Curriculum Vitae

Dr. Anoop Kumar Saini
(NET-JRF, DSKPDF Awardee)
Assistant Professor (Adhoc)
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More Information

www.researchgate.net/profile/Anoop_Saini

h -index = **13, i10-index = 15** and Total number of citations = **650** (Google Scholar)

Objective:

My intensive education background with B.Sc. (Honours) in Chemistry and M.Sc. (Organic Chemistry) along with prestigious publications in Ph.D. from IIT Indore has trained me with ins and outs of Chemistry, which will definitely help me in connecting with UG and PG students inside the classroom. In my work, I have collaborated with scientists across disciplines ranging from Engineering, Materials Science and Biosciences apart from Chemistry. I believe that my research credentials and strong interdisciplinary collaboration will be very useful for students to both grasp the fundamentals of the subject as well as understand the applications and the broad scope of the subjects that they are studying.

Education

2018 Ph.D. in Chemistry (**Thesis title: Facile Synthesis of Imine/Azine Based Organic Ligands: Sensing, Bio-Imaging and Solid-State Structural Reactivity)** from **Indian Institute of Technology Indore** (IIT Indore) India, under the supervision of Prof. Shaikh M. Mobin

2011 Master of Science (M.Sc.) in Organic Chemistry (First Class, 64.08%), B.S.A. College Mathura, Dr. Bhimrao Ambedkar University, Agra (U. P.)

2009 Bachelor of Science (B.Sc.) Honours (Chemistry), (First Class, 64.43%), Raj Rishi College Alwar, University of Rajasthan, Jaipur

2006 Senior Secondary School, 12th class (First Class with **Distinction in Chemistry and Biology,** 69.08%), Govt. Sr. Secondary School, Harsoli, Alwar, Rajasthan

2004 Secondary Education, 10th class (62.83%), Modern Sr. Secondary School, Harsoli, Alwar, Rajasthan

Research Career

2018-2021 Dr. D. S. Kothari Postdoctoral Fellow at Department of Chemistry, University of Delhi, New Delhi with Prof. Rajeev Gupta

2017- 2018 Institute Postdoctoral Fellow at Discipline of Chemistry, IIT Indore

2015-2017 Senior Research Fellow (SRF) at Discipline of Chemistry, IIT Indore

2013-2015 Junior Research Fellow (JRF) at Discipline of Chemistry, IIT Indore

Teaching Experience

Jan 2022- till date- Assistant professor(Adhoc), Department of **Polymer Science**, Bhaskaracharya College of Applied Sciences, University of Delhi, New Delhi

August 2021- Jan 2022 Guest Faculty, Department of Chemistry, University of Delhi, New Delhi

Feb 2021-June 2021 Taught M.Sc-Final year, 4101b course at Department of Chemistry, University of Delhi

Research Area

- ✓ Flexibility of crystals: Elastic or plastic and their application in crystal engineering.

- ✓ Metal-Organic frameworks and their luminescence properties.
- ✓ Metal Cations /Anion sensing by new organic ligands *via* Uv-vis, fluorescence and cyclic voltammetry methods.
- ✓ Single-Crystal- to- Single-Crystal Transformation in organic and inorganic crystals.
- ✓ Inorganic polymers.
- ✓ Synthesis of transition metal and lanthanide-based metal complexes.
- ✓ Crystallography, Solid-state structural chemistry, bio-imaging and molecular docking.

Achievements/Awards

2018 **'Received Best Research paper award 2018'** for the publication titled '*A new multitalented azine ligand: elastic bending, single -crystal- to- single- crystal transformation and a fluorescence turn-on Al(III) sensor'* from IIT Indore on 15th august 2018. **A. K. Saini**, K. Natarajan and S. M. Mobin, *Chem. Commun*., 2017, **53**, 9870–9873

2017 Editorial member in SF Journal of Material and Chemical Engineering.

2017 **'Received Best Research paper award 2017'** for the publication titled '*Multicolour fluorescent carbon nanoparticle probes for live cell imaging and dual palladium and mercury sensors*.' V. Sharma, **A. K. Saini** and S. M. Mobin, *J. Mater. Chem. B*, 2016, **4**, 2466–2476.

2012 Qualified CSIR-UGC test for Junior Research Fellowship (JRF) and Eligibility for Lectureship, secured **82nd** rank under UGC Fellowship Scheme.

Publication List

2023

1. H. Goyal, V. Kumar, **A. K. Saini**, G. Kedawat, B. K. Gupta and Rajeev Gupta, *Materials Today Chemistry.*, 2023, 27, 101306, A multifunctional Schiff base with aggregation-induced enhanced emission, gelation, and mechanochromic properties for anti-counterfeiting applications. **Impact Factor = 7.613**, DOI: 10.1016/j.mtchem.2022.101306

2020

2. N. Kaur, P. Tiwari, K. S. Kapoor, **A. K. Saini**, V. Sharma and S. M. Mobin, *CrystEngComm*., 2020, **22**, 7513–7527, Metal-Organic framework based antibiotic release and antimicrobial response: An overview (Invited Perspective from CrystEnggCommun Editor), **Impact Factor = 3.756**, DOI: 10.1039/D0CE01215G, ISSN: 1466-8033

2019

3. S. N. Ansari, **A. K. Saini**, P. Kumari and S. M. Mobin, *Inorg. Chem. Front.*, 2019, **6**, 736–745, An Imidazole derivative based chemodosimeter for Zn^{2+} and Cu^{2+} ions through "Off-On-Off" switching with intracellular Zn^{2+} detection.
   Impact Factor = 7.779, DOI: 10.1039/c8qi01127c, ISSN: 2052-1553
4. N. Kaur, V. Sharma, P. Tiwari, **A. K. Saini** and S. M. Mobin, *Sens. Actuator B-Chem.*, 2019, **291**, 275–286, Vigna radiate based green C-dots: Photo-triggered theranostics, fluorescent sensor for extracellular and intracellular iron (III) and multicolor live cell imaging probe. **Impact Factor = 9.221,** DOI: 10.1016/j.snb.2019.04.039, ISSN: 0925-4005
5. P. Kumari, S. Verma, K. Natarajan, S. Ansari, **A. K. Saini** and S. M. Mobin, *Cryst. Growth Des*. 2019, **19**, 5483−5490, "Design and synthesis of a new facile ligand in a dual role: Mechanically elastic crystal and selective mitochondria target.
   Impact Factor: 4.010, DOI: 10.1021/acs.cgd.9b00846, ISSN: 1528-7483
6. P. Kumari, S. Ansari, R. Kumar, **A. K. Saini,** and S. M. Mobin, *Chem. Biodiversity.*, 2019, **16**, e1900315, Design and construction of aroyl-hydrazone derivatives: Synthesis, crystal structure, molecular docking and their biological activities.
   Impact Factor = 2.745, DOI: 10.1002/cbdv.201900315, ISSN: 1612-1880

2018

7. **A. K. Saini**, M. Saraf, P. Kumari and S. M. Mobin, *New J. Chem.*, 2018, **42**, 3509−3518, *A highly selective and sensitive chemosensor for L−tryptophan by employing Schiff-based Cu(II) complex.*
   Impact Factor = 3.925, DOI: 10.1039/c7nj04595f, ISSN**:** 1144-0546
8. V. Sharma, N. Kaur, P. Tiwari, **A. K. Saini** and Shaikh M. Mobin, *Carbon.*, 2018, **139**, 393−403, Multifunctional fluorescent "Off-On-Off" nanosensor for Au^{3+} and S^{2-} employing N-S co-doped carbon–dots.

Impact Factor = 11.307, doi.org/10.1016/j.carbon.2018.07.004, ISSN: 0008-6223

9. A. Singh, S. Singh, **A. K. Saini**, S. M. Mobin and P. Mathur, *Appl. Organomet. Chem.*, **2018**, 32, e4574, Facile oxidation of alcohols to carboxylic acids in basic water medium by employing ruthenium picolinate cluster as an efficient catalyst.
Impact Factor = 4.072, DOI: 10.1002/aoc.4574, ISSN: 1099-0739

2017

10. **A. K. Saini**, K. Natarajan and S. M. Mobin, *Chem. Commun.*, 2017, **53**, 9870–9873, A new multitalented azine ligand: elastic bending, single -crystal- to- single- crystal transformation and a fluorescence turn-on Al(III) sensor.
Impact Factor = 6.065, DOI: 10.1039/c7cc04392a, ISSN: 1364-548X
11. M. Saraf, K. Natarajan, **A. K. Saini** and S. M. Mobin, *Dalton Trans.*, 2017, **46**, 15848−15858, Small biomolecules sensor based on an innovative MoS_2-rGO hetero structure modified electrode platform: a binder-free approach.
Impact Factor = 4.569, DOI: 10.1039/c7dt03888g, ISSN: 1477-9234

2016

12. **A. K. Saini**, V. Sharma P. Mathur and S. M. Mobin, *Sci. Rep.* 2016, **6**, 34807, The development of fluorescence turn-on probe for Al(III) sensing and live cell nucleus-nucleoli staining.
Impact Factor = 4.996, DOI: 10.1038/srep34807, ISSN: 2045-2322
13. **A. K. Saini**, M. Srivastava, V. Sharma, V. Mishra and S. M. Mobin, *Dalton Trans.*, 2016, **45**, 3927–3935, A highly selective, sensitive and reversible fluorescence chemosensor for Zn^{2+} and its cell viability.
Impact Factor = 4.569, DOI: 10.1039/c5dt04945h, ISSN: 1477-9234
14. **A. K. Saini**, P. Kumari,V. Sharma, P. Mathur and S. M. Mobin, *Dalton Trans.*, 2016, **45**, 19096–19108, Varying structural motifs in the salen based metal complexes of Co(II), Ni(II) and Cu(II): synthesis, crystal structures, molecular dynamics and biological activities.
Impact Factor = 4.569, DOI: 10.1039/c6dt03573f, ISSN:1477-9234
15. V. Sharma, **A. K. Saini** and S. M. Mobin, *J. Mater. Chem. B*, 2016, **4**, 2466–2476, Multicolour fluorescent carbon nanoparticle probes for live cell imaging and dual palladium and mercury sensors.

Impact Factor = 7.571, DOI: 10.1039/c6tb00238b, ISSN: 2050-7518

16. S. M. Mobin, **A. K. Saini**, V. Mishra and A. Chaudhary, *Polyhedron*, 2016, **110**, 131–141, A series of new heteroleptic Hg (II) complexes: Synthesis, crystal structures and photophysical properties.

    Impact Factor = 2.975, doi.org/10.1016/j.poly.2016.02.037, ISSN: 0277-5387

17. V. Mishra, A. Raghuvanshi, **A. K. Saini** and S. M. Mobin, *J. Organomet. Chem.*, 2016, **813**, 103–109, Anthracene derived dinuclear gold (I) diacetylide complexes: Synthesis, photophysical properties and supramolecular interactions.

    Impact Factor = 2.345, doi.org/10.1016/j.jorganchem.2016.04.013, ISSN: 0022-328X

2015

18. V. Kumar, S. Ghosh, **A. K. Saini**, S. M. Mobin and B. Mondal, *Dalton Trans.*, 2015, **44**, 19909–19917, Copper (ii) mediated phenol ring nitration by nitrogen dioxide.

    Impact Factor = 4.569, DOI: 10.1039/c5dt02318a, ISSN:1477-9234

Conferences/Poster Presentation/Courses

1 ***"Metal-Ligand Interplay in Advanced Coordination Chemistry"*** a Global Initiative on Academic Networks (GIAN) Course Organized by Discipline of Chemistry, Indian Institute of Technology Indore, an initiative from MHRD, New Delhi, from February 5−9, 2018

2 ***"Inorganic Chemistry of Imaging: Magnetic Resonance and Optical Imaging with Coordination Complexes"*** a Global Initiative on Academic Networks (GIAN) Course Organized by Discipline of Chemistry, Indian Institute of Technology Indore, an initiative from MHRD, New Delhi, from January 8−12, 2018

3 ***"Catalysis by Metal Complexes"*** a Global Initiative on Academic Networks (GIAN) Course Organized by Discipline of Chemistry, Indian Institute of Technology Indore, an initiative from MHRD, New Delhi, from November 21−26, 2016

4 ***"5th Symposium on Advanced Biological Inorganic Chemistry"*** organized by Tata Institute of Fundamental Research (TIFR) and Indian Association for the Cultivation of Science (IACS) Kolkata, January 07−11, 2017 (**Poster Presentation**).

5 ***"18th CRSI National Symposium in chemistry"*** organized by Institute of Nano science and Technology (INST) and Panjab University, Chandigarh on February 5−7, 2016 (**Poster Presentation**).

6 *"**Frontiers in Inorganic and Organometallics**"* organized by Discipline of Chemistry, Indian Institute of Technology-Indore, April 14−15, 2016 (**Poster Presentation**).

7 ***"17th CRSI National Symposium in chemistry"*** organized by National Chemical Laboratory Pune, IISER Pune and Pune University Pune, February 6−8, 2015 (**Poster Presentation**).

8 ***"Laboratory Health & Safety Workshop"*** one day workshop organized by the Royal Society of Chemistry (**RSC**) in partnership with the Chemical Research Society of India (**CRSI**) and **IIT Indore** on April 4, 2014.

9 ***"Scientific Writing"*** *a workshop* organized by Indian Institute of Technology Indore, under Continuing Education Program (CEP) from July 11−12, 2014.

10 **"*Frontier lecturer series in chemistry (FLSC-2014)"*** organized by Indian Institute of Technology Indore association with Jawaharlal Nehru Centre for Advanced Scientific Research (**JNCASR),** Bangalore, January 30−31, 2014.

11 ***"Introduction to Gaussian: Theory and Practice"*** organized by Delhi University from January 6−10, 2014.

12 "**Rigaku Oxford Diffraction SMX User Meeting**" organized by Rigaku Oxford Diffraction and supported by I. R. Technology Service PVC and Department of chemistry, IIT Bombay from October 18−19, 2016.

Professional Skills

- ✓ Experienced in mounting of single crystal & structure solving (Data collection, Data reduction) by using Shelx package up to publication level.
- ✓ Well versed with Microsoft Office (Word, Excel, and Power Point *etc*).
- ✓ Chem draw for schematic diagram.
- ✓ Origin for plots.
- ✓ Diamond, Mercury for packing features
- ✓ Scifinder, and CCDC database (for searching scientific information).
- ✓ Knowledge of Zotero (for research paper references)
- ✓ Gaussian09- For theoretical calculation

Instruments Explored

- ✓ Single crystal X-ray diffractometer
- ✓ NMR 400 MHz
- ✓ LCMS-HPLC
- ✓ GCMS
- ✓ UV-visible spectrometer
- ✓ Spectrofluorometer
- ✓ Fourier-transform infrared (FTIR) spectrometer.
- ✓ Microwave reactor
- ✓ Cyclic Voltammetry

Personal Information

Date of birth:	October 6, 1990
Sex:	Male
Marital status:	Married
Nationality:	Indian
Language Known:	English and Hindi

References

1. **Dr. Shaikh M. Mobin (Ph.D. Supervisor)**
   Professor
   Discipline of Chemistry,
   Indian Institute of Technology Indore
   Tel: 91-731-2438 752
   Email: xray@iiti.ac.in

2. **Dr. Rajeev Gupta (DSKPDF-Mentor)**
   Professor
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   University of Delhi, New Delhi
   Email: rgupta@chemistry.du.ac.in

Declaration: I hereby declare that the above information is correct to the best of my knowledge.

(Anoop Kumar Saini)