

**ZAKIR HUSAIN DELHI COLLEGE**  
(University of Delhi)

**Faculty Details**

<b>Title Dr.</b>	<b>First Name</b> Ritu	<b>Last Name</b> Mathur	<b>Photograph</b>
<b>Designation</b>	Assistant professor		
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<b>Educational Qualification</b>			
<b>Degree</b>	<b>Institution</b>	<b>Year</b>	
PhD. Organic Chemistry	University of Rajasthan, Jaipur	2004	
MSc. Organic Chemistry	University of Rajasthan, Jaipur	2000	
BSc. Chemistry	University of Rajasthan, Jaipur	1997	
Post graduate diploma in Memory Enhancement and Psycho-Neurobics.	Tamil Nadu sports University, Chennai	2014	
JRF-NET (Chemical Sciences)	CSIR	2001	
Any other	GATE	2000	
<b>Career Profile</b>			
<ul style="list-style-type: none"> <li>• Working as Assistant professor at Zakir Husain Delhi College since 23/07/2012</li> <li>• Worked as Assistant professor at Amity Institute of Applied Sciences (AIAS), Amity University, Noida from 5/9/2005 to 30/9/2011</li> </ul>			
<b>Administrative Assignments</b>			
<ul style="list-style-type: none"> <li>• Convener, Garden and Greening Committee (3<sup>rd</sup> October 2023 – till date)</li> <li>• Member, Vivekanand study center, Zakir Husain Delhi College.</li> <li>• Member, Departmental Lab affair Committee.</li> <li>• Faculty Nominee for G-20 activities at college.</li> </ul>			

- Coordinator for Selfie point installation (as per the guidelines of UGC)
- Member, Annual day Committee (Award selection)
- Member, Grievance redressal Committee, Students' union elections- 2023.
- Member, Freshers' Day Committee.
- Member, Admission Committee.
- Member, Arts and Culture Society (2017- 2019)
- Member, Convocation Committee.
- Member, Garden and greening Committee (Aug 2021-September 2023)

#### Areas of Interest / Specialization

- Specialization: Organic Chemistry
- Areas of Interest: Synthetic organic chemistry, green chemistry, nanomaterials.

#### Subjects Taught

- BSc. (Hon.) Chemistry, I Sem: Basic concepts, stereochemistry and aliphatic hydrocarbons. Theory and practical.
- BSc. (Hon.) Chemistry II Sem: Haloalkanes, arenes, haloarenes, alcohol, phenol and ether and epoxides. Theory and Practical.
- BSc. (Hon.) Chemistry V Sem: Organic Chemistry IV- Biomolecules. Theory and practical.
- BSc. (Hon.) Chemistry VI Sem: Organic Chemistry V: UV, IR, NMR spectroscopy, drugs and dyes. DSE- Green Chemistry- Theory and Practical
- BSc. (Prog.) I Sem: Basic concepts of organic chemistry. Theory and practical.
- BSc. (Prog.) II Sem: Functional group organic chemistry -I. Theory and practical
- BSc. (Prog.) III Sem: Functional group organic chemistry -II, carbohydrates and amino acids. Theory.
- BSc (Prog.), IV Sem: S&P block elements, states of matter, chemical kinetics. Practical.
- BSc. (PS), IV Sem: SEC-Chemistry of cosmetics & perfumes. Practical.
- BSc. (Prog.) VI Sem: (DSE) Organometallic, bioinorganic chemistry& UV-IR Hetro and polynuclear HC. Theory and practical.
- 'Science and life' and 'Integrated Mind, body, heart and soul (IMBH)' to First year UG students in Four year under graduate program (FYUP)
- Applied chemistry to the first year B.Tech students at Amity School of Engineering and Technology (ASET), Amity University, Noida.
- Photochemistry, Pericyclic chemistry and Stereochemistry to M.Sc. (Industrial Chemistry) students at Amity Institute of Applied Sciences (AIAS), Amity University, Noida.

#### Publications Profile

- A Decennary Update on Coumarin Derived Fluorescent Nanosensors and Chemosensors for Selective Sensing of Heavy Metal Ions, *Nano World Journal*, 2024, 9(S5): S469-S479, doi: 10.17756/nwj.2023-s5-077
- Synthesis of Quinazolines Scaffold Using Green and Sustainable Heterogenous Nano-catalysts, 2023, *NanoWorld Journal* 9(S5): S480-S486, doi: 10.17756/nwj.2023-s5-078
- Chemistry of ionic liquids in multicomponent reactions in *Green solvents and Extraction technology*, 2023, Pg. No. 17-50, Elsevier, ISBN: 978-0-323-95156-2
- Mass Spectrometry in *Instrumental methods of analysis*, 2023, Pg. No. 163-238, I K international Pvt. Ltd, ISBN: 978-93-90620-88-3
- Boehmite nanoparticles mediated multicomponent reaction approach towards synthesis of pharmacologically active tetrazoles. *AIP Conf. Proc.* 2752, 040003 2023, <https://doi.org/10.1063/5.0137080>

- Trends in Food Packaging: A Comprehensive Review, *Asian Journal of Chemistry*, 2022,34(10):2499-2510, <http://dx.doi.org/10.14233/ajchem.2022.23917>
- The wave that became a Tsunami-Lessons from India's second wave of COVID-19 pandemic, *European journal of biomedical and pharmaceutical sciences*, 2022,9,200-213: 2349-8870
- Recent developments in the nanomaterial-catalyzed green synthesis of structurally diverse 1,4-dihydropyridines, *RSC Advances*, 2021, 11(3):1376-1393, <http://dx.doi.org/10.1039/D0RA07807G>
- Rotational Energy Surfaces of 3-Alkyl-2-benzothiazolidinaminodichlorophosphines-A semiempirical Study, *International Journal of scientific and engineering research*, 2014,5, 1151-1155, 2229-5518
- The Phytochemistry of "Kushthanashini, *ISST Journal of applied chemistry*, 2011 (II), 1-4, 0976-7355
- Synthesis and insecticidal activity of novel Thiooxazaphospholanes against *Helicoverpa Argimera*, *Indian Journal of Applied Entomology*, 2010,14(II), 101-104, 0970-9509
- Synthesis and Characterization of Novel Phospholane Heterocycles, 2007, *Phosphorus, Sulfur, and Silicon and the Related Elements* (6):1403-1412, <http://dx.doi.org/10.1080/10426500601161056>
- Synthesis and Characterization of Some New Zinc(II) Complexes Incorporating Heterocyclic Thiophosphates as a Ligand, *Phosphorus, Sulfur, and Silicon and the Related Elements*, 2006, 181(5): 1001-1010 <http://dx.doi.org/10.1080/10426500500272251>
- Synthetic and Antifungal Studies of Some Novel Alkylidenamidothiophosphoric Esters, *Journal of Indian Chemical Society*, 2004, 81,338-341, <https://doi.org/10.1002/chin.200508182>

**Conference/Work shop/Professional development programs Organization/ Presentations (in the last five years)**

**Paper presented:**

- Exploring recent approaches using nanostructures for efficient and facile synthesis of biologically important Bis(indolyl) methanes (BIM) in Indian analytical congress (IAC-2024), jointly organized by Indian Society of Analytical Scientists- Delhi Chapter and CSFR- Indian institute of petroleum during 5-7 June, 2024 at CSFR-IIP, Dehradun, Uttarakhand.
- 'Indian Women Scientists: Their stories from struggle to success' in one day Seminar on 'Bharatiya Itihas Lekhan ki Naveen Pravritiyan' organized by Bharatiya Itihas Sankalan Yojana Samiti, Delhi and Centre for Professional Development in Higher Education (CPDHE), Delhi University on 14<sup>th</sup> October 2023.
- 'Graphene based electrochemical sensors for the sensing of heavy metal ions' in International conference on advances in chemical sciences and polymer nanocomposites (ACSN 2022) organized by Zakir Husain Delhi College and INMAS (Delhi) from April 1<sup>st</sup> 2022 to April 2<sup>nd</sup> 2022. (Funding agency: DRDO, INMAS)

**Conference/Workshop Organized/ Coordinated:**

- Organizing secretary of one day national conference on 'Leadership and legacy: The visionary administration of Ahilyabai Holkar as a model for women's empowerment' organized by the Vivekanand study center, Zakir Husain Delhi college and funded by ICSSR, on 22<sup>nd</sup> January, 2025
- Advisory committee member of – International conference on Integrative Chemical Sciences for Health and Environment-2023 organized by Desh Bandhu college, DU in association with Augusta University (USA), Indian society of chemists and biologist, Indian Association of solid state chemists and allied scientists held on 6<sup>th</sup> to 8<sup>th</sup> Oct., 2023.
- Organizing member of 2 Days workshop on- Handmade paper making and paper products designing, held at Zakir Husain Delhi College from June 21<sup>st</sup> 2022 to June 22<sup>nd</sup> 2022.
- Organizing secretary of – International conference on advances in chemical sciences and polymer nanocomposites (ACSN 2022) organized by Zakir Husain Delhi College and INMAS (Delhi) from April 1<sup>st</sup> 2022 to April 2<sup>nd</sup> 2022. (Funding agency: DRDO, INMAS)

- Coordinator of – One-week, in-house workshop on- Laboratory skills training for laboratory staff, held at Zakir Husain Delhi College from December 6<sup>th</sup> 2021 to December 13<sup>th</sup> 2021.
- Coordinator of 4 months (40 Hours) online certificate course on – Research and Academic writing jointly organized by Aditi Mahavidyalaya and Udaan organization from July 24<sup>th</sup> 2021 to November 30<sup>th</sup> 2021.
- Organizing member of 2 Days workshop on- ‘Varakkari’ Handmade paper making and paper products designing, held at Zakir Husain Delhi College from 31<sup>st</sup> Jan-1<sup>st</sup> Feb 2020.

**Seminar/work shop/ professional development programs attended:**

- Two-week refresher course on- ‘Managing online classes and Co-creating MOOCS 24.0’ organized by Teaching learning Centre, Ramanujan college under the aegis of Ministry of education, Pandit Madan Mohan Malviya National Mission of Teachers and Training (PMMMNTT) from 11<sup>th</sup> March to 25<sup>th</sup> March, 2023.
- Four-week faculty induction/orientation programme for ‘Faculty in Universities/colleges/Institutes of higher education’ organized by Teaching learning Centre, Ramanujan college in collaboration with Army institute of education (AIE) affiliated to GGSIPU, Delhi, under the aegis of Ministry of education, Pandit Madan Mohan Malviya National Mission of Teachers and Training (PMMMNTT) from 23 April 2023 to 22<sup>nd</sup> May 2023.
- Two-week refresher course on- ‘Natural Sciences’ with A+ grade organized by Teaching learning Centre, Ramanujan college in collaboration with Rajdhani college (DU) , 20<sup>th</sup> Sept. to 4<sup>th</sup> Oct., 2021
- Emerging trends in Chemistry education and research by Wilson College & University of Mumbai in association with Chemistry teachers association on 25<sup>th</sup> and 26<sup>th</sup> June, 2020.
- Experimental and computational tools for material research (ECTMR) by Discipline of Natural Sciences, PDPM Indian Institute of Information Technology, Design & Manufacturing Jabalpur, and Department of Physics, Central University of Rajasthan, 1-8 June, 2020.
- Shift in paradigm-online education by Mahatma Hansraj faculty development centre (PMMMNTT)- ZHDC, 9<sup>th</sup> -16<sup>th</sup> June, 2020.
- One week faculty training programme on- ‘Pedagogical training on effective online teaching and learning organized by DDU College (DU) and KTHM college Nasik on 3<sup>rd</sup> to 10<sup>th</sup> Aug., 2020
- Two- day national level workshop on- Understanding OBS studio and stream yard for E-content creation and live streaming organized by Dr M G R Educational and research institute, Tamil Nadu, 10-11/7/2020.
- Workshop on Computational chemistry on HTPERCHEM software & its applications in molecular modelling and computational chemistry, Dyal singh college on 2<sup>nd</sup> Feb., 2019.

**Awards and Distinctions**

- Merit Certificate and Scholarship by MHRD for merit in class X.
- Qualified CSIR-National eligibility test for Junior research fellowship and Lecturer ship in 2001

**Association With Professional Bodies**

- Life member of Indian Science Congress
- Life member of Indian Society of Analytical Sciences

**Other Activities**

- Resource person during an online certificate course on Research and Academic writing jointly organized by Aditi Mahavidyalaya and Udaan organization from July 24<sup>th</sup> 2021 to November 30<sup>th</sup> 2021. Topic - ‘An Introduction to writing review articles’

- Resource person during a one-week, in-house workshop on- Laboratory skills training for laboratory staff, held at Zakir Husain Delhi College from December 6<sup>th</sup> 2021 to December 13<sup>th</sup> 2021. Topic- 'Organic reagents and their preparation'
- Organizing member of the National interschool mathematics and science model exhibition held at Geeta Bal Bharti school, Delhi on 14<sup>th</sup> October 2023 to 16<sup>th</sup> October 2023.
- Reviewed manuscripts for Synthetic communications.
- Paper setting and evaluation.
- Core member of College NAAC committee (2016)
- Coordinated and judged various events during college fest and chemistry society fest.
- Coordinator of Mentor- Mentee scheme, member of moderation committee, time table committee at Amity University (2005-2011)