

CURRICULUM-VITAE

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Qualifying Degree Ph.D. (Physical Chemistry).
h-index 21.
i10-index 37.

A. Research field(s) of Interest:

Surfactant Science, Polymers, Colloids, Soft Condensed Matter, Drug delivery and Deep Eutectic solvents.

B. Project Details:

1. **Amphiphilic hydrogel formulation as emerging templates in drug delivery systems (CRS/UGC-DAE/1113)** sponsored by Collaborative Research Scheme of University Grants Commission-Department of Atomic Energy, INDIA. Ref. CRS/UGC-DAE/ 2022-23/ 1113.
2. **Effect of stimuli on the self-assembly of the thermoresponsive-b-polyionic liquid diblock copolymer in solution (UGC/3395/2022)** financial assistance project of three lakh fifty thousand rupees (19th February 2022).
3. **DST-FIST improvement of S&T infrastructure** sponsored by Collaborative Research project of two hundred three lakhs' rupees for 5 years (19th December 2022).
4. **Aggregation of amphiphilic copolymers in deep eutectic solvent-water mixed systems (CRS-M-234)** sponsored by Collaborative Research Scheme of University Grants Commission-Department of Atomic Energy, INDIA. Ref. UDCSR/ MUM/ CRS-M-234/ 2017/ 1002.

C. Fellowships/ Awards:

1. Visiting fellowship sponsored by HORN project, Hyogo earthquake memorial 21st Century Research Institute, Hyogo University, Kobe, JAPAN. (01/06/2023 to 30/06/2023).
2. Postdoctoral Research Fellowship awarded by High Energy Accelerator Research Organization (KEK), J-PARC, JAPAN under the project entitled “**Hierarchical structure of soft matter induced by addition of charges**” of Dr. Hideki Seto. (01/05/2012 to 30/06/2013).
3. Research Associateship awarded by Board of Research in Nuclear Sciences (BRNS), BARC - Mumbai under the scheme 2010/37C/31/BRNS and project entitled “**Oil Solubilization in Block Copolymeric Micelles**” of Dr. P. Bahadur. (05/03/2011 to 21/04/2012).
4. Ph.D. (Physical Chemistry) awarded on the title “**Molecular interactions of Surfactant in aqueous solutions**” under the supervision of Professor P. Bahadur, Department of Chemistry, Veer Narmad South Gujarat University, Surat in July 2010.
5. Direct Senior Research Fellowship awarded by Council for Scientific and Industrial Research (CSIR), Govt. of India, New Delhi under the scheme 09/1008/ (0001)/2010/EMR- I and project entitled “**Salt induced micellar transitions in aqueous solution of Cationic Surfactants**” (01/04/2010 to 22/7/2010).
6. Senior Research Fellowship awarded by Council for Scientific and Industrial Research (CSIR), Govt. of India, New Delhi under the scheme 01(2068)/06/EMR-II and project entitled “**Interaction of Surfactants in Mixed Micelle: Effect of various Additives, Chain Length, pH and Micelle Charge Density**” of Dr. P. Bahadur. (06/05/2008 to 31/12/2009).

D. List of Publications:

1. Nanoscale Self-Assemblies from Amphiphilic Block Copolymers as Proficient Templates in Drug Delivery, D. Patel, K. Kuperkar, Shin-ichi Yusa, P. Bahadur, *Drugs and Drug Candidates*, 2023, 2, 898-922.
2. CTAB induced growth and shrinkage of Pluronics® P103 micelles: Experimental and theoretical rationale D Patel, N Tripathi, D Ray, VK Aswal, K Kuperkar, P Bahadur, *J. Mol. Liq.*, 2023, 391, 123315.
3. Self-assembly modulation in star block copolymers by amphiphilic diol: A scattering insight, A Patel, D Ray, P Parekh, K Kuperkar, B Bharatiya, VK Aswal, P Bahadur, *J. Mol. Liq.*, 2023, 380, 121726.
4. Nanoscale Pluronic® micellar templates with varying% EO content for controlled drug release and cytotoxicity, N Tripathi, G Singhvi, A Roy, K Kuperkar, P Bahadur, *J. Mol. Liq.*, 2023, 4, 122215.
5. Self-assembly generation triggered in highly hydrophilic Pluronics® by sugars/polyols, D Patel, N Tripathi, D Ray, VK Aswal, K Kuperkar, P Bahadur, *J. Mol. Liq.*, 2023, 378, 121614
6. Nanoscale Pluronic® micellar templates with varying %EO content for controlled drug release and cytotoxicity. N. Tripathi, G. Singhvi, A. Roy, K. Kuperkar, P. Bahadur. *J. Mol. Liq.*, 2023, 122215-122253.
7. Co-micellization conduct and structural dynamics of block copolymers in water and salt solution environment for drug solubilization enhancement. D. Patel, S.L. Gawali, K. Kuperkar, P.A. Hassan, P. Bahadur. *Colloid Polym Sci.*, 2023, 1-13.
8. Self-assembly modulation in star block copolymers by amphiphilic diol: A scattering insight. A. Patel, D. Ray, P. Parekh, K. Kuperkar, B. Bharatiya, V.K. Aswal, P. Bahadur, *J. Mol. Liq.*, 2023, 121726-121741.
9. Self-assembly generation triggered in highly hydrophilic Pluronics® by sugars/polyols. D. Patel, N. Tripathi, D. Ray, V.K. Aswal, K. Kuperkar, P. Bahadur, *J. Mol. Liq.*, 2023, 378, 121614-121626.
10. Self-assembly in newly synthesized dual-responsive double hydrophilic block copolymers (DHBCs) in aqueous solution. S. Yukioka, S. Yusa, V. Prajapati, K. Kuperkar, P. Bahadur, *Colloid Polym. Sci.*, 2023, 1-15.
11. Rationalizing design of Pluronics-surfactant mixed micelles through molecular simulations and experiments. D. Patel, G. Pérez-Sánchez, M. Jorge, D. Ray, V. K. Aswal, K. Kuperkar, J. A. P. Coutinho, P. Bahadur, *Langmuir*, 2023, 39, 2692–2709.
12. Thermoresponsive phase behavior and nanoscale self-assembly generation in normal and reverse Pluronics®. D. Patel, P. Vaswani, S. Sengupta, D. Ray, D. Bhatia, S. Dutta Choudhury, V. Aswal, K. Kuperkar, P. Bahadur, *Colloid Polym. Sci.*, 2023, 2 (301), 75-92.
13. Physicochemical insight into the solution behaviour of cationic gemini surfactant in water and ethanol-water system. V. Kumar, P. Patel, D. Ray, P. Thareja, K. Kuperkar, V. K. Aswal, P. Bahadur, *J Surfactants Deterg.*
14. Micellization, aggregation, and molecular interactions involved in CTAB-Alizarin Red S complexation. V. Kumar, J. Hingrajiya, J. Modi, V. Rathod, K. Kuperkar, *J Surfactants Deterg.* 2023,1(26), 33-42.
15. Amphiphilic Block Copolymers: Their Structures, and Self-Assembly to Polymeric Micelles and Polymersomes as Drug Delivery Vehicles. K. Kuperkar, D. Patel, L. I. Atanase, P. Bahadur, *Polymers*, 2022, 21(14), 4702-4723.
16. Self-assembly and micellar transition in CTAB solutions triggered by 1-Octanol. V.Kumar, K. R. Mitchell-Koch, S. G. Marapureddy, R. Verma, P. Thareja, K. Kuperkar, P. Bahadur. *J. Phys. Chem. B*, 2022, 40(126), 8102-8111.
17. Micellization and aggregation approach in aqueous amphiphilic ionic liquid and anionic polymer system. Z. Barhoumi, K. Kuperkar, H. Fouzai, S. Boughammoura, J. Mhalla, N. Amdouni, *Chemical Thermodynamics and Thermal Analysis*, 2022, 7, 100065-100072.

18. Phase behaviour and characterization of micelles of graft copolymer Soluplus[®] and non-ionic surfactant Solutol[®] HS15: A detailed comparison in the presence of additives. C. Chakrabarti, S.A. Pillai, K. Kuperkar, D. Ray, V.K., Aswal, P. Bahadur, *J. Mol. Liq.*, 2022, 349,118158-118168.
19. Glucose-induced self-assembly and phase separation in hydrophilic triblock copolymers and the governing mechanism. D. Patel, A.K. Bhojani, D. Ray, D. Singh, S. Bhattacharjee, D. Seth, V. K. Aswal, K. Kuperkar, P. Bahadur, *Phys. Chem. Chem. Phys.*, 2022, 24(35), 21141-21156.
20. Micellar assembly leading to structural growth/transition in normal and reverse Tetronics[®] in single and mixed solution environment. D. Patel, K. Kuperkar, P. Bahadur *Soft Matter.*, 2022, 18(24), 4543-4553.
21. Design and thermophysical characterization of Betaine hydrochloride-based deep eutectic solvents as a new platform for CO₂ capturing. A. Jangir, Bhawna, G. Verma, S. Pandey, K. Kuperkar, *New J. Chem.*, 2022, 46, 5332-5345.
22. SDS triggered transformation of highly hydrophobic Pluronics[®] nanoaggregate into polymer-rich and surfactant-rich mixed micelles. D. Patel, D. Ray, S. Tiwari, K. Kuperkar V.K. Aswal, P. Bahadur, *J. Mol. Liq.*, 2022, 345,117812-117822.
23. Single and mixed Pluronics[®] micelles with solubilized hydrophobic additives: Underscoring the aqueous solution demeanor and micellar transition. D. Patel, D. Patel, D. Ray, K. Kuperkar, V. K Aswal, P. Bahadur, *J. Mol. Liq.*, 2021, 343, 117625-117636.
24. Insight into structural properties and molecular interactions of maline (choline chloride + malonic acid) and 1, 4-butanediol based pseudo-binary mixture: A thermophysical, spectral, and simulation portrayal. A. K. Jangir, A. K. Nain, K Kuperkar, *J. Mol. Liq.* 2021, 334, 116050-116065.
25. Revisiting the salt-triggered self-assembly in very hydrophilic triblock copolymer Pluronic[®] F88 using multitechnique approach. D Patel, R Jana, MH Lin, K Kuperkar, D Seth, Li-Jen Chen, P Bahadur, *Colloid Polym. Sci.*, 299(7), 2021,1113-1126.
26. An inclusive thermophysical and rheology portrayal of deep eutectic solvents (DES) for metal oxides dissolution enhancement. Jangir, A.K., Sethy, P., Verma, G., Bahadur, P., Kuperkar, K. *J. Mol. Liq.*, 2021, 332, 115909-115920.
27. An expedient in to the phase behaviour and scattering profile in PEO-PPO-PEO block copolymer mixed systems in aqueous solution. D. Patel, S. Agarwal, D. Ray, K. Kuperkar, V. K Aswal, P. Bahadur, *Colloids Surfaces A*, 2021, 617, 126330-126340.
28. Micellization and clouding singularity amid the mixture of EO-PO-based star-block copolymer and cationic surfactants in aqueous solution. Pillai, S. A., Kumar, V., Kuperkar, K., Aswal, V.K., Kumar, S. *Colloids Interf. Sci. Comm.*, 2021, 42, 100414-100422.
29. Tuning cationic micelle properties with an antioxidant additive: a molecular perspective. V Kumar, G. M. Sai, R. Verma, K. R. Mitchell-Koch, D Ray, V. K. Aswal, K Kuperkar, P Bahadur, *Langmuir*. 2021, 37(15), 4611–4621.
30. Profound implication of histological alterations, haematological responses and biocidal assessment of cationic amphiphiles unified with their molecular architecture. U. Dani, F. Minocheherhomji, A. Bahadur, K. Kuperkar, *Environ. Sci. Pollut. R.* (2020), 28, 12847–12857.
31. Dye adsorption kinetics and isotherm study using surfactant-modified biomass. Kanoje B., Dani U., Shirdhonkar M., Parikh J., Kuperkar K. *J. Surf. Sci. Techn.*, (2022).
32. Contrasting effect of 1-butanol and 1, 4-butanediol on the triggered micellar self-assemblies of C₁₆-type cationic surfactants. V. Kumar, R. Verma, D. Satodia, D. Ray, K. Kuperkar, V. K. Aswal, K. R. Mitchell-Koch and P. Bahadur. *Phys. Chem. Chem. Phys.*, 2021, 23(35), 19680-19692.
33. Micellar characteristics of an amphiphilic star-block copolymer in DES-water mixture. P. Patidar, B. Kanoje, A. Bahadur, K. Kuperkar, D. Ray, V. K. Aswal, M. Wang, L. J. Chen, P. Bahadur, *Colloids Polym. Sci.* 299(1) (2021) 117-128.
34. Self-Association in EO-BO-EO Triblock Copolymers as a Nanocarrier Template for

- Sustainable Release of Anticancer Drugs. D. Patel, S. Rathod, S. Tiwari, D. Ray, K. Kuperkar, V. K. Aswal, P. Bahadur, J. Phys. Chem. B. 124 (2020) 11750-11761.
35. Acumen into the effect of alcohols on choline chloride: L-lactic acid-based natural deep eutectic solvent (NADES): A spectral investigation unified with theoretical and thermophysical characterization. A. K. Jangir, H. Mandviwala, P. Patel, S. Sharma, K. Kuperkar, J. Mol. Liq. 316 (2020) 113923-113935.
 36. Solubilization, micellar transition and biocidal assay of loaded antioxidants in Tetronic® 1304 micelles. D. Patel, D. Ray, K. Kuperkar, H. Pal, V. K. Aswal, P. Bahadur, Polym. Int. 69 (2020) 1097–1104.
 37. Parabens induced spherical micelle to polymersome transition in thermo-responsive amphiphilic linear and star-shaped EO-PO block copolymers. D. Patel, D. Ray, K. Kuperkar, V. K. Aswal, P. Bahadur, J. Mol. Liquids. 316 (2020) 113897-113908.
 38. Unraveling the Solubilization and Cytotoxicity study of poorly water-soluble anti-inflammatory drug in aqueous Gemini Surfactants solution with physicochemical characterization and simulation study. B. Kanoje, D. Patel, V. Kumar, J. Parikh, K. Kuperkar Colloids Surface B 179 (2019) 437-444.
 39. Electrochemical response and computational approach on surface-active ionic liquid (SAIL) in metal corrosion inhibition. D. Patel, K. Makhwana, M. B. Shirdhonkar, K. Kuperkar, Emergent Materials 3(2) (2020) 161-168.
 40. Surface-activity and antimicrobial performance of synthesized Gemini surfactant and Silver nanoparticles loaded Gemini surfactants integrated with microscopy and scattering investigation. B. Kanoje, R. Joshi, T. Joshi, J. Parikh, K. Kuperkar, Emergent Materials 3(2) (2020) 213-222.
 41. Dynamic interfacial properties and tuning aqueous foamability stabilized by cationic surfactants in terms of their structural hydrophobicity, free drainage and bubble extent. V. Kumar, N. Pal, A. K. Jangir, D. L. Manyala, D. Varade, A. Mandal, K. Kuperkar, Colloids Surfaces A. 588 (2020) 124362-124369.
 42. Impregnation of Activated Carbon in Polyurethane Foam for Enhanced Solvent and Oil Adsorption from Water. Shirke, A.G., Desai, P., Vashisht, M., Dholakiya B.Z, Kuperkar, K., J. Surf. Sci. (2020) 125-135.
 43. *In vitro* toxicity assessment and enhanced drug solubility profile in *green* Deep Eutectic Solvent Derivatives (DESDs) combined with theoretical study. A. Jangir, B. Lad, U. Dani, N. Shah, K. Kuperkar, RSC Adv., 10 (2020) 24063-24072.
 44. Validating interfacial behaviour of surface-active ionic liquids (SAILs) with computational study integrated with biocidal and cytotoxic assessment. U. Dani, A. Bahadur, K. Kuperkar, Ecotox. Environ. Safe. 186 (2019) 109784-109792.
 45. Biototoxicity assessment and tissue-specific oxidative stress induced by Gemini surfactant as a protocol on *Cirrhinus mrigala* (Ham.): An integrated experimental and theoretical methodology. U. Dani, A. Bahadur, K. Kuperkar, Ecotox. Environ. Safe. 183 (2019) 109478-109486.
 46. Enhancement of physico-chemical and anti-corrosive properties of tung oil based polyurethane coating via modification using anhydrides and inorganic acid. A. Shirke, B. Dholakiya, K. Kuperkar, Surfaces and Interfaces 15 (2019) 180-190.
 47. A new insight into non-steroidal anti-inflammatory drugs (NSAIDs) as modulated green inhibitory agent in mild steel corrosion. D. Patel, K. Makhwana, M. B. Shirdhonkar, K. Kuperkar, Chemistry Select 4 (2019) 5799-5809.
 48. New insight into Experimental and Computational studies of Choline Chloride-based ‘green’ Ternary Deep Eutectic Solvent (TDES). A. Jangir, D. Patel, R. More, A. Parmar, K. Kuperkar J. Mol. Struc. 1181 (2019) 295-299.
 49. A comprehensive insight on H-type aggregation in Congo red-surfactant systems revealed through physicochemical studies integrated with simulation framework. V. Kumar, D. Patel, H. Pal, K. Kuperkar, Phy. Chem. Chem. Phys. 21(2019) 15584-15594.
 50. Micellar transition (ellipsoidal to ULV) induced in aqueous Gemini surfactant (12-2-12)

- solution as a function of additive concentration and temperature using experimental and theoretical study. B. Kanoje, A. Jangir, D. Patel, D. Ray, V. Aswal, H. Pal, J. Parikh, K. Kuperkar, *Colloids Surfaces A*. 555 (2018) 227-236.
51. Crystallization study and morphology behavior of calcium carbonate crystals in aqueous Surfactant-Pluronics[®] prototype. B. Kanoje, K. Kuperkar, *J. Mater. Res. Technol.* 7(4) (2018) 508-514.
 52. Electrokinetic potential, thermal and microscopic investigation of surfactant-polymer templates on precipitated calcium carbonate morphology with dynamic simulation. D. Patel, K. Kuperkar, *Chemistry Select* 3 (2018) 4382-4386.
 53. Kinetics and thermodynamics of hazardous dye sorption from waste water using anionic surfactant as counter ion physically impregnated in polyurethane foam. A. Shirke, P. Parekh, B. Dholakiya, K. Kuperkar. *J. Surfact. Deterg.* 21 (2) (2018) 187-196.
 54. Modification of Tung oil based polyurethane foam by anhydrides and inorganic content through esterification process. A. Shirke, B. Dholakiya, K. Kuperkar, *J. App. Polym. Sci.* 135 (5) (2018) 45786-45796.
 55. Micellization, antimicrobial activity and curcumin solubilization in Gemini surfactants: Influence of spacer and non-polar tail. U. Dani, A. Bahadur, K. Kuperkar, *Colloids Interf. Sci. Commun.* 25 (2018) 22-30.
 56. Synergism and aggregation behavior in aqueous binary mixture of cationic-zwitterionic surfactants: Physicochemical characterization with molecular simulation approach. B. Kanoje, S. Padshala, J. Parikh, S. Sahoo, K. Kuperkar, P. Bahadur, *Phy. Chem. Chem. Phys.* 20 (2018) 670-681.
 57. Morphology modification in freshly precipitated Calcium Carbonate particles using polymer-surfactant template. B. Kanoje, D. Patel, K. Kuperkar. *Materials Letters* 187 (2017) 44-48.
 58. Solubilization study of water-insoluble dye in cationic single/dimeric surfactant micelles: Effect of head group, nonpolar tail, spacer chain in aqueous and salt solution. S. Padasala, K. Kuperkar, P. Bahadur. *Coloration Technology* 132(3) (2016) 217-221.
 59. Mixed micellization study of alkyltrimethylammonium and alkyltriphenylphosphonium bromides in aqueous solution. S. Padasala, B. Kanoje, K. Kuperkar, P. Bahadur. *J. Surfact. Deterg.* 19(2) (2016) 389-398.
 60. Novel applications of Castor oil-based Polyurethanes: A short review. A. Shirke, B. Dholakiya, K. Kuperkar, *Polymer Science* 57(4) (2015) 292-297.
 61. PEO-PPO based star-block copolymer T904 as pH responsive nanocarriers for quercetin: Solubilization and release study. A. Parmar, A. Bahadur, K. Kuperkar, P. Bahadur. *European Polymer Journal* 49(1) (2013) 12-21.
 62. Phenol solubilization in the Aqueous Pluronic[®] Solutions: Investigating the Micellar Growth and Interaction as a Function of Pluronic[®] Composition. R. Ganguly, K. Kuperkar, P. Parekh, V.K. Aswal and P. Bahadur. *J. Colloid Interface Sci.* 378 (2012) 118–124.
 63. Microstructural Study of CTAB/1-Butanol/Salt/Water System: SANS and 2D-NOESY Analysis. K. Kuperkar, A. Patriati, E.G.R. Putra, D.G. Marangoni, P. Bahadur. *Can. J. Chem.* 90(3) (2012) 314-320.
 64. Spectral and Scattering Microstructural Investigation in Cationic Gemini Surfactants (12- s-12) induced by p-toluidine. N. Dharaiya, A. Patriati, K. Kuperkar, E. G. R. Putra, P. Bahadur. *Colloids Surfaces A* 396 (2012) 1-7.
 65. Surface-Active Properties and Antimicrobial Study of Conventional Cationic and Synthesized Symmetrical Gemini Surfactants. K. Kuperkar, J. Modi, K. Patel. *J. Surfact. Deterg.* 15(1) (2012) 107-115.
 66. Formation and growth of Gemini surfactant (12-s-12) micelles as modulate by spacers: A thermodynamic and small-angle neutron scattering (SANS) study. S. Chavda, K. Kuperkar, P. Bahadur. *J. Chem. Engg. Data.* 56 (5) (2011) 2647–2654.
 67. Effect of 1-alkanols/salt on the Cationic Surfactant Micellar System in their Aqueous Solutions – A Dynamic Light Scattering Study. K. Kuperkar, J. Mata, P. Bahadur. *Colloids Surfaces A* 380 (2011) 60-65.

68. Formation and Growth of Micelles in Dilute Aqueous CTAB Solutions in the presence of NaNO₃ and NaClO₃. K. Kuperkar, L. Abezgauz, K. Prasad, P. Bahadur. *J. Surfact. Deterg.* 13(3) (2010) 293-303.
69. Effect of Hofmeister anions on Micellization and Micellar Growth in Aqueous Cetyl pyridinium chloride solutions. L. Abezgauz, K. Kuperkar, P. A. Hassan, O. Ramon, P. Bahadur, D. Danino. *J. Colloid Interface Sci.* 342 (2010) 83-92.
70. Structural Investigation of Viscoelastic Micellar Water/CTAB/NaNO₃ Solution. K. Kuperkar, L. Abezgauz, D. Danino, G. Verma, P. A. Hassan, V. K. Aswal, D. Varade, P. Bahadur. *Pramana - J. Phys.* 71(5) (2008) 1-8.
71. Viscoelastic Micellar Water/CTAB/NaNO₃ Solutions: Rheology, SANS and CryoTEM Analysis. K. Kuperkar, L. Abezgauz, D. Danino, G. Verma, P. A. Hassan, V. K. Aswal, D. Varade, P. Bahadur. *J. Colloid Interface Sci.* 323 (2008) 403-409.
72. Micellization and Interaction Properties of Aqueous Solutions of Mixed Cationic and Nonionic Surfactants. T. Joshi, B. Bharatiya, K. Kuperkar. *J. Disp. Sci. Tech.* 29 (2008) 3-9.
73. Tung Oil based polyurethanes: A short review. A. Shirke, P. Bhikhadiya, B. Dholakiya, K. Kuperkar, *J. Polymer and Composites* 3(3) (2015) 1-6.

E. Books/ Book Chapter/ Reviews written:

1. Self-assembled block copolymer nanoaggregates for drug delivery applications, **K. Kuperkar**, S. Tiwari, P. Bahadur, *Applications of Polymers in Drug Delivery, Second Edition eBook ISBN: 978-0-12-819659-5*, (2021) 423-447, Elsevier.
2. Controlled Morphology in Calcium Carbonate Using Surface-Active Ionic Liquids (SAILs) as a Template, *Advances in Spectroscopy: Molecules to Materials, Proceedings of NCASMM 2018, eBook ISBN 978-981-15-0202-6*, 236 (2019) 329-335, Springer Nature Singapore Pte Ltd.

F. Conference /Training/ Symposium/ School/ Workshop/ Webinar attended:

1. A Short-Term Training Programme on “Particle Technology: Characterization and Modeling of Particulate Materials (PT-CMPT-2016)” at Chemical Engineering Department, Sardar Vallabhbhai National Institute of Technology (SVNIT), Surat-395007, GUJARAT (INDIA) 1st – 5th August 2016.
2. A Short-Term Training Programme on “Sophisticated Analytical Techniques in Surface Chemistry (SATSC-2016)” at Applied Chemistry Department, Sardar Vallabhbhai National Institute of Technology (SVNIT), Surat-395007, GUJARAT (INDIA). 19th– 23rd September 2016.
3. A Short-Term Training Programme on “Recent Trends in Applied Chemical science and Technology (RTACST-2016)” at Applied Chemistry Department, Sardar Vallabhbhai National Institute of Technology (SVNIT), Surat-395007, GUJARAT (INDIA). 17th–21st October 2016.
4. 2day Course and Workshop on “Materials Design using Computational Tools (MDCT- 2016)” organized by Applied Chemistry Department, Sardar Vallabhbhai National Institute of Technology (SVNIT), Surat-395007, GUJARAT (INDIA). 12th – 13th December 2016.
5. Self-assembly of cationic surfactants in water and alcohol-water systems. V. Kumar, K. Kuperkar - *Proceedings of the seventh conference on neutron (CNS-2021)*.
6. Thermoresponsive phase behavior in normal and reverse Pluronic[®] and their mixed systems. D. Patel, K. Kuperkar, P. Bahadur - *Proceedings of the seventh conference on neutron (CNS-2021)*.

G. Memberships:

1. Associate Editor to Indonesian Journal of Materials Science, and Reviewer to Colloids Surfaces A.
2. Editorial board member of Physical Chemistry and Chemistry Physics (specialty section of frontiers in chemistry and frontiers in physics)
3. Member of Royal Society of Science (MRSC-709577), UK.
4. Elected as Executive Committee member of Indian Society for Surface Science and Technology (ISSST), for the period January 2020 to December, 2022.
5. Member of Asian Society for Colloid and Surface Science (ASCASS).
6. Life Member of Society for Industrial Chemistry (SIC), Mumbai, INDIA.
7. Life Member of Indian Society for Surfactant Science and Technology (ISSST), Kolkata, INDIA.

H. Conference/ Training Program/ Symposium/ School/ Workshop/ Webinar organized:

1. International Conference on Recent Trends in Engineering and Sciences (RTES-2023) at Sardar Vallabhbhai National Institute of Technology (SVNIT), Surat-395007, GUJARAT (INDIA) 2nd – 3rd May 2023.
2. Organized a Five days' Virtual Short term training programme 'Chemistry from computational tools for beginners (CCTB 2022)' at Department of Chemistry, S. V. National Institute of Technology (SVNIT), Surat during 1st - 5th March, 2022.
3. Organized a Five days' Virtual Short term training programme 'Emerging Trends in Synthesis of Chemical Scaffolds (ETSCS 2022)' at Department of Chemistry, S. V. National Institute of Technology (SVNIT), Surat during 27th - 31st January, 2022.
4. Organized a Five days' Virtual Short term training programme 'Surface Chemistry Colloids and Interface Aspects with Application (SCCIA 2022)' at Department of Chemistry, S. V. National Institute of Technology (SVNIT), Surat during 3rd - 7th January, 2022.
5. Organized a Five days' Virtual Short term training programme 'Advanced Characterization Techniques for Chemical Scaffolds (ACTCS 2021)' at Department of Chemistry, S. V. National Institute of Technology (SVNIT), Surat during 21st - 25th September, 2021.
6. Organized a Two day's virtual international conference on Emerging Trends in Medicinal Chemistry (ETMC 2021) at Department of Chemistry, S. V. National Institute of Technology (SVNIT), Surat during 18-19th March, 2021.
7. Organized a Two Day's virtual international conference on Molecules to Materials (MTM 2020) at Department of Chemistry, S. V. National Institute of Technology (SVNIT), Surat during 17-18th December, 2020.
8. Organized a Short-Term Training Programme on "Advanced Analytical Techniques for Materials Characterization (AATMC-2015)" at Applied Chemistry Department, Sardar Vallabhbhai National Institute of Technology (SVNIT), Surat-395007, GUJARAT (INDIA). 23rd-28th February 2015.
9. Organized a Short-Term Training Programme on "Sophisticated Analytical Techniques in Surface Chemistry (SATSC-2016)" at Applied Chemistry Department, Sardar Vallabhbhai National Institute of Technology (SVNIT), Surat-395007, GUJARAT (INDIA). 19th-23rd September 2016.

I. Invited/ Expert Talk/ Oral/ Poster presentation at National/ International Conferences:

1. Invited Speaker at National Conference on Modern Evolution in material and chemical science (MEMCS- 2023) on 6th and 7th January 2023 at Parul university, Vadodara, Gujarat, INDIA.
2. Invited talk at National Conference on inclinations and revolution in chemistry (NCIRC-2023) on 5th and 6th January 2023 at OM college of science, Junagadh, Gujarat, INDIA.
3. Session Expert at One Week Faculty Development Programme on Research Methodology and Data Analysis during 9th - 15th October 2022 at Department of Chemistry, S. V. National Institute of Technology (SVNIT), Gujarat, INDIA.
4. Invited talk at National Conference on surfactants, Emulsions and Biocolloids (NATCOSEB XX-2021) on online during 9-11th December 2021 at IIT Guwahati with ISSST, Kolkata, INDIA.
5. Invited talk (Virtual mode) at a Short-Term Course on “Chemistry for Engineering Applications” from 14-18th September 2020 at Department of Chemistry, Dr. B. R. Ambedkar National Institute of Technology, Jalandhar, Punjab, INDIA.
6. Invited talk at National Conference on Chemistry (NCONC-2020) on 12-13th February 2020 at Discipline of Chemistry, IIT Gandhinagar, Gujarat, INDIA.
7. Invited talk at One day National Conference on Academia-Industrial Interaction on Surfactants, Nanomaterials, Biosciences and Environmental Remediation on 9th February 2020 at School of Sciences, P. P. Savani University, Surat, Gujarat, INDIA.
8. Oral talk at International Conference on Materials for Environment (ICME-2020) during 24-25th January 2020 at Department of Chemistry, Govt. V.Y.Y. PG Autonomous College, Durg, Chhattisgarh, INDIA.
9. Oral talk at International Conference on 7th Asian Network for Natural and Unnatural Materials (ANNUM-VII) during 27-29th September 2019 at Ahmedabad, Gujarat, INDIA.
10. Invited talk at Science Academics’ Refresher Course on Elementary Quantum Mechanics and Spectroscopy on 24th January 2019 sponsored by IAS, Bangalore, INSA, New Delhi, NASc, Allahabad at Dept. of Applied Physics, SVNIT, Surat, INDIA.
11. Poster presented at International workshop: Polyelectrolytes in Chemistry, Biology and Technology during 12-14 March 2018 at Nanyang Technological University, SINGAPORE.
12. Invited talk at Nanostructured Materials in Polymers and Pharmaceutical Sciences (PolyTech-2017) during December 19-20, 2017 in Pune, INDIA.
13. Invited talk at 7th Asian Conference on Colloids and Interface Science (ACCIS 2017) during August 8-11, 2017 in Kuala Lumpur, MALAYSIA.
14. Invited talks at Mahidol University on 31st July 2017 and 2nd International Conference on Advanced Materials Research and Manufacturing Technologies (AMRMT 2017) during August 2-5, 2017 in Phuket, THAILAND.
15. Invited talk at 2016 Global Research Efforts on Energy and Nanomaterials (GREEN 2016) presented by Asia Pacific Society for Materials Research (APSMR) during December 22-25, 2016, TAIWAN.
16. A Short-Term Training Programme on “Particle Technology: Characterization and Modeling of Particulate Materials (PT-CMPT-2016)” at Chemical Engineering Department, Sardar Vallabhbhai National Institute of Technology (SVNIT), Surat-395007, GUJARAT (INDIA). 1st – 5th August 2016, INDIA.
17. A Short-Term Training Programme on “Sophisticated Analytical Techniques in Surface Chemistry (SATSC-2016)” at Applied Chemistry Department, Sardar Vallabhbhai National Institute of Technology (SVNIT), Surat-395007, GUJARAT (INDIA). 19th – 23rd September 2016, INDIA.
18. A Short-Term Training Programme on “Recent Trends in Applied Chemical science and Technology (RTACST-2016)” at Applied Chemistry Department, Sardar Vallabhbhai National Institute of Technology (SVNIT), Surat-395007, GUJARAT (INDIA). 17th – 21st October 2016, INDIA.

J. Research students (Ph.D.)

No.	Year	Student	Title
1	Sept. 2022	Soliya Sudha H. (D22CY003)	Transition metal-free C-H functionalization reactions (Co-guide, Ongoing)
2	Sept. 2021	Mayursing B. Girase (D21CY004)	Phase behavior, micellization and aggregation dynamics of surfactants in aqueous solution (Ongoing)
3	Dec. 2020	Virendra Prajapati (DS20CY008)	Nanoscale self-assembly generation in aqueous amphiphilic solution (Ongoing)
4	Dec. 2020	Tejash Desai (DS20CY011)	Insight into the micellization behavior, molecular interaction and thermodynamic assessment in surfactant system (Ongoing)
5	Sept. 2020	Yagnik Vora (D20CY016)	Nanoscale self-assembly modulation of varied additives in deep eutectic solvents: Structural solvation and dynamics (Ongoing)
6	Sept. 2020	Nitumani Tripathi (D20CY018)	Underscoring the aqueous solution demeanor in Block Copolymer (Ongoing)
7	Dec. 2018	Divya K. Patel (DS18CY002)	Influence of additives on the solution and micellization behavior of block copolymers (Awarded)
8	Dec. 2017	Vinod Kumar (DS17CY005)	Self-assembly and micellar transition induced in cationic surfactant-additives system (Awarded)
9	Dec. 2017	Dhruvi Patel (DS17CY001)	Nanoscale self-assembly and aggregation engineered using block copolymers for targeted applications. August 2022 (Awarded)
10	July 2017	Anil Kumar Jangir (D17CY003)	Preparation, Characterization and applications of pure and cosolvent-modified Deep Eutectic Solvents. May 2022 (Awarded)
11	Dec. 2013	Amit G. Shirke (DS13CY001)	Vegetable oil-based polymer synthesis with detailed characterization and their applications. December 2019 (Awarded)
12	Dec. 2013	Bharatkumar B. Kanoje (DS13CY003)	Micellization behaviour of Conventional and Dimeric Surfactant in aqueous solution system: Characterization and their Applications. November 2019 (Awarded)

K. Research students (M.Sc. Dissertation)

No.	Year	Student and Place	Title
1	May 2023	Azmeera Srikanth (I18CY040), DoC, SVNIT, Surat.	Drug solubility behaviour of ChCl based Deep eutectic solvent
2	May 2023	Jankiram (I18CY012), DoC, SVNIT, Surat.	Catanionic Surfactants: Their aqueous self-assembly and characterization
3	May 2023	R. Akhila (I18CY046), DoC, SVNIT, Surat.	Influence of sodium salts on PEO-PPO-PEO-based block copolymers
4	May 2023	Zala Krishna, PPSU, Surat & DoC, SVNIT, Surat.	Characterization and phase behaviour studies on mixed micellar assemblies of Gelucier 48/16 and Pluronics [®] with varying hydrophobicity
5	May 2023	Bhalani Deep, PPSU, Surat & DoC, SVNIT, Surat.	Effect of various organic additives on solution behaviour of Solutol HS15: A multi technique approach
6	May 2023	Chauhan Kuldeep, PPSU, Surat & DoC, SVNIT, Surat.	Influence of different saccharides on Kolliphor EL microstructures and its phase behaviour
7	April 2023	Hemangini J. Rohit, PPSU, Surat & DoC, SVNIT, Surat.	Effect of glucose on the micellization of Pluronic [®] P123
8	April 2023	Shubhi Umashankar Pandey, PPSU, Surat & DoC, SVNIT, Surat.	Behaviour of various Pluronics [®] with Kolliphor EL
9	July 2022	Bharat Raj (I17CY016), DoC, SVNIT, Surat.	Spectral characterization and Electrochemical behavior of ChCl-based Deep Eutectic Solvents
10	July 2022	Govind Meena (I17CY015), DoC, SVNIT, Surat.	Solution behaviour of synthesized gemini surfactants for their potential use in anticancer drug solubility
11	July 2021	Paresh Chauhan (I16CY005), DoC, SVNIT, Surat.	Micellization and interfacial properties of amino acid-based surfactants with TX-100.
12	July 2020	Monika Vashisth (I15CY012), ACD, SVNIT, Surat.	Micellar behavior of EO-BO Block Copolymer in aqueous medium.
13	July 2020	Peeyush Sethy (I15CY019), ACD, SVNIT, Surat.	Choline chloride-based green deep eutectic solvents (DESs): Synthesis, physicochemical characterization and application.
14	July 2020	Arya MP (I15CY025), ACD, SVNIT, Surat.	Glucose induced micellization of Pluronic [®] F88 in water.
15	July 2020	Lokesh Khatick (I14CY027), ACD, SVNIT, Surat.	Anticancer drug loaded CaCO ₃ nanoparticles.
16	May 2019	Krutarth Makhwana (I14CY004), ACD, SVNIT, Surat.	Surface-active ionic liquids (SAILs) as pivotal inhibitor tool in metal corrosion inhibition.
17	May 2019	Shweta Agarwal (I14CY021), ACD, SVNIT, Surat.	Clouding behavior of PEO-PPO-PEO based block copolymers in aqueous solution.
18	May 2019	Sunny Bhatt (I14CY016), ACD, SVNIT, Surat.	Ternary Deep Eutectic Solvents (Choline Chloride -Glycerol-Citric acid) synthesis and characterization.
19	May 2019	Chintan Patel (I14CY045), ACD, SVNIT, Surat.	Controlled morphology in calcium carbonate using surface-active ionic liquids (SAILs) as a template.
20	May 2019	Harsh Mandviwala (I14CY015), ACD, SVNIT, Surat.	Excess properties of Choline chloride-Lactic acid based deep eutectic solvents and its binary mixtures with alcohol.

21	May 2019	Shiv Khusagra (I14CY019), ACD, SVNIT, Surat.	Rod-/worm-like micellar transition in cationic surfactant as induced by propyl gallate.
22	May 2019	Kaushal Hirapara (I14CY038), ACD, SVNIT, Surat.	Drug Solubility enhancement using green Deep Eutectic Solvents
23	May 2019	Shweta Singh, VNSGU, Surat & ACD, SVNIT, Surat.	Preparation of Silver nanoparticles containing Pluronic based mixed polymeric micelles with in vitro study
24	May 2019	Bhumi Lad, VNSGU, Surat & ACD, SVNIT, Surat.	In vitro toxicity profile and drug dissolution enhancement using ammonium-based Deep Eutectic Solvents
25	May 2018	Peeyush Desai (I13CY001), ACD, SVNIT, Surat.	Protein conformation in deep eutectic solvents.
26	May 2018	Roshni More (I13CY017), ACD, SVNIT, Surat.	Behavior of pH-responsive cationic Gemini surfactants in aqueous solution.
27	May 2018	Dwarkesh Satodia (I13CY037), ACD, SVNIT, Surat.	Silver nanoparticles loaded with gemini surfactants with their detailed surface and antimicrobial characterization.
28	May 2018	Jay Hingrajiya (I13CY047), ACD, SVNIT, Surat.	Dye-Surfactant interaction with physicochemical studies
29	May 2017	Dhruvi Patel (I12CY033), ACD, SVNIT, Surat.	Drugs as inhibitors in Metal corrosion
30	May 2017	Bhavin Bhagat (I12CY020), ACD, SVNIT, Surat.	Vesicle-rod micelle transition of cationic dimeric surfactant in aqueous ethanol solution: Influence of concentration and temperature
30	May 2016	SanyaShafi Zaman (I11CY009), Dr. J.K. Srivastava, GM, ONGC-Surat & ACD, SVNIT, Surat	Study on Degradation of MDEA (Methyl diethanolamine) used in Gas Sweetening Unit and its effect on Sweetening Process at ONGC Hazira Plant.
31	May 2016	Dipeshkumar Barvaliya (I11CY013), Dr. Kalpesh I. Patel, SCT Dept., Institute of Sci. & Tech. for Adv. Studies and Research, Vallabh Vidyanagar.	Soya fatty acid-based water reducible alkyd polyester resin used in liquid printing ink.
32	May 2015	Payal Baheti (I10CY011), Prof. Kan-Sen Chou, Dept. of Chemical Engineering, National Tsing Hua University (NTHU), Taiwan.	Glycerol for the synthesis of the biopolymers: Study the effect of catalyst on it.
33	May 2015	Dhvani Patel (I10CY016), ACD, SVNIT, Surat.	Morphology modification of CaCO ₃ particles using Polymer-Surfactant Template.
34	May 2015	Prafull Bhikhadiya (I10CY020), ACD, SVNIT, Surat.	Synthesis of Polyol from Tung oil.