

April 2023



CURRICULUM – VITAE

Name	Dr. Amit Kumar Rawat
Language Known	Hindi, English
E-mail ID	amitrawat084@gmail.com
Residential Address	C-75, Inderpuri, Near I.A. R.I. Central Delhi Delhi 110012 India

OBJECTIVE AND AIM

To pursue a research career in heterocyclic Chemistry and to develop myself as a good chemist who has thorough and competitive knowledge about various aspects of chemistry, viz., synthetic organic chemistry including spectroscopy, computational, medicinal and drug chemistry and biological aspects related to drug discovery.

EDUCATIONAL QUALIFICATIONS:

Ph.D. Bioorganic Chemistry (2013) : Awarded Thesis entitled, “Synthesis, covalent and non-covalent interactions of selected Porphyrinoids and related compounds” From University of Delhi, Delhi India Under the supervision Prof. S.M.S. Chauhan

M.Phil. (2007-2008) : Awarded dissertation entitled “Biomimetic synthesis of selected natural and bioactive Pyrroles” 2008, From University of Delhi, Delhi- India

M. Sc. Chemistry (2004-2006) : C.C.S. University Meerut, Meerut, India

B. Sc. Chemistry (2001-2004) : N. R. E. C. College Khurja, U.P India

CLASS - XII (2000-2001) : J.A.S Inter College Khurja, U.P. India

CLASS - X (1998-1999) : P.I.C Jahangirpur, Bulandshahar U.P. India

SPECIAL ACHIEVEMENT

: GATE qualified (2007)

CURRENT STATUS

: **Assistant Professor**, Department of Chemistry, Hans

Raj College, University of Delhi, Since 15th Dec. 2014 to till date.

: Ad-hoc in Dyal Singh College from 13-08-2013 to 27-08-2013.

: Ad-hoc in Ramjas College from 27-08-2013 to 24-12-2013.

: Ad-hoc in Shivaji College from 21-07-2014 to 15-12-2014.

TEACHING EXPERIENCE

: **9** Years

RESEARCH EXPERIENCE:

- Actively involved in the synthesis of various kinds of target heterocyclic compounds such as *Dipyrromethane*, *Calix[4]pyrroles*, *Calix[2]thieno[2]pyrroles*, *Calixarene*, *Oxoporphyrinogens*, *Porphyrins* and *Cor-modified porphyrins* etc., and their non-covalent interactions with anions and different hydrocarbons. Few of them were found to exhibit anion binding activity and rest of them shows cation binding activity. Moreover, actively involved in the synthesis of *Oxoporphyrinogen* and their use in the detection of water from hydrated THF and ionic liquids at ppm level, and also worked as the project leader in one project and trained one M.Sc. and one M. Tech. students.

SKILLS ACQUIRED:

1. Efficient handling of hygroscopic, air sensitive, cryogenic reactions, multistep reaction, etc.
2. In depth knowledge of organic chemistry with extensive experience in multistep organic synthesis and chromatographic purification techniques.
3. Characterization of compounds using spectroscopic methods like 1D & 2D NMR, IR, UV/Visible and mass spectrometric technique.
4. Thorough knowledge in the fields of Heterocyclic Chemistry, hetero and homo catalytic Synthesis and supramolecular Chemistry.
5. Worked efficiently on small as well as large scale synthetic protocols.
6. Ability to work independently and ability to interact with multidisciplinary team and self-motivated, innovative, strategically minded, result oriented and well organized problem solver with good interpersonal skills.

PUBLICATIONS:

1. **Amit Kumar Rawat**, and S.M.S. Chauhan “A novel and efficient green methodology for the synthesis of meso-substituted” dipyrromethanes *Der. Pharma Chemica* **2014**, 6 (1):316-322, ISSN 0975-413X,

2. **Amit Kumar Rawat**, Soumee Bhattacharya and S.M.S. Chauhan “Highly efficient synthesis of 21-thia-5,10,15,20-tetraarylporphyrins and 21,23-dithia-5,10,15,20-tetraarylporphyrins in presence of acidic ionic liquids catalyst” *Tetrahedron Letters* **2014**, 55, 4537-4540.
3. **Amit Kumar Rawat** and S.M.S. Chauhan “Efficient ZnCl₂ assisted synthesis of calix[4]pyrroles catalyzed by Bronsted acidic ionic liquids” *Tetrahedron Letters* **2014**, 55, 6969-6971.
4. Amit Kumar Rawat and S.M.S. Chauhan “A novel protocol for the synthesis calix [4] pyrroles and *N*-confused calix [4] pyrroles” *International Journal of Applied and Natural Sciences* **2014**,3, 15-20.
5. **Amit Kumar Rawat** and S.M.S. Chauhan “Efficient green methodology reported for the biginelli reaction” *Heterocyclic Letters* **2015**, 5, 667-671.
6. Ritika nagpal, Smrirti Arora, **Amit Kumar Rawat**, Prija ponnann and S.M.S. Chauhan “Solvatochromism, anion binding and electrochemistry in 5,15-porphodimethenes” *Dyes and Pigments* **2017**, 142, 262-271.
7. Manoj Kumar, **Amit Kumar Rawat**, Mallika Kumar and Mohammad Mujahid Ali Khan “Utilization of Delhi’s garden waste for environmental remediation” *Journal of Applied Physics* **2018**, 9, 49-53.
8. **Amit Kumar Rawat** “Highly efficient synthesis of aryldipyrromethanes in presence of brønsted acidic ionic liquids” *Heterocyclic Letters* **2018**, 8, 43-47.
9. Manoj Kumar, **Amit Kumar Rawat**, Anand Sonkar, Amar Kumar, Anusha Azhar, Mallika Kumar and Mohammad Mujahid Ali Khan “ Pellet biochar:an environmental remedy” Green chemistry in environmental sustainability and chemical education proceeding of ICGC 2016, New Delhi 73-79.
10. Surender, Rakesh Kumar Chandra Mohan **Amit Kumar Rawat** and, "A Comprehensive review on methods of preparation for Nanoparticles" *Eur. Chem. Bull.* **2023**, 12,4, 216-232.
11. Anil Kumar **Amit Kumar Rawat**, Lata Vodwal, Kaml Kant Tiwari and Chandra Mohan, "Zn-Cr-LDH- Based Nano-hybrids assembling at the presence of anions to sense gas" *Eur. Chem. Bull.* **2023**, 12,4, 233-243.

Book & Book Chapter (along with title of the book, publisher, ISBN No and year of publication)

Dr. Chandra Mohan, Mr. Kaushal Kumar, **Dr. Amit Kumar Rawat** and Dr. Prem Lata Meena. Greener Approach Environment: Pollution and protection 2022, Scientific International Publishing House, Tamilnadu, India ISBN: 978-93-5625-645-3.

Book Chapter: Priyanka Kumari Panchla, Kamal, Singh, Nishi Sharma, Amit Kumar Rawat and KP. Kochhar, *In-Vitro* anticancer and antimicrobial effect of Barleria Prionitis leaves ethanol extract: "Challenges and advances in pharmaceutical Research". BP International: Current overview on pharmaceutical science Vol. 2, 2022, 116-125. ISBN-978-81-961090-5-9. DOI [10.9734/bpi/cops/v2/4114E](https://doi.org/10.9734/bpi/cops/v2/4114E)

ACADEMIC ACTIVITIES:

1. **Principal Investigator** - Dr. Amit Kumar Rawat,
2. **Project Title** “**Utilization of Delhi’s Garden Waste For Renewable And Sustainable Energy Production**”,
3. **Project Code**- DU Innovation Project 2015-16: HRC-306
4. **Funding Agency**- University of Delhi,
5. **Grant**-500,000, **Period**-One Year
 - **Acted as organizing committee member** in National Seminar on “**Role of Analytical Sciences in Sustainable Development**” organized by Department of Chemistry, Hans Raj College, University of Delhi, held on March 4-5, **2016**.
 - **Acted as Executive organizing committee member** in Indo-Portuguese Workshop “**Emerging Trends of Nanotechnology in Chemistry and Biology**” organized by Department of Chemistry, Hans Raj College, University of Delhi, held on February 12-13, **2016**.
 - **Acted as organizing committee member** in 1st international conference on “**Interactive Chemistry, Biology and translational Medicine**” (**ICBTM-2019**) organized by center for global health, Hans Raj College, University of Delhi, and Loyola University Chicago Stritch school of medicine, USA. held on February 25-26, **2019**.
 - **Acted as organizing committee member** in National seminar on **Environment And Sustainability In The Third World** organized by Department of Chemistry & IQAC Hansraj College University of Delhi, held on February 28, **2020**.
 - **Acted as organizing committee member** in National conference on **New Frontiers in Biosensing** organized by Department of Chemistry Hansraj College University of Delhi, held on April 3, **2021**.
 - **Acted as Resource person in** Laboratory Skills, Chemical Hazards and Safety Measurements organized by Department of Chemistry & IQAC Hansraj College University of Delhi, held on August 25-27, **2021**.
 - **Acted as organizing committee member** in International Conference on Emerging Trends in Chemical and Applied Sciences for Sustainable Future organized by Department of Chemistry & IQAC Hansraj College University of Delhi, held on October 30, **2021**.
 - **Acted as convener** in an online talk on provisions for Sc/St rights in the constitution of India organized by SC/St cell, Hansraj College University of Delhi on 26 November **2021**.
 - **Served as convener** in one week (online) international faculty development programme on Modern scientific technologies- Way to enhance research skills. organized by Mahatma Hansraj Faculty Development centre Hansraj college, University of Delhi in collaboration with K.R. Mangalam University Gurugram and Motilal Nehru college, University of Delhi. on 26 December to 31 December 2022
 - Resource person in the INSPIRE internship program (DST) organized by Hansraj College University of Delhi from 12- 16 December 2017

- Spic Macay committee(Member) 2015-2016, Hansraj college University of Delhi.
- Sc/St committee(Member) 2016-2017, Hansraj college University of Delhi.
- Grievance committee (Member) 2016-2017, Hansraj college University of Delhi.
- Life science Society (Co-Convener) 2016-2017, Hansraj college University of Delhi.
- Two times Canteen committee(Member) 2017-2018 and 2021-2022 Hansraj college University of Delhi.
- Five times convener of Sc/St committee session 2017-2018, 2019-2020 and 2020-2021, 2021-2022, 2022-2023 Hansraj college University of Delhi.
- Equal opportunity cell (Member) 2020-2021, Hansraj college University of Delhi.
- Garden committee(Member) 2021-2022 Hansraj college University of Delhi.
- Deputy superintendent of theory examination November-December 2016 evening session, Hansraj College University of Delhi.
- Member of apparatus store committee session 2016-2017 Department of Chemistry Hansraj college University of Delhi.
- Member of apparatus store and library committee session 2017-2018 Department of Chemistry Hansraj college University of Delhi.
- three times Member of Apparatus and Chemical store committee session 2018-2019, 2020-2021 and 2021-2022 Department of Chemistry Hansraj college University of Delhi.
- Two times Convener of Chemical store committee session 2019-2020 and 2020-2021 Department of Chemistry Hansraj college University of Delhi.

INVITED TALK/ LECTURES

- **Delivered a invited talk** in two days workshop on Analytical tools & techniques organized by Department of Chemistry, Sanatan Dharm College Muzaffarnagar Uttar Pradesh on 19 October 2022.

FACULTY DEVELOPMENT PROGRAMME:

- Completed one week faculty development programme on from chemistry of life to chemistry of diseases. Understanding clinical Biochemistry organized by department of chemistry Daulat Ram College university of Delhi from 15th June to 22nd June 2017.
- Completed faculty development programme on Digital Literacy: An introduction to ICT skills Organized by department of Physics and electronics Hans raj College university of Delhi from September 15-17, 2017.
- Completed one month faculty induction programme organized by Guru Angad Dev teaching learning centre at Sri Guru Tegh Bahadur Khalsa College University of Delhi from 7th May to 2nd June, 2018.
- Completed faculty development programme on Sustainable development Organized by Atma Ram Sanatan Dharma College under star college scheme from 15th October to 22nd October, 2018.
- Online Refresher Course in Chemistry for higher education Faculty with “A” Grade conducted by SWAYAM ARPIT Online course certification offered by Sri Guru Tegh

Bahadur Khalsa College, Delhi for 16 week started from 4.11.18 and the examination held on 30.3.2019

- 16 Week ARPIT (Online Refresher Course in Chemistry for Higher Education-2019), from 01.09.2019 to 31.12.2019 (Exam held on 16.02.2020) organized by Swayam/SGTB Khalsa College, University of Delhi, Delhi.
- Completed two weeks' Faculty Development Program with "A" Grade on "ICT Based New Paradigms of E-Teaching and E-Learning : Digital Pedagogy" Organized by Department of Computer Science, Mata Sundri College for Women University of Delhi In Collaboration with Pandit Madan Mohan Malviya National Mission on Teachers and Teaching Teaching Learning Centre, Ramanujan College Under the aegis of Ministry of Human Resource Development from 15th September to 30th September, 2020.
- Completed two weeks' Faculty Development Program with "A⁺⁺" Grade on "**Research Methodology**" Organized by Teaching Learning Centre, Ramanujan College University of Delhi Under the aegis of Ministry of Human Resource Development Pandit Madan Mohan Malviya National Mission on Teachers and Teaching from 1st October to 15th October, 2020.
- Completed one week Faculty Development Program with A Grade on "**Teacher, Teaching and Teacher Education: Processes, concerns and prospects**" organised by Department of Elementary Education and Internal Quality Assurance Cell (IQAC) of Mata Sundri College for Women, University of Delhi in collaboration with Teaching Learning Centre for Social Science, Dr. Harisingh Gour, Vishwavidyalaya, Sagar, Madhya Pradesh Under the aegis of Ministry of Human Resource Development from 18th October to 23rd October 2020, 2020.

MEMBERSHIP/FELLOWSHIP OF LEARNED BODIES/SOCIETIES

- Life time membership of Indian Society of Analytical Scientists Delhi chapter (ISAS, LMT-2016/06)
- Life Member of "Advancing Green Chemistry" Green Chemistry Network Centre (GCNC), 0637/17/270, University of Delhi, India, supported by American Chemical Society' Chem RAWN XIV-GCI DEN

PRESENTATION AND SYMPOSIUM ATTENDED:

- Participated national seminar on green chemistry and natural products organized by Department of Chemistry University of Delhi 26-27 November 2007
- **Rawat, A. K.** and Chauhan, S. M. S. **An attempt towards the synthesis of porphobilinogen starting from ketene-diacetals.** ISCBC-2009, 13th ISBC International conference on interplay of chemical and biological sciences impact on health and environment organized by Department of Chemistry University of Delhi, New Delhi 26th February-1st March 2009.
- **Rawat, A. K.** Bhaskar Garg, Tanuja Bisht, and Shive Murat Singh Chauhan **Ionic interactions of anionic thiocalix[4]arene with cationic porphyrins** T3D 2010 international symposium on trends in drug discovery and development organized by Department of Chemistry University of Delhi, New Delhi, Delhi-110007 5th -8th January 2010.
- Mishra, S., **Rawat, A. K.** and Chauhan, S. M. S. **Supramolecular interactions of porphyrin-carbon nanostructures.** National conference on Recent advances in pure and

applied chemistry, organized by Dr B.R. Ambedkar Centre for Biomedical research, University of Delhi, Delhi-110007, 28th -29th December, 2010.

- Participated 7th Indo-Italian Workshop on chemistry and biology of antioxidants organized by Department of Chemistry University of Delhi 16th November 2010.
- Mishra, S., **Rawat, A. K.**, Sharma, V., Debsmita and Chauhan, S. M. S. **Covalent conjugates of porphyrincarbon nanostructures**. 4th Indo-Italian Seminar on Green Chemistry and Natural Products, organized by Department of Chemistry University of Delhi, 17th November, 2010.
- **Amit Kumar Rawat**, Soumee Bhattacharya and S.M.S. Chauhan, **Interaction of toxic metals with calix[2]thieno[2]pyrroles and related macrocycles** 3rd International Conference on Heterocyclic Chemistry organized by Department of Chemistry University of Rajasthan Jaipur- 302004, 11-13 December 2011.
- Participated Indo-German Workshop on advanced materials for future energy requirements (WAMFES 2012) organized by Department of Physics and Astrophysics University of Delhi 29th November-1st Dec. 2012.
- **Amit Kumar Rawat**, Soumee Bhattacharya and S.M.S. Chauhan “Efficient synthesis of 21-thia-5,10,15,20-tetraarylporphyrins from 5-aryldipyromethanes, tripyromethane and 2,5-bis-(arylhydroxymethyl)thiophenes using Brønsted acidic ionic liquids as catalysts.” Conference on Emerging Trends in Development of Drugs and Devices, jointly organized by Department of Chemistry University of Delhi, and three national science academies of india, during January 21st -23rd, 2013.
- Participated national workshop on technical terminology used in higher education organized by commission for scientific and technical terminology at Department of Chemistry, Hansraj College, University of Delhi 23-24 July 2015.
- Poster Presented in International Conference on Materials Research and Technology (ICMRT-2017), India, held on July 10-11,2017. (Poster presented and abstract published)
- Participated International Workshop on Green Chemistry: “Indo-UK Scoping Workshop On Development of Rural Biorefineries in India From Waste to Wealth”, University Of Delhi, India, held on February 20,2017
- Poster Presented in International Conference on : “Green chemistry in Environmental Sustainability & Chemical Education (ICGC-2016) organized by Department of Chemistry, Daulat Ram College, University Of Delhi, India, held on November 17-18, 2016 (Poster presented and abstract published)
- Participated International Workshop on chemistry: “RSC Workshop on Green Chemistry and Water Treatment”, University Of Delhi, India, held on 17 October 2016.
- Participated national workshop on technical Ubharti Harit Prodhyogiki and Takniki Shabdawali organized by commission for scientific and technical terminology at Ramjas College, University of Delhi 13-14 February 2019.

PERSONAL DETAILS:

- Father's name- **Sh. Narayan Singh Rawat**
- Languages Known – **Hindi, English**

I hereby declare that the above information is true to the best of my knowledge.

Date-April 2023

Place- Delhi

Dr. Amit Kumar Rawat
Signature of Faculty member