



Dr. Imtiyaz Ahmad Bhat

(Science simply unfolds grey matter, explore and love it)

Assistant Professor Cluster University, Srinagar Contact: +91-7006049260 Email: <u>bhattimtiyaz@gmail.com</u> (Primary) Birth Place: Kashmir, India

Teaching/Research Experience

Postdoctoral Research Experience	2 Years
Teaching experience+ Research	7 Years
Citations	625
h-index	17
i-10 index	26
Total Research Articles	36
Research Conferences	07

Current Research Interests

Amphiphile -additive Systems, Soft-Matter Chemistry, Bio-Physical Chemistry, Surfactant Chemistry, Colloid and Interface Science, Computational Chemistry, Fluorescence, Stimuli Responsive materials, Hydrogels, Rheology of Soft systems

Academic Qualifications

Treatment & dunine dutions			
Class	Year	Institution/University	Division/Grade
10 th	2001	JKBOSE	1 st
12 th	2003	JKBOSE	1 st
B.SC	2005-2008	University of Kashmir	1 st
M.SC	2008-2010	Jamia Millia Islamia, New Delhi	1 st
CSIR-NET	2011	CSIR-UGC	AIR-28
UGC-BSR JRF	2013	UGC	Awarded
UGC-BSR SRF	2014-2016	UGC	Awarded
Ph.D.	2016	Aligarh Muslim University	Awarded
Post-doctorate (N-PDF)	2016-2019	Indian Institute of Science	Completed
		Education and Research Pune	
		(IISER PUNE)	
Assistant Professor (Contract)	2020-24-05-2025	University of Kashmir	
Assistant Professor	26-05-2025- Till date	Cluster University. Srinagar	

Ph.D. Thesis Title Supervisor

Studies on Amphiphile-Additive Systems Prof. Mohd. Akram

Awards/ Achievements

- 1. Qualified UGC-CSIR National Eligibility Test (NET) in June-2011 with ALL India Rank-26. In India NET is Conducted at National Level Jointly by University Grants Commission (UGC) and Centre for Scientific and Industrial Research (CSIR), Govt. of India.
- 2. Awarded UGC-BSR JRF in 2013. UGC-BSR JRF is the Prestigious Fellowship Awarded to meritorious students by the University Grants Commission (UGC), Govt. of India.
- 3. Qualified UGC-BSR SRF in 2015.
- 4. Best Presentation Award at 17th National Conference on Surfactants, Emulsions and Bio-colloids, School of Studies in Chemistry, Pt. Ravi Shankar Shukla University, Raipur, November 4-6, 2015.PP-3.
- 5. Best Presentation Award at National Conference on Chemical Sciences: An Interdisciplinary Approach, Pune University, January 18-20, 2018, PP-49, p.17
- 6. Awarded Prestigious DST-SERB NPDF Fellowship in 2017. The SERB-National Post-Doctoral Fellowship (N-PDF) is Aimed to Identify Motivated Young Researchers and Provide them Support for Doing Research in Frontier Areas of Science and Engineering. The Fellowship Provides a Platform to Develop as Independent Scientists

Expertise in Techniques

Tensiometry, Fluorescence (Extrinsic, Intrinsic, Synchronous Time Resolved), UV-vis Spectroscopy, Dynamic Light Scattering (DLS), Circular Dichroism (CD), pH metery, Fourier Transform Infrared Spectroscopy (FT-IR), Nuclear Magnetic Resonance (NMR), Isothermal Titration Calorimetry (ITC), Cyclic Voltametry (CV), Scanning Electron Microscopy (SEM), Transmission Electron Microscopy (TEM), Atomic Force Microscopy (AFM) and Molecular Docking Simulations.

Computational Software Knowledge

Expertise in Handling Origin Pro-8, Chimera-1.9, Hex 6.1, Avagadro, PyMol, Das-6, Chem. Sketch and Chem. Draw. Besides these software's I have Good Hand in Microsoft Applications (Excel, Power Point, Word etc.).

Independent Major Research Projects Handled as a Principal Investigator Title Funding Agency

1. Novel Gemini-Bile Salt Mixed Micelles as Unfolding/Stabilization Agents of Model Proteins: Implications in Industrial, Biomedical and Cosmetic Domains Science and Engineering Research Board (SERB),

19,20,000/Rs-

Research Publications as First/Corresponding Author

6. Exclusive behaviour of asymmetric zwitterionic gemini surfactants towards lysozyme Imtiyaz Ahmad Bhat*, Tasneem Kausar, Aijaz Ahmad Dar, Shahid M Nayeem, Mohd Akram J. Mol. Liq., 336 (2021) 116583 Impact Factor = 6.633

5. Micelles of cleavable gemini surfactant induce fluorescence switching in novel probe: Industrial insight Imtiyaz Ahmad Bhat*, Bibhisan Roy, Kabir-ud-Din

J. Indust. Eng. Chem. 25 (2019) 60-64

Impact Factor = 6.760

4. Conformational and solution dynamics of haemoglobin (Hb) in presence of a cleavable gemini surfactant: Insights from spectroscopy, atomic force microscopy, molecular docking and density functional theory Imtiyaz Ahmad Bhat*, Bibhisan Roy, Partha Hazra, Kabir-ud-Din

J. Colloid Interf. Sci. 538 (2019) 489-498

Impact Factor = 9.965

3. Synthesis and Biophysical Analysis of a Novel Gemini Surfactant with Lysozyme: Industrial Perspective Imtivaz Ahmad Bhat*, Bibhisan Roy, Kabir-ud-Din

J. Indust. Eng. Chem. 63 (2018) 348-358

Impact Factor = 6.760

2. Solution Behaviour of Lysozyme in the Presence of Novel Biodegradable Gemini Surfactants Imtiyaz Ahmad Bhat*, Bibhisan Roy, Mohd Akram, Kabir-ud-Din

Int. J. Biol. Macromol.109 (2018) 301-307

Impact Factor = 8.025

1. Interaction of a Novel Twin-Tailed Oxy-Diester Functionalized Surfactant with Lysozyme: Spectroscopic and Computational Perspective

Imtiyaz Ahmad Bhat* Waseem Feeroze Bhat, Mohd Akram, Kabir-ud-Din

Int. J. Biol. Macromol. 109 (2018)1006-1011

Impact Factor = 8.025

Research Publications From My Ph.D Thesis

10. Solution Behaviour of an Ester-Functionalized Gemini Surfactant, Ethane-1, 2-diyl bis (N, N-dimethyl-N-dodecylammoniumacetoxy) Dichloride in the Presence of Inorganic and Organic salts Mohd. Akram, Imtiyaz Ahmad Bhat, and Kabir-ud-Din

J. Indust. Eng. Chem. 40 (2016) 161-167

Impact Factor = 6.760

9. Biophysical Perspective of the Binding of Ester-Functionalized Gemini Surfactants with Catalase.

Mohd. Akram, Imtiyaz Ahmad Bhat, Sana Anwar, Ajaz Ahmad and Kabir-ud-Din

Int.J.Biol Macromol.88 (2016) 614-623.

Impact actor = 8.025

8. Effect of Salt Counterions on the Physicochemical Characteristics of Novel Green Surfactant, Ethane-1,2-diylbis(N,N-dimethyl-N- tetradecylammoniumacetoxy) Dichloride

Mohd Akram, Imtiyaz Ahmad Bhat, Kabir-ud-Din

Colloids Surf. A, 493(2016) 32-40.

Impact Factor = 5.518

7. Binding of a Novel 12-E2-12 Gemini Surfactant to Xanthine Oxidase: Analysis Involving Tensiometric, Spectroscopic, Microscopic and Molecular Docking Approach.

Mohd Akram, Imtiyaz Ahmad Bhat, Kabir-ud-Din

J. Lumin., 170 (2016) 56-63.

Impact Factor = 4.171

6. Molecular Interaction of an Ester-Functionalized Biodegradable Gemini Surfactant with Lysozyme: Insights from Spectroscopy, Calorimetry and Molecular Docking.

Mohd Akram, Imtiyaz Ahmad Bhat, Sana Anwar, Kabir-ud-Din

J. Mol. Liq., 212 (2015) 641-649.

Impact Factor = 6.633

5. Conformational Alterations Induced by Novel Green 16-E2-16 Gemini Surfactant in Xanthine Oxidase: Biophysical Insights from Tensiometry, Spectroscopy, Microscopy and Molecular Modeling.

Mohd Akram, Imtiyaz Ahmad Bhat, Waseem Ferooze Bhat, Kabir-ud-Din Spectrochim. Acta Part A, 150 (2015) 440-450.

Impact Factor = 4.831

4. Interaction of a Green Ester-Bonded Gemini Surfactant with Xanthine Oxidase: Biophysical Perspective Mohd Akram, Imtiyaz Ahmad Bhat, Kabir-ud-Din

Int. J. Biol. Macromol., 78(2015) 62-67.

Impact Factor = 8.025

3. Self-Aggregation of Surfactant Ethane-1,2-diyl bis(N,N-dimethyl-N-hexadecyl ammoniumacetoxy) Dichloride: Tensiometric, Microscopic, and Spectroscopic Studies.

Mohd Akram, Imtiyaz Ahmad Bhat, Kabir-ud-Din

J. Phys. Chem. B, 119 (2015) 3499-3509.

Impact Factor = 3.466

2. New Insights into Binding Interaction of Novel Ester-Functionalized m-E2-m Gemini Surfactants with Lysozyme: A Detailed Multidimensional Study.

Mohd Akram, Imtiyaz Ahmad Bhat, Kabir-ud-Din

RSC Adv., 5 (2015) 102780-102794.

Impact Factor =4.036

1. Physicochemical Investigation of Novel Biodegradable Dicationic Ester-Bonded m-E2-m Gemini Surfactants with Bile salts: Insights from Surface Tension, Dynamic Light Scattering and Fluorescence

Mohd Akram, Imtiyaz Ahmad Bhat, Zahid Yaseen and Kabir-ud-Din

Colloids Surf. A, 444 (2014) 209-216.

Impact Factor = 5.518

Research Publications with my Lab Mates/Other Research Groups

15. Exploration of ibuprofen binding with micellar assemblies of the efficiently engineered gemini surfactants: Insights from spectroscopic and voltammetric studies

Mohd. Akram, Sana Anwar, Imtiyaz Ahmad Bhat, Kabir-ud-Din

Colloids and Surfaces A 555 (2018) 121-132

Impact Factor = 5.518

14. Probing interaction of bovine serum albumin (BSA) with the biodegradable version of cationic gemini surfactants

Mohd Akram, Farah Ansari, Imtiyaz Ahmad Bhat, Kabir-ud-Din

J. Mol. Liq. 276 (2019) 519-528

Impact Factor = 6.633

13. Bio-physicochemical analysis of ethylene oxide linked diester-functionalized green cationic gemini surfactants Mohd. Akram, Sana Anwar, Farah Ansari, Imtiyaz Ahmad Bhat, Kabir-ud-Din RSC Adv. 6(2016) 21697–21705
Impact Factor = 4.036

12. Unraveling the interaction of hemoglobin with a biocompatible and cleavable oxy-diester-functionalized gemini surfactant

Mohd. Akram, Sana Anwar, Imtiyaz Ahmad Bhat, Kabir-ud-Din

Int. J. Biol. Macromol. 96 (2017) 474-484

Impact Factor = 8.025

11. Multifaceted Analysis of the Non-Covalent Interactions of Myoglobin with Finely-Tuned Gemini Surfactants: A Comparative Study

Mohd. Akram, Sana Anwar, Imtiyaz Ahmad Bhat, Kabir-ud-Din

Industrial and Engineering Research 56(2017)13663-13676

Impact Factor = 3.72

10. In Vitro Evaluation of the Non-Covalent Interactions of Hemoglobin with Distinctively Modified Gemini Surfactants: Effect of Structural Variation

Mohd Akram, Sana Anwar, Imtiyaz Ahmad Bhat

Colloids and Surfaces A: 525 (2016) 145-157

Impact Factor = 5.518

9. Analyzing the Interaction Between Porcine Serum albumin (PSA) and Ester-Functionalized Cationic Gemini Surfactants

Mohd Akram, Farah Ansari, Imtiyaz Ahmad Bhat, Sumit Kumar Chaturvedi, Rizwan Hasan Khan Process Biochem 63 (2017) 145-153 mpact Factor = 4.885

8. Anti-Fibrillogenic and Fibril Destabilizing Effects of Metal Ions on Cystatin Fibrils

Waseem Feeroze Bhat, Sheraz Ahmad Bhat, Imtiyaz Ahmad Bhat, Aamir Sohail, Aaliya Shah, Bilqees Bano Process Biochem. 57 (2017) 105-116 Impact Factor = 4.885 7. An Ester-Functionalized Cationic Gemini Surfactant Mediated Structural Transitions of Porcine Serum Albumin (PSA) via Binding interaction

Mohd Akram, Farah Ansari, Imtiyaz Ahmad Bhat, Sumit Kumar Chaturvedi, Rizwan Hasan Khan

Colloids and Surfaces A: 516 (2017) 245-253

6. Anti-Fibrillation Propensity of a Flavonoid Baicalein Against the Fibrils of Hen Egg White Lysozyme: Potential Therapeutics for Lysozyme Amyloidosis

Naveed Ahmad Fazili, Imtiyaz Ahmad Bhat, Waseem Feeroze Bhat, Aabgeena Naeem

J. Biomol. Struct. Dynamics 34(2106) 2102-2114

Impact Factor = 5.232

Impact Factor = 5.518

5. In Vitro Disintegration of Goat Brain Cystatin Fibrils Using Conventional and Gemini Surfactants: Putative Therapeutic Intervention in Amyloidoses

Waseem Ferooze Bhat, Imtiyaz Ahmad Bhat, Sheraz Ahmad Bhat, Bilgees Bano

Int. J. Biol. Macromol. 93 (2016) 493-500

Impact Factor = 8.025

4. Biophysical Analysis of a Novel Oxy-Diester Hybrid Cationic Gemini Surfactants (Cm-E2O-Cm) with Xanthine Oxidase

Mohd. Akram, Imtiyaz Ahmad Bhat, Sana Anwar, and Kabir-ud-Din

Process Biochem. 9 (2016) 1212-1221.

Impact Factor = 4.885

3. Micellization Behaviour of m-E2-m Biodegradable Gemini Surfactants in Presence of Sodium Alkanoates (Sodium Propionate, Sodium Hexanoate, Sodium Decanoate).

Kabir-ud-Din, Imtiyaz Ahmad Bhat and Mohammad Akram

Tenside Surf. Det. 52 (2015) 1-15

Impact Factor = 1.058

2. Molecular Interactions of Cationic Gemini Surfactants (m-s-m) with an Environmental Friendly Nonionic Sugar-Based Surfactant (b-C12G): Interfacial, Micellar and Aggregation behavior

Jeenat Aslam, Umme Salma Siddiqui, Imtiyaz Ahmad Bhat, Kabir-ud-Din

J. Indust. Eng. Chem. 20 (2014) 3841–3850.

Impact Factor = 6.670

1. Detergent Induces the Formation of IgG Aggregates: A Multi-methodological Approach.

Samreen Amani , Faisal Nasim, Taqi Ahmed Khan, Naveed Ahmad Fazili , Mohammad Furkan, Imtiyaz Ahmad Bhat, Javed Masood Khan, Rizwan Hasan Khan , Aabgeena Naeem

Spectrochim. Acta Part A, 120 (2014)151-160.

Impact Factor = 4.831

Papers/Abstracts Accepted in Conferences

7. Modulation of Physicochemical Characteristics of Bile Salts by Gemini Molecules Imtivaz Ahmad Bhat

Emerging Trends in Biophysics 42nd Annual Meeting of the Indian Biophysical Society (IBS-2018)), March 9-11, 2018, IISER Pune, PP-75

6. Conformational Alterations of Lysozyme in Presence of an Ester Functionalized Surfactant Imtiyaz Ahmad Bhat

National conference on chemical sciences: An interdisciplinary approach, Pune University, January 18-20, 2018, PP-49, p.17.

5. Self-Aggregation of Cleavable Gemini Surfactant in the Presence of Salts

Imtiyaz Ahmad Bhat

22th CRSI National Symposium in Chemistry, Pt. Ravi Shankar Shukla University, Raipur, February 2-4, 2018, PP-04, p.63.

4. Interaction of Novel Twin Tailed Oxy-Diester Functionalized Surfactant with Lysozyme:Multi Technique Approach

Imtiyaz Ahmad Bhat

21th CRSI National Symposium in Chemistry, CSIR-Indian Institute of Chemical Technology, Hyderabad, July 14-16, 2017, PP-193,p.264

3. Spectroscopic, Calorimetric and Molecular Docking Studies on the Interaction of a Biodegradable Gemini Surfactant with Hen Egg White Lysozyme (HEWL).

Imtiyaz Ahmad Bhat, Mohd. Akram and Kabir-ud-Din

18th CRSI National Symposium in Chemistry, Panjab University, Chandigarh, February 5-7, 2016, PP-40, p.40.

2. Interaction of a Ester-bonded Green Surfactant with Lysozyme: A Multidimensional Study.

Imtiyaz Ahmad Bhat, Mohd. Akram and Kabir-ud-Din

17th National Conference on Surfactants, Emuslions and Biocolloids, School of Studies in Chemistry, Pt.

Ravi Shankar Shukla University, Raipur, November 4-6, 2015, PP-3, p. 68.

1. Micellization Behaviour of a Biodegradable Gemini Surfactant (16-E2-16) in Presence of Various Inorganic and Organic Salts.

Imtiyaz Ahmad Bhat, Mohd. Akram and Kabir-ud-Din National Symposium on Chemistry (NSC-2014), Department of Chemistry, Aligarh Muslim University, Aligarh, March 22, 2014, PP-104, p.90.

REFEREES

1.Prof. Kabir-Ud-Din (Prominent Scientist/Ex-Chairman Department of Chemistry, AMU, Aligarh- India Email id:kabirarba@gmail.com

3. Dr. Aijaz Ahmad Dar (Associate Professor and Editor) Department of Chemistry, University of Kashmir. Email id: aijaz_n5@yahoo.co.in 2.Prof. Mohd. Akram (Supervisor) Department of Chemistry, Aligarh Muslim University, India Email id: drmohdakram@rediffmail.com