

# CV



## Dr. Imtiyaz Ahmad Bhat

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



SERB National Postdoc Fellow

Department of Chemistry, Indian Institute of Science Education and Research Pune (IISERP)

Contact: +91-7006049260

Email: [bhattimtiyaz@gmail.com](mailto:bhattimtiyaz@gmail.com) (Primary)

Birth Place: Kashmir, India

### Research Experience

Postdoctoral Research Experience	2 Years
Teaching experience	2 Years
Citations	478
h-index	14
i-10 index	21
Total Research Articles	32
Research Conferences	07

### Research Interests

Soft-Matter Chemistry, Physical Chemistry, Surfactant Chemistry, Colloid and Interface Science, Biophysical Chemistry, Computational Chemistry, Soft-Matter Systems, Surfactant based Gels, Fluorescence, Photo-responsive, thermo-responsive systems, Hydrogels, Rheology of soft systems

### Academic Qualification

Class	Year	Institution/University	Division/Grade
10 <sup>th</sup>	2001	JKBOSE	1 <sup>st</sup>
12 <sup>th</sup>	2003	JKBOSE	1 <sup>st</sup>
B.SC	2005-2008	University of Kashmir	1 <sup>st</sup>
M.SC	2008-2010	Jamia Millia Islamia, New Delhi	1 <sup>st</sup>
CSIR-NET	2011	CSIR-UGC	AIR-26
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	IISER PUNE	Completed
Assistant Professor (Contract)	2019-Present	University of Kashmir	

### Ph.D. Thesis Title

Studies on Amphiphile-Additive Systems

### Supervisor

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 17<sup>th</sup> 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 (NPDF) 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	Cost
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), India	19,20,000/Rs-

## Research Publications as First/Corresponding Author

6. Exclusive behaviour of asymmetric zwitterionic gemini surfactants towards lysozyme  
Intiyaz 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  
Intiyaz Ahmad Bhat\*, Bibhisn 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  
Intiyaz Ahmad Bhat\*, Bibhisn 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  
Intiyaz Ahmad Bhat\*, Bibhisn 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 Feeeroze 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-dodecylammoniumacetoxo) 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 factor = 8.025**

8. Effect of Salt Counterions on the Physicochemical Characteristics of Novel Green Surfactant, Ethane-1,2-diylbis(N,N-dimethyl-N-tetradecylammoniumacetoxo) 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 Feeeroze 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 ammoniumacetoxo) 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, Imtiaz 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, Imtiaz 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, Imtiaz 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, Imtiaz 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, Imtiaz 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, Imtiaz 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, Imtiaz Ahmad Bhat, Sumit Kumar Chaturvedi, Rizwan Hasan Khan  
Process Biochem 63 (2017) 145-153  
**Impact Factor = 4.885**
8. Anti-Fibrillogenic and Fibril Destabilizing Effects of Metal Ions on Cystatin Fibrils  
Waseem Feroze Bhat, Sheraz Ahmad Bhat, Imtiaz 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, Imtiaz Ahmad Bhat, Sumit Kumar Chaturvedi, Rizwan Hasan Khan  
Colloids and Surfaces A: 516 (2017) 245-253  
**Impact Factor = 5.518**
6. Anti-Fibrillation Propensity of a Flavonoid Baicalein Against the Fibrils of Hen Egg White Lysozyme: Potential Therapeutics for Lysozyme Amyloidosis  
Naveed Ahmad Fazili, Imtiaz Ahmad Bhat, Waseem Feroze Bhat, Aabgeena Naeem  
J. Biomol. Struct. Dynamics 34(2106) 2102-2114  
**Impact Factor = 5.232**
5. In Vitro Disintegration of Goat Brain Cystatin Fibrils Using Conventional and Gemini Surfactants: Putative Therapeutic Intervention in Amyloidosis  
Waseem Feroze Bhat, Imtiaz Ahmad Bhat, Sheraz Ahmad Bhat, Bilqees 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, Imtiaz 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

Imtiyaz 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

22<sup>th</sup> 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

21<sup>th</sup> 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

18<sup>th</sup> 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

17<sup>th</sup> National Conference on Surfactants, Emulsions 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](mailto:kabirarba@gmail.com)

2. Prof. Mohd. Akram  
(Mentor)  
Department of Chemistry, Aligarh Muslim  
University, India  
Email id: [drmohdakram@rediffmail.com](mailto:drmohdakram@rediffmail.com)

3. Dr. Aijaz Ahmad Dar  
(Associate Professor and Editor)  
Department of Chemistry,  
University of Kashmir.  
Email id: [aijaz\\_n5@yahoo.co.in](mailto:aijaz_n5@yahoo.co.in)