

## ***CURRICULUM VITAE***

**Dr. Imtiyaz Ahmad Bhat**

Assistant Professor

Department of Chemistry

Islamic University of Science and Technology (IUST), Awantipora

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### **EDUCATION**

12-2023- till date	<b>Assistant Professor</b> at Department of Chemistry, IUST, Awantipora
12/2019- 12/2023	<b>Post-doctoral fellow</b> at King Abdullah University of Science and Technology, Saudi Arabia
7/2018- 7/2019	<b>Research Associate</b> at Indian Institute of Science, Bangalore, India
8/2013- 7/2018	<b>Ph. D.</b> at <b>Indian Institute of Science Bangalore, India</b> under the supervision of <b>Professor P. S. Mukherjee</b> Thesis: <i>“Design and Application of Self -Assembled Coordination Cages for Catalysis and as Drug Carrier”</i>
6/2010-7/2011	<b>Bachelor of Education</b> at Kashmir University through distance mode (71.10 %)
1/2009-2/2011	<b>Master of Science</b> at Kashmir University, Srinagar, India (64.66%)
1/2006-1/2009	<b>Bachelor of Science</b> at S. P. College, Kashmir University, Srinagar, India (62.05%)
12/2004-12/2005	<b>Higher Secondary Education</b> at higher secondary school, Noorpora Awantipora, India (69.00%)
12/2002-12/2003	<b>Secondary Education</b> at higher secondary school, Noorpora Awantipora, India (79.00%)

### **FELLOWSHIPS, AWARDS AND HONOURS**

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2019-22	<b>Post-doctoral fellow</b> at King Abdullah University of Science and Technology
2019	<b>Govt. of Ireland Postdoctoral Fellowship Award</b> awarded by Irish Research Council.
07/2018 – 07/2019	<b>Research Associate Fellowship</b> awarded by Indian Institute of Science, Bangalore, India.

- 08/2015 – 07/2018 **Senior Research Fellowship** from UGC, New Delhi, India.
- 08/2013 – 08/2015 **Junior Research Fellowship** from UGC, New Delhi, India
- 2012 Qualified for joint CSIR-UGC test for junior research fellowship held on October 31, 2012 and secured **82/1054** rank all over India.
- 2012 Qualified **GATE** examination with All India Rank-1079 conducted by Indian Institute of Technology Delhi.

### RESEARCH INTERESTS

My research interests are related to **supramolecular chemistry** including the design and synthesis of **self-assembled cages/architectures** and their application in homogeneous catalysis, drug carrier;

My doctoral research interest in the group of **Prof. P. S. Mukherjee** at **IISc Bangalore** involved the area of **supramolecular chemistry**, arguably one of the hottest areas of chemical sciences. My research expertise is highly interdisciplinary and encompasses organic and inorganic synthesis of supramolecular assemblies and finite structures for applications in supramolecular catalysis (performing the organic transformations in aqueous medium).

My post-doctoral work at KAUST, Saudi Arabia, involved the design and synthesis of organic macrocycles and cages for drug delivery and separation of hydrocarbons.

### PUBLICATIONS

Sr. No	Author List	Title of paper	Journal Name	year	Vol. No. Page No/ISSN No	Impact Factor
1.	A. Dey, S. Chand, M. Ghosh, M. Altamimy, B. Maity, P. M. Bhatt, <b>I. A. Bhat</b> , L. Cavallo, M. Eddaoudi and N. M. Khashab.	Molecular recognition and adsorptive separation of m-xylene by trianglimine crystals	<i>Chemical Communication (RSC)</i>	2021	57,9124–9127/ 13597345	<b>6.29</b>
2.	A. Mondal, <b>I. A. Bhat</b> , S. Karunakaran, P. S. Mukherjee, M. De	Supramolecular Interaction of Molecular Cage and $\beta$ -Galactosidase: Application in Enzymatic	<i>ChemBioChem</i>	2021	22, 1–7/ 1439-7633	<b>3.690</b>

		Inhibition, Drug Delivery and Antimicrobial Activity				
3.	<b>I. A. Bhat</b> , E. Zangrando and P. S. Mukherjee	Coordination-Driven Self-Assembly of Discrete Molecular Nanotubular Architectures	<i>Inorganic Chemistry. (ACS)</i>	2019	58, 11172–11179/00201669	<b>4.700</b>
4.	<b>I. A. Bhat</b> , A. Devaraj, P. Howlader, K.-W. Chi, P. S. Mukherjee	Preparation of a chiral Pt <sub>12</sub> tetrahedral cage and its use in catalytic Michael addition reaction	<i>Chemical Communication (RSC)</i>	2018	54, 4814–4817/13597345	<b>6.290</b>
5.	A. A. Adeyemo, A. Shettar, <b>I. A. Bhat</b> , P. Kondaiah and P. S. Mukherjee	Coordination-driven self-assembly of ruthenium(II) architectures: synthesis, characterization and cytotoxicity studies	<i>Dalton Transaction</i>	2018	47,8466-8475/13645447	<b>4.009</b>
6.	<b>I. A. Bhat</b> , A. Devaraj, E. Zangrando and P. S. Mukherjee	A Discrete Self-Assembled Pd <sub>12</sub> Triangular Orthobicupola Cage and its Use for Intramolecular Cycloaddition	<i>Chemistry - A European Journal</i>	2018	24, 1–10/09476539 <b>(Hot paper)</b>	<b>5.160</b>
7.	<b>I. A. Bhat</b> , R. Jain, M. M. Siddiqui, D. K. Saini and P.S. Mukherjee	Water-Soluble Pd <sub>8</sub> L <sub>4</sub> Self-assembled Molecular Barrel as an Aqueous Carrier for	<i>Inorganic Chemistry. (ACS)</i>	2017	56, 5352–5360/00201669	<b>4.700</b>

		Hydrophobic Curcumin				
8.	A. A. Adeyemo, A. Shettar, <b>I. A. Bhat</b> , P. Kondaiah and P. S. Mukherje,	Self-Assembly of Discrete Ru <sup>II</sup> <sub>8</sub> Molecular Cages and Their in Vitro Anticancer Activity	<i>Inorganic Chemistry. (ACS)</i>	2016	56, 608–617/ 00201669	<b>4.700</b>
9.	<b>I. A. Bhat</b> , D. Samanta, P. S. Mukherjee	A Pd <sub>24</sub> Pregnant Molecular Nanoball: Self-Templated Stellation by Precise Mapping of Coordination Sites	<i>Journal of American Chemical Society. (ACS)</i>	2015	137, 9497-9502/ 00027863	<b>14.375</b>

### **PAPERS PRESENTS**

- I. A. Bhat**, P. S. Mukherjee. “A Pd<sub>24</sub> sphere-in-sphere molecular nanoball: self-templated stellation by precise mapping of coordination sites” *11th International Symposium on Macrocyclic and Supramolecular Chemistry (ISMCS-2016)*, held in **Seoul, South Korea** between July 10th and July 14th, 2016. (Poster Presentation)
- I. A. Bhat**, P. S. Mukherjee. “Pd<sub>8</sub>L<sub>4</sub> Barrel: an aqueous carrier for hydrophobic curcumin” *Acta Cryst. (2017)*, A70, C1189, *IUCr 2017: “24<sup>th</sup> Congress and General Assembly of the International Union of Crystallography”* held in Hyderabad International Convention Centre Hyderabad, India between 21–28 August 2017 (Poster Presentation)

### **SCIENTIFIC AND TECHNICAL SKILLS**

- Special expertise in the synthesis of air, moisture and light-sensitive compounds using Schlenk techniques.
- Metal-catalysed coupling reactions including Suzuki, Sonogashira, Ullman etc.
- Handling of high temperature and high-pressure hydrothermal reactions using an autoclave furnace.

- Good understanding of important techniques such as NMR spectroscopy, ESI-MS, X-ray crystallography, chromatographic techniques (HPLC, LC-MS), computational chemistry etc.
- First-hand experience of handling NMR Spectrometers –AV-Bruker 400 MHz, IR Spectrometers - Perkin-Elmer. UV-visible Spectrophotometers –Perkin-Elmer, Fluorometer HORIBA Scientific, Agilent ESI-MS and Agilent HPLC systems.

### TEACHING EXPERIENCE

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- Teaching assistantship for one semester: responsibilities included tutorial discussion, problem-solving, evaluation of quizzes and examination papers and also carried out laboratory practicals for 1<sup>st</sup>-year B.Sc. students at Indian Institute of Science, Bangalore, India.
- Supervised undergraduate students for an M.Sc. project in Prof. P. S. Mukherjee's lab, Indian Institute of Science, Bangalore, India.
- Supervised graduate students for the PhD project in Prof. Nivine. M. Khashab's lab, King Abdullah University of Science and Technology, Saudi Arabia.

### CAREER OBJECTIVES

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**Academic:** Have been teaching different topics of organic and inorganic chemistry [like, supramolecular chemistry, Pericyclic Reactions, Organic spectroscopy, Coordination Chemistry, Reagents and other orthodox chemistry.

Research Having overall training in the highly interdisciplinary field which encompasses both organic and inorganic synthesis of **supramolecular assemblies** aiming for potential applications such as **supramolecular catalysis** by performing organic transformations in green aqueous solvent, **delivery of drug molecules** to cancer cells, **stability of reactive molecules** and **selective molecular recognition**.

### REFERENCES

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**1. Prof. P. S. Mukherjee**  
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Indian Institute of Science,  
Bengaluru 560012, India  
Phone: +91-80-2293 3352  
E-mail: [psm@iisc.ac.in](mailto:psm@iisc.ac.in)

**2. Prof. G. Mugesh**  
Department of Inorganic and Physical  
Chemistry  
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Bengaluru 560012, India  
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E-mail: [mugesh@iisc.ac.in](mailto:mugesh@iisc.ac.in)

## **PERSONAL INFORMATION**

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Sex	Male
Date of Birth	11/11/1987
Nationality	Indian

## **DECLARATION**

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I hereby declare that all the information furnished above is true and correct to the best of my knowledge.

Place: Srinagar

Date: 23<sup>rd</sup> Dec, 2023



Imtiyaz Ahmad Bhat