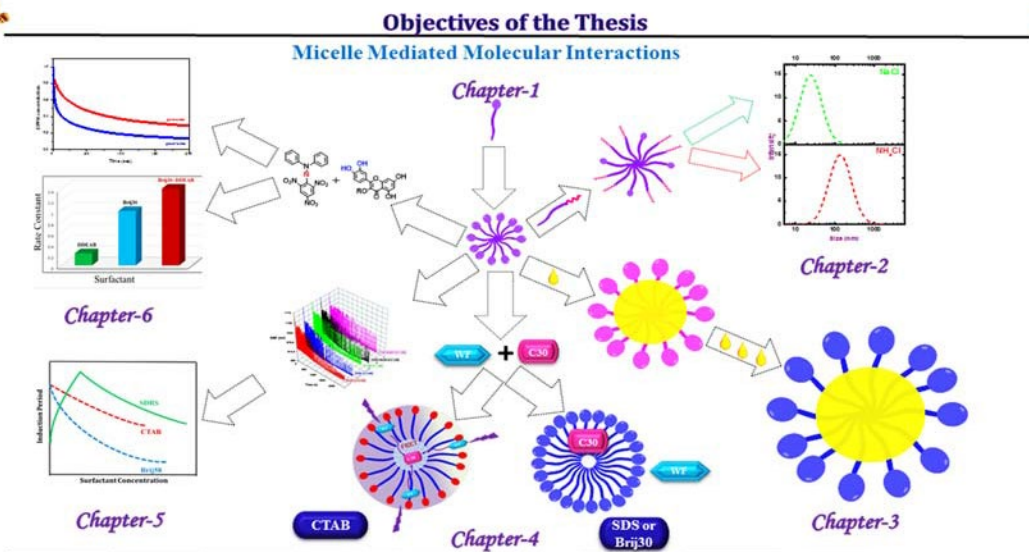
“Studies on Self-Assembled Soft System Mediated Molecular Interactions”

Surfactants, either synthetic or natural, are structurally simple molecules with the unprecedented capacity to self-assemble into complex, hierarchical geometries in nanospace. Besides their applications in detergency, emulsification, wetting, foaming, enhanced oil recovery, solubilization etc., find applications in high technology areas like biotechnology, micro-electronics, catalysis, pharmaceutical and food industries etc. Effective self-assembly processes of amphiphiles are often used to mimic biological systems, such as assembly of lipids and proteins, which has paved a way for bottom-up nanotechnology with bio-like advanced functions. They are increasingly being used as reaction media that alter the reaction rates, reaction routes, products, and in some cases, the stereochemistry.

In view of this, we attempted to explore the molecular interactions mediated by surfactant based self-assembled soft systems to understand their mode of action and ensure better performance and/or efficient use in various applications. The emphasis was laid on formulation and microstructural investigation of ionic liquids based mixed micelles, surface active ionic liquids have been recognized as highly efficient and eco-friendly compared to conventional surfactants. Solubilization and co-solubilization of biologically and technologically important molecules was carried out in different micellar assemblies. Understanding of such processes has largely been ignored in literature although it can provide

important insights for selecting the optimal solubilizing media for various solubilizes of pharmaceutical, nutraceutical and technological importance to broaden their application window. The special attention was paid to recognize nature and type of interactions occurring within such systems and their possible effect on various phenomenon. The studies were extended to some biologically and economically important reactions to realize the role of micellar media on kinetics of such reactions.

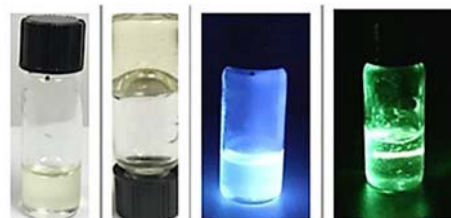
Objectives achieved:



Project Experience:

Worked as senior researcher in a joint Project between Prof. Roger M. LeBlanc, Department of Chemistry, University of Miami, Coral Gables, Florida, United States. Coral Gables, FL 33146-0431. and **Dr. Aijaz Ahmad Dar** Department of Chemistry, University of Kashmir, 190006.

Project: Synthesis, characterization of novel gel-like carbon dots



TOC Graphic: A) Carbon Dot Gel; B) Upturned Gel; C) UV shortwave excitation; D) Excitation with laser pointer

Research Publications

- 1) **O.A. Chat**, M.H. Najar, M.A. Mir, G.M. Rather, A.A. Dar, Effects of surfactant micelles on solubilization and DPPH radical scavenging activity of Rutin, *J. Colloid Interface Sci.*, 355 (2011) 140-149. **ISSN: 0021- 9797**.
- 2) M.A. Mir, **O.A. Chat**, M.H. Najar, M. Younis, A.A. Dar, G.M. Rather, Solubilization of triphenylamine, triphenylphosphine, triphenylphosphineoxide and triphenylmethanol in single and binary surfactant systems, *J. Colloid Interface Sci.*, 364 (2011) 163-169. **ISSN: 0021-9797**.
- 3) S. Raashid, **O.A. Chat**, M.A. Rizvi, M.A. Bhat, B. Khan, Pseudo-indicator behaviour of platinum electrode explored for the potentiometric estimation of non-redox systems, *Talanta*, 101 (2012) 246-252. **ISSN:0039-9140**.
- 4) S. Jabeen, **O.A. Chat**, G.M. Rather, A.A. Dar, Investigation of antioxidant activity of Quercetin (2-(3, 4-dihydroxyphenyl)-3,5,7-trihydroxy-4H-chromen-4-one) in aqueous micellar media, *Food Research International*, 51 (2013) 294-302. **ISSN: 0963-9969**.
- 5) M.H. Najar, **O.A. Chat**, A.A. Dar, G.M. Rather, Mixed Micellization and Mixed Monolayer Formation of Sodium Cholate and Sodium Deoxycholate in Presence of Hydrophobic Salts Under

- 6) **O.A. Chat**, M.H. Najar, A.A. Dar, Evaluation of reduction kinetics of 2,2-diphenyl-1-picrylhydrazyl radical by flavonoid glycoside Rutin in mixed solvent based micellar media, *Colloids and Surfaces A: Physicochemical and Engineering Aspects*, 436 (2013) 343-353. ISSN: 0927-7757.
- 7) **O.A. Chat**, M.H. Najar, U. Ashraf, S. Jabeen, M. Maswal, R.A. Shah, R. Masrat, A.A. Dar, Influence of Micellar Propinquity on Dynamics of Ce(IV)-Catalyzed BZ Oscillatory Reaction under Stirred Conditions, *Int. J. Chem. Kinet.*, 46 (2014) 351-362. ISSN: 1097-4601.
- 8) U. Ashraf, **O.A. Chat**, A.A. Dar, An inhibitory effect of self-assembled soft systems on Fenton driven degradation of xanthene dye Rhodamine B, *Chemosphere*, 99 (2014) 199-206. ISSN: 0045-6535.
- 9) S. Jabeen, **O.A. Chat**, M. Maswal, U. Ashraf, G.M. Rather, A.A. Dar, Hydrogels of sodium alginate in cationic surfactants: Surfactant dependent modulation of encapsulation/release toward Ibuprofen, *Carbohydr. Polym.*, 133 (2015) 144-153. ISSN: 0144-8617
- 10) M. Maswal, **O.A. Chat**, S. Jabeen, U. Ashraf, R. Masrat, R.A. Shah, A.A. Dar, Solubilization and co-solubilization of carbamazepine and nifedipine in mixed micellar systems: insights from surface tension, electronic absorption, fluorescence and HPLC measurements, *RSC Advances*, 5 (2015) 7697-7712. ISSN: 2046-2069
- 11) M. Maswal, **O.A. Chat**, A. Dar, Rheological characterization of multi-component hydrogel based on carboxymethyl cellulose: insight into its encapsulation capacity and release kinetics towards ibuprofen, *Colloid. Polym. Sci.*, (2015) 1-13. ISSN: 1435-1536
- 12) A.A. Dar, **O.A. Chat**, Cosolubilization of Coumarin30 and Warfarin in Cationic, Anionic, and Nonionic Micelles: A Micelle–Water Interfacial Charge Dependent FRET, *The Journal of Physical Chemistry B*, 119 (2015) 11632-11642. ISSN: 1520-5207
- 13) **O.A. Chat**, M. Maswal, P.A. Hassan, V.K. Aswal, G.M. Rather, A.A. Dar, Effect of mixed micellization on dimensions of 1-butyl-3-methylimidazolium dodecylsulfate micelles in presence of electrolytes, *Colloids and Surfaces A: Physicochemical and Engineering Aspects*, 484 (2015) 498-507. ISSN: 0927-7757
- 14) U. Ashraf, **O.A. Chat**, M. Maswal, S. Jabeen, A.A. Dar, An investigation of Pluronic P123-sodium cholate mixed system: micellization, gelation and encapsulation behavior, *RSC Advances*, 5 (2015) 83608-83618. ISSN: 2046-2069
- 15) R. Masrat, M. Maswal, **O.A. Chat**, G.M. Rather, A.A. Dar, A rheological investigation of sol–gel transition of hydroxypropyl cellulose with nonionic surfactant sorbitan monopalmitate: Modulation of gel strength by UV irradiation, *Colloids and Surfaces A: Physicochemical and Engineering Aspects*, 489 (2016) 113-121. ISSN: 0927-7757
- 16) S. Jabeen, M. Maswal, **O.A. Chat**, G.M. Rather, A.A. Dar, Rheological behavior and Ibuprofen delivery applications of pH responsive composite alginate hydrogels, *Colloids and Surfaces B: Biointerfaces*, 139 (2016) 211-218. ISSN: 0927-7765
- 17) R.A. Shah, **O.A. Chat**, M. Maswal, G.M. Rather, A.A. Dar, Rheological response of methylcellulose toward alkanediyl- α,ω bis(dimethylcetylammmonium bromide) surfactants with varying spacer length, *Carbohydr. Polym.*, 144 (2016) 159-167. ISSN: 0144-8617
- 18) P.A. Bhat, **O.A. Chat**, A.A. Dar, Exploiting Co-solubilization of Warfarin, Curcumin, and Rhodamine B for Modulation of Energy Transfer: A Micelle FRET On/Off Switch, *ChemPhysChem*, 17 (2016) 2360-2372. ISSN: 1439-7641
- 19) P.A. Bhat, **O.A. Chat**, Yongliang Zhang, A.A. Dar, An unprecedented dual responsive gelation of Carbopol induced by Pluronic P123 triblock copolymer, *Polymer*, 102 (2016) 153-166. ISSN: 0032-3861
- 20) M.H. Najar, **O.A. Chat**, P.A. Bhat, G.M. Rather, A.A. Dar, An investigation of microscopic precipitation and micellization of Sodium Deoxycholate in presence of Tween 40, *Journal of Molecular Liquids*, 229 (2016) 599-60, ISSN: 0167-7322

- 21) Mohammad S. Lone, P.A. Bhat, **O.A. Chat**, A.A. Dar, A Green pH-switchable Amino Acid Based Smart Wormlike Micellar System for Efficient and Controlled Drug Delivery, *Chemistry Select*, 229 (2017) 1144- 48, ISSN: 2365-6549,
- 22) P.A. Bhat, **O.A. Chat**, A.A. Dar, Studies on binary mixtures of Pluronic P123 and twin tailed 1-Butyl-3-methyl-imidazolium Aerosol OT-Aggregation behavior and impact on Naproxen and Rifampicin partitioning, *Journal of Molecular Liquids*, 241 (2016) 114-22, ISSN: 0167-7322
- 23) Yiwen Ji, Yiqun Zhou, Eric Waidely, Alexandra Desserre, M. Hensley Marksberry, Charles C.Chusuei, Aijaz Ahmad Dar, **O.A. Chat**, Shanghao Li, Roger M.Lebanc, Rheology of a carbon dot gel, *Inorganica Chimica Acta*, 468 (2017) 119-24, ISSN: 0020-1693
- 24) R.A Shah, **O.A. Chat**, G.M. Rather, A.A. Dar, Volumetric Properties of Sodium Lauroylsarcosinate in Aqueous Alcohol Solutions of Methanol, Ethanol, and 1-Propanol, *Journal of Chemical & Engineering Data*, 62 (2017) 3015-24, ISSN: 1520-5134
- 25) **O.A. Chat**, N Nazir, PA Bhat, PA Hassan, VK Aswal, AA Dar, Aggregation and Rheological Behavior of the Lavender Oil–Pluronic P123 Microemulsions in Water–Ethanol Mixed Solvents, *Langmuir*, , 34 (3), (2018) 1010–1019 ISSN: 1520-5827
- 26) PA Bhat, **O.A. Chat**, AA Dar, Self-assembled nanocontainer mediated oxidation of Fe (ii) by Cu (ii)–neocuproine complex: a model system to emulate electron transfer proteins, *New Journal of Chemistry* 42 (9), (2018) 6695-6706 ISSN: 1144-0546
- 27) M.S Lone, **O.A. Chat**, AA Dar, Transition from Competitive to Non-Competitive Solubilization with the Decrease in Number of Oxyethylene (OE) Units of Non-Ionic Surfactants towards Polycyclic Aromatic Hydrocarbons, *Bulletin of the Chemical Society of Japan*, 92 (1), (2018) 115-123 ISSN: 1348-0634
- 28) S Lone, **O.A. Chat**, PA Bhat, AA Dar, Broad Spectrum Tunable Photoluminescent Material Based on Cascade Fluorescence Resonance Energy Transfer between Three Fluorophores Encapsulated within the Self-Assembled Surfactant Systems, *The Journal of Physical Chemistry B*, 123 (2019) 9699-9711. ISSN: 1520-5207
- 29) U. Ashraf, M.S Lone, R. Masrat, R.A Shah, SA Afzal, **O.A. Chat**, AA Dar, Co-solubilization of polycyclic aromatic hydrocarbon mixtures in aqueous micellar systems and its correlation with FRET for enhanced remediation processes, *Chemosphere*, 123 (2020) 125160. ISSN: 0045-6535
- 30) M.S Lone, P.A Bhat, SA Afzal, **O.A. Chat**, AA Dar, Energy transduction through FRET in self-assembled soft nanostructures based on surfactants/polymers: current scenario and prospects, *Soft Matter*, 17 (2021) 425-446. ISSN: 1744-6848
- 31) P.A Bhat, N Nazir, **O.A. Chat**, AA Dar, Exploiting self-assembled soft systems based on surfactants, biopolymers and their mixtures for inhibition of Citral degradation under harsh acidic Conditions, *Food Chemistry*, 340 (2021) 128168. ISSN: 0308-8146
- 32) M.S Lone, SA Afzal, **O.A. Chat**, VK Aswal, AA Dar, Temperature- and Composition-Induced Multiarchitectural Transitions in the Catanionic System of a Conventional Surfactant and a Surface-Active Ionic Liquid, *ACS Omega*, 6, (2021) 11974–11987. ISSN: 2470-1343
- 33) M.H. Najar, **O.A. Chat**, P.A. Bhat, M.A Mir, G.M Rather, A.A. Dar, Structural changes in trypsin induced by the bile salts: An effect of amphiphile hydrophobicity, *International Journal of Biological Macromolecules*, 180 (2021) 121-128. ISSN: 0141-8130
- 34) S. Rashid, **O.A. Chat**, P.A. Bhat, M.A Mir, G.M Rather, A.A. Dar, Effect of in situ mixed micellization of ester-functionalized gemini surfactant at different pHs on solubilization and cosolubilization of various polycyclic aromatic hydrocarbons of varying hydrophobicities, *Environmental Pollution*, 336 (2023) 122489. ISSN: 1873-6424
- 35) Soliyah Shafi, S J Andrabi, , A.A. Dar, P.A. Bhat, **O.A. Chat**, Solubilization and 1,1-diphenyl-2-picrylhydrazylantiradical activity of butylated hydroxyanisole in aqueous surfactant micelles, *J Surfact Deterg*, (2023) <https://doi.org/10.1002/jsde.12712> ISSN: 1558-9293

Manuscripts Communicated

1. B.A. Shaigojray, A.M Lone, **O.A. Chat**, A.A. Dar, B. A. Bhat Micelle-guided stoichiometry switching in MBH-reaction: A mechanistic insight to locus and path of the reaction. (Submitted to COLSUA)

Books Published

1. **O.A Chat**, P.A Bhat, M. A. Lone, Studies on Effect of Micellar Media on Antioxidant Potential of Rutin. LAMBERT Academic Publishing, 2018. ISBN 978-613-9-85285-7

Book Chapters Published

1. **O.A Chat**, P.A Bhat, N. Nazir, A.A Dar, SELF-ASSEMBLED SYSTEMS BASED ON SURFACTANTS AND POLYMERS AS STABILIZERS FOR CITRAL IN BEVERAGES. Grumezescu, A. (Ed.) Beverages, Additionally Added Ingredients and Enrichment of Beverages (Vol. 14.: The Science of Beverages), 2019 ISBN 978-0-12-816687-1

Conferences/Posters/Presentations/Workshops

- ❖ **4th National Symposium on Recent Advances in Analytical Sciences & Applications** organized by Jamia Hamdard, New Delhi, Department of Chemistry, University of Kashmir and Indian Society of Analytical Scientists, Delhi, **2015**.
- ❖ **Workshop on Chemistry Popularization**, catalyzed and supported by National Council for Science and Technology Communication, DST, New Delhi, **2013**.
- ❖ **9th JK Science Congress & Regional Science Congress**, organized by University of Kashmir, Srinagar-190006 J&K, India, **2013 (Oral)**.
- ❖ **One Week Short Term Course on 'Research Methodology in Sciences (Using Statistical Softwares)**, organized by UGC-Academic Staff College, University of Kashmir, Srinagar-190006 J&K, India, 2012
- ❖ **Recent Trends in Material Sciences Research (RTMSR-2012)**, organized by National Institute of Technology Srinagar, J&K, India, **2012**
- ❖ **8th JK Science Congress**, organized by University of Kashmir, Srinagar-190006 in collaboration with J&K Council for Science and Technology, J&K, India, **2012 (Oral)**.
- ❖ **6th JK Science Congress**, organized by University of Kashmir, Srinagar-190006 in collaboration with J&K Council for Science and Technology, J&K, India, **2010 (Oral)**.
- ❖ **14th National Conference on surfactants, Emulsions and Biocolloids (NATCOSEB-XIV)** organized by Department of chemistry, University of Kashmir, Hazratbal, Srinagar-190006, J&K on 28-30 July **2009 (Poster)**.
- ❖ Five Day National Workshop on **Frontiers of spectroscopic and Analytical Techniques in Chemical Sciences**, organized by Department of Chemistry, University of Kashmir in collaboration with IIIM Srinagar on 21st – 25th March, **2009**.
- ❖ Two Day Seminar on **Dynamics of Science Education, Current Problems and Future Challenges**, held at Department of Chemistry, University of Kashmir, Hazratbal, Srinagar-190006, J&K on 23rd – 24th October, **2007**
- ❖ Participated in **Science Academics Lecture workshop-2017 in Modern trends in Chemistry and Chemical Education on July 19-20 2017** at University of Kashmir.
- ❖ Attended Two-day workshop on "Hands-On Training on Science Laboratory Equipments & Instrumentation for Faculty & Research Scholars at University of Kashmir, Srinagar on 28th and 29th Nov. 2018.
- ❖ Participated in THREE DAYS INTERNATIONAL WORKSHOP on "**Emerging Trends Based on Artificial Intelligence & Machine Learning in Food Processing**" organized by the Department of Food Technology ISLAMIC UNIVERSITY OF SCIENCE& TECHNOLOGY, KASHMIR, from 23rd -25th March, 2022
- ❖

Faculty Development Programmes

- Completed (with A⁺ grade) One Week Faculty Development Program (**21st-26th May 2020**) on "**Multimedia enriched e- Content Development**" organized by Guru Angad Dev Teaching Learning Centre SGTB Khalsa College, University of Delhi under the Pandit Madan Mohan Malaviya National Mission on Teachers and Teaching (PMMMNTT) of MHRD.
- Completed (with A grade) One Week Faculty Development Program (**25st-29th May 2020**) on "**Spectroscopic and Analytical Techniques: Applications**" organized by Guru Angad Dev

Teaching Learning Centre SGTB Khalsa College, University of Delhi under the Pandit Madan Mohan Malaviya National Mission on Teachers and Teaching (PMMMNMTT) of MHRD and J.C BOSE University of Science and Technology, YMCA Faridabad.

- Completed (with A grade) One Week Faculty Development Program (**30th June 2020 - 4th July 2020**) on “**Development and Management of MOOCs and Online Courses using LMS - Moodle**” organized by Guru Angad Dev Teaching Learning Centre SGTB Khalsa College, University of Delhi under the Pandit Madan Mohan Malaviya National Mission on Teachers and Teaching (PMMMNMTT) of MHRD.
- Completed (with A⁺ grade) One Week Faculty Development Program (**11-16 August 2020**) on “**Developing Multimedia enriched Powerful Presentations**” organized by Guru Angad Dev Teaching Learning Centre SGTB Khalsa College, University of Delhi under the Pandit Madan Mohan Malaviya National Mission on Teachers and Teaching (PMMMNMTT) of MHRD
- Successfully completed online **TWO - WEEK FACULTY DEVELOPMENT PROGRAMME** (equivalent to Refresher Course) in “**Chemical Sciences**” from **01 – 15 February, 2022** and obtained Grade A+. Teaching Learning Centre, Ramanujan College University of Delhi In collaboration with IQAC, Miranda House University of Delhi under the aegis of MINISTRY OF EDUCATION PANDIT MADAN MOHAN MALAVIYA NATIONAL MISSION ON TEACHERS AND TEACHING
- Successfully completed online **Two - Week Inter-disciplinary REFRESHER COURSE on “Research Methodology”** from **20 February - 06 March, 2022** and obtained Grade A+. Teaching Learning Centre, Ramanujan College University of Delhi in collaboration with IQAC, SAMEER GANDHI KALA MAHAVIDYALAYA & COMMERCE & SCIENCE COLLEGE, MALSHIRAS SOLAPUR, MAHARASHTRA under the aegis of MINISTRY OF EDUCATION PANDIT MADAN MOHAN MALAVIYA NATIONAL MISSION ON TEACHERS AND TEACHING



Orientation and Refresher Courses

- Attended a **Three-week Orientation programme** organized by Institute of Advanced Studies in Education Srinagar w.e.f. 26th April 2017.
- Completed the ARPIT Course for Career Advancement Scheme (CAS) promotion **Online Refresher Course in Chemistry for Higher Education Faculty with a ‘A’ grade** in the proctored examination on 30-03-2019 via Swayam Platform by S.G.T.B. Khalsa College, University of Delhi
- Successfully completed ARPIT course for Career Advancement Scheme (CAS) promotion **Online Refresher Course In Chemistry For Higher Education** From 1st Dec 2020 to 31st March 2021 With a **Grade “A”** in the proctored examination held on 21/08/2021 via Swayam Platform by S.G.T.B. Khalsa College, University of Delhi

Webinars

- Participated in Faculty development National Webinar on “**Development of Higher Education in India: An overview**” organized by Guru Angad Dev Teaching Learning Centre SGTB Khalsa College, University of Delhi under the Pandit Madan Mohan Malaviya National Mission on Teachers and Teaching (PMMMNMTT) of MHRD on **09 April 2020**.
- Participated in Faculty development National Webinar on “**ICT Enabled Higher Education in India**” organized by Guru Angad Dev Teaching Learning Centre SGTB Khalsa College, University of Delhi under the Pandit Madan Mohan Malaviya National Mission on Teachers and Teaching (PMMMNMTT) of MHRD on **13 April 2020**.
- Participated in Faculty development National Webinar on “**Re-engineering Higher Education: A seamless Knowledge Management System for the University**” organized by Guru Angad Dev Teaching Learning Centre SGTB Khalsa College, University of Delhi under

the Pandit Madan Mohan Malaviya National Mission on Teachers and Teaching (PMMMNMTT) of MHRD on **22 April 2020**.

- Participated in Faculty development National Webinar on “**Towards Excellence in Higher Education in India in the 21st Century: Challenges and Opportunities**” organized by Guru Angad Dev Teaching Learning Centre SGTB Khalsa College, University of Delhi under the Pandit Madan Mohan Malaviya National Mission on Teachers and Teaching (PMMMNMTT) of MHRD on **29 April 2020**.
- Participated in Faculty development National Webinar on “**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 the Pandit Madan Mohan Malaviya National Mission on Teachers and Teaching (PMMMNMTT) of MHRD on **2 May 2020**
- Participated in Faculty development National Webinar on “**Corona Pandemic and Economic Challenges in India**” organized by Guru Angad Dev Teaching Learning Centre SGTB Khalsa College, University of Delhi under the Pandit Madan Mohan Malaviya National Mission on Teachers and Teaching (PMMMNMTT) of MHRD on **4 May 2020**
- Participated in Faculty development National Webinar on “**e-content Development Methodology: Four Quadrant Model, OERs, and Copyright issues**” organized by Guru Angad Dev Teaching Learning Centre SGTB Khalsa College, University of Delhi under the Pandit Madan Mohan Malaviya National Mission on Teachers and Teaching (PMMMNMTT) of MHRD on **15 May 2020**.
- Participated in Faculty development National Webinar on “**Teaching During and Post COVID Times**” organized by Guru Angad Dev Teaching Learning Centre SGTB Khalsa College, University of Delhi under the Pandit Madan Mohan Malaviya National Mission on Teachers and Teaching (PMMMNMTT) of MHRD on **12 June 2020**.
- Participated in the two-day International webinar on “**Emerging Trends in Chemistry Education and Research (ETCER)**” Organized by Wilson College in association with University of Mumbai And Association of Chemistry Teachers 25th & 26th JUNE 2020
- Attended One day workshop on “**Organizing Webinars, Live Streaming and use of Google Forms for registration and certifications**” organized jointly by Government Degree College Pulwama and Government Degree College Beerwah.
- Participated in in National Webinar entitled “**Experiential Learning as Envisaged in NEP-2020**” organized by Guru Angad Dev Teaching Learning Centre, SGTB Khalsa College, University of Delhi under the Pandit Madan Mohan Malaviya National Mission on Teachers and Teaching (PMMMNMTT) of Ministry of Education on 19th June 2022.

Quizzes

- Successfully completed National online quiz competition on “National Education Policy-2020 held on **30-08-2020** with grade **95/100** conducted by Government Degree College Pulwama

Laboratory and Technical Skills

- Proficient in handling Soft materials, modifications for enhanced properties and controlled dimensions.
- Proficient in handling pharmaceuticals and nutraceuticals and development of aqueous based antioxidant evaluation protocols utilizing micellar nano-assemblies.
- Proficient in Synthesizing Ionic Liquid based surfactants from conventional surfactants via ion exchange reactions.
- Proficient in handling organic reactions in aqueous media utilizing self-assembled nano-reactors and isolation of products by column chromatography.
- Proficient in characterizing smart hydrogels using Rheology, DLS and SANS.
- Well versed in computer skills including **MS-Office, ChemDraw, ACD Labs, ISIS Draw, Origin, Teraplot, Endnote, Mendeley, Mestrec, SASView**, and scientific databases such as **SciFinder**,

Scopus, and Web of Science etc.

Instrument Expertise

- Tensiometer (Kruss 9)
- ATR FT-IR spectrometer (Perkin Elmer)
- UV-Vis spectrophotometer (Schimadzu)
- Fluorescence spectrophotometer (Schimadzu)
- Time resolved Fluorimeter (Horiba)
- Rheometer (AntonParr)
- Dynamic Light Scattering (Malvern)
- Densitometer (AntonParr)

Memberships

- ❖ Member PG Board of Studies in Department of Chemistry, University of Kashmir, J&K, India.
- ❖ Member UG Board of Studies in Department of Chemistry, University of Kashmir, J&K, India.

Administrative Skills

- Worked as an active Member for the conduct **UGC National Eligibility Test (NET)** in Kashmir Valley (Centre No. 31) during 2012 and 2013.
- Worked as active member in various college committees like; IQAC committee, Research Committee, Time Table Committee, Grievance Cell, Purchase Committee, RUSA Committee, Examination Committee.
- As examination coordinator, managed the smooth conduct of Common Aptitude Test 2020 for UG/IG professional programmes in CLUSTER UNIVERSITY SRINAGAR. on 25-02-2020 in GDC Pulwama.

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