

Central University of Rajasthan
School of Chemical Sciences and Pharmacy
DEPARTMENT OF CHEMISTRY

Programs offered:

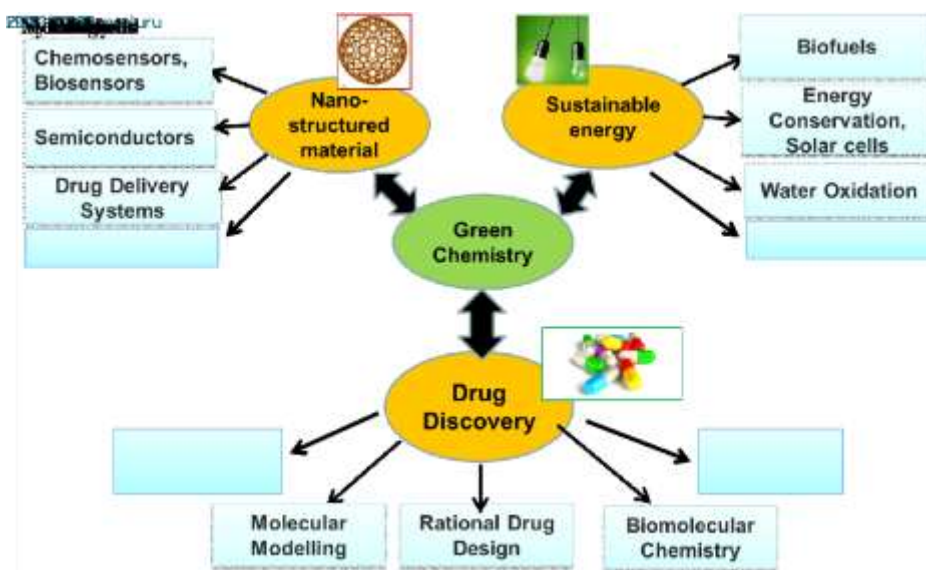
- Integrated M.Sc. Chemistry (5-Year)
- Integrated M. Sc. & B. Ed. Chemistry (3-Year)
- M. Sc. Chemistry (2-Year)
- Ph.D. in all branches of Chemistry

About the Department:

The Department of Chemistry has been committed to research and teaching since its inception in 2010. It has been located in Academic Block-4A4 since May 23, 2015. Department has Research Lab (07), Computer Lab (01), Instrumentation Halls (02), PG Practical Lab (02), Teaching Classrooms (02), Girls Common Room (01), Eighty-seater Seminar Hall (01) and Conference Hall (01). The department started master's in science (Chemistry) 2-year programme in 2010 and immersed it with full time Ph. D. programme in 2012, Integrated M. Sc. (Chemistry) 5-year programme in 2013 and Integrated M. Sc.-B. Ed. (Chemistry as Major) 3-year programme in 2015. Each programme follows a choice-based credit system (CBCS) along with core courses and student evaluation composed of continuous assessment through semester examination. Ph.D. programme in Chemistry aim to train the students with basic and cutting-edge research protocols. We have crossed traditional vertical boundaries of scientific disciplines in past 10-years of journey and emerged with drug designing, organometallic chemistry, bioorganic & bio-inorganic chemistry, materials chemistry, theoretical chemistry in line with gaining more strength towards asymmetric synthesis, heterocyclic/macrocyclic chemistry and organic spectroscopy. Presently, our research programme focuses on:

- Organic and Heterocyclic Synthesis
- Drug Design and synthesis of biologically active molecules
- Synthetic Methodologies, Asymmetric Synthesis and Natural Product Synthesis
- Organometallic Chemistry and Homogeneous Catalysis
- Molecular Rotors for Site-selective Organic Synthesis
- Multifold Ring Closing Alkene Metathesis Reactions
- Coordination & Bio-Inorganic Chemistry and Imaging Agent in Biology
- Solar Energy Harvesting and Water Oxidation
- Functional molecular materials: fabrication, properties, and applications
- Nanowires, Superhydrophobic Surfaces and optoelectronic
- Nano-Materials, Thin films, Fibers and Catalysis

- Computational chemistry
- Theoretical investigation of light matter interactions
- Quantum non-adiabatic dynamics in molecules



☐ The department is funded by DST-FIST and faculty received research grants from various funding agencies such as CSIR, DST, UGC, etc.

Instrument facilities:

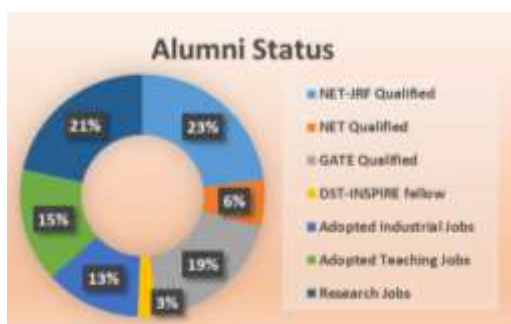
- NMR 500 MHz
- HPLC
- GC-MS/MS
- Microwave Synthesizer
- Electrochemical Workstation
- UV-Vis Spectrophotometer
- FTIR Spectrophotometer
- Surface Area Analyser
- Glove Box
- Guoy Balance
- Polarimeter
- Ocean optics UV-Vis Spectrophotometer
- Elemental Analyzer
- Computer Lab

Recent Student Achievements:

- Dr. Ramdas Pathare, a former doctoral student, got a Postdoctoral position at University of Idaho, USA.
- Ms. Chandani Soni, Mr. Manoj Pradhan, and Mr. Manish Chauhan from 2018-2020 batch qualified NET (JRF)-2020.
- Ms. Surabhi Bhatt, research scholar, won the Best Oral Presentation Award in "Recent Trends in Chemistry and Environment" (RTCE-2021) organized by the Department of

Chemistry, M.S.J. Govt. P.G. College, Bharatpur, Rajasthan, India to be held during 5 - 6 March, 2021.

- Mr. Tarunesh Gaur, an Int. M. Sc.(5y) student qualified JAM-2020, and secured a position in IIT Delhi.
- Ms. Muskan Agarwal, an Int. M. Sc.(5y) student secured a M.Sc. position in MNIT Jaipur.
- Mr. Mahendra Jangid got Scientific Assistant position in Department of Atomic Energy.
- Mr. Ajit Kumar Jha, research scholar, won the Best Poster Prize in the JNSTO symposium held in Oct 2019 at the University of Delhi.
- Ms. Monika Rana, research scholar, was selected for CSIR-SRF (direct).
- Ms. Surbhi Jain, research scholar, was awarded first prize in Rapid Presentation at University level on National Science Day-2020 at Central University of Rajasthan.
- Dr. Meeta Bhati, Dr. Kanika Jain, Dr. Abhishek Pareek and Dr. Ramdas Pathare, former Ph.D. students, are currently working at IIT Bombay as Post-Doctoral Fellows.
- Dr. Disha Soni, former Ph.D. student, received the DST-Women Scientist C Program (KIRAN-IPR).
- Ms. Kritika Dogra is serving as a Faculty at Mayo college, Ajmer.
- Mr. Manoj Kumar Meghwal got selected as Scientist B at ONGC.
- Mr. Manoj Kumar got selected as Technical Assistant, Indian Institute of Petroleum.
- Mr. Hansraj Gurjar got selected as TGT at Kolkata.
- Ms. Ambika Meena got selected as PGT, Kolkata.
- Mr. Rupendra Malhoka got selected as PGT, Kolkata.
- Mr. Kamoljot Singh got selected as Accountant, Indian Army.



Other Activities:

Chemistry Club – “**CHEMUNITY - where bonds are made....**”



Where bonds are made..!

Chemistry Club – Name & Logo

Research Projects –

Sr. No.	Name of Faculty	Project Title	Funding Agency	Duration
1.	Prof. R. T. Pardasani	A divergent synthesis of benzazoles via direct C-H activation and their cytotoxic activity: A way to cancer research	SERB	2017-2020
2.	Dr. Easwar Srinivasan	Design of Novel Bifunctional Amine-Urea/Thiourea Catalysts for Asymmetric C-C Bond Forming Applications	CSIR	2017-2020
3.	Dr. Easwar Srinivasan	Studies on the organocatalytic enantioselective construction of tetrahydroxanthenones	SERB	2018-2021
4.	Dr. M. Bhanuchandra	Development of sustainable reactions and methods using dibenzothiophene 5,5-dioxide: synthesis of pi-conjugated systems	SERB	2017-2020
5.	Dr. M. Bhanuchandra	Transition Metal-Catalyzed C-H Nitrogenation and Oxygenation of Arenes using Sulfoxides as Functionalizable Directing Groups	SERB	2018-2021
6.	Dr. Anuj Sharma	Design and Synthesis of Selected Transition Metal (Fe, Ru, Rh, Ir) complexes/Arene Complexes and Investigating their Anticancer Potential	UGC	2018-2020
7.	Dr. Thirumoorthi R.	Synthesis, Structure and Magnetic Properties of Polymetallic Cages	UGC	2018-2020
8.	Dr. Thirumoorthi R.	Half Sandwich Organotellurium Oxides/Hydroxides: An Alternative Reagent in Organic Synthesis	CSIR	2019-2022

9.	Dr. Partha Roy	Development of the Various One-dimensional TiO ₂ nanostructures	UGC	2018-2020
10.	Dr. Partha Roy	Probing the Charge Transfer Mechanism in Exciplex System using lifetime Measurement	SERB	2019-2022
11.	Dr. Partha Roy	Engineering of Resilient Superhydrophobic Coating using TiO ₂ Nanostructured in combination with Ultrathin Conformal Layer of Organic Molecules	SERB	2019-2022
12.	Dr. Ritesh Singh	C-H bond Functionalization to Access Bio-active Scaffolds	DST	2015-2021
14	Dr. Ritesh Singh	Synthetic Exploration of Aza-oxyallyl cation for Rapid Access to Bio-relevant Fluorinated Scaffolds and their Biological Evaluation	DST	2020-2023
15	Dr. Ritesh Singh	Bio-catalytic (Hetero) aromatic C-H Amination	DST	2021-2023
16.	Dr. Hemant Joshi	Synthesis of Metal Complexes of Mechanically Interlocked Molecules and their Applications	DST	2018-2023

Details of Faculties in the Department



Dr. Anuj K. Sharma

Designation: Assistant Professor

Education: Ph.D.: IIT Kanpur; Post-doc: Washington University, St. Louis, USA

Research Areas: Bio-inorganic Chemistry, Inorganic Medicine, Coordination Chemistry

Email: anuj.sharma@curaj.ac.in



Dr. Chandrakanta Dash

Designation: Assistant Professor (UGC-FRP)

Education: Ph.D.: IIT Bombay; Post-doc: University of Texas at Arlington, Texas & Nanyang Technological University (NTU), Singapore

Research Areas: Transition Metal Catalyzed Organic Transformations, Small Molecule Activation, Green Synthesis and Catalysis

Email: ckdash@curaj.ac.in



Dr. Easwar Srinivasan

Designation: Associate Professor and Head

Education: Ph.D.: National Chemical Laboratory (NCL) Pune; Post-doc: University of Bologna, Italy

Research Areas: Asymmetric Synthesis, Organocatalysis, methodologies based on the Baylis-Hillman reaction

Email: easwar.srinivasan@curaj.ac.in



Dr. Hemant Joshi

Designation: Assistant Professor

Education: Ph.D.: IIT Delhi; Post-doc: Texas A&M University, USA

Research Areas: Molecular rotors and molecular machines, Metal mediated small molecule activation, Multifold ring closing alkene metathesis

Coordination chemistry of platinum group metal complexes

Email: hemant.joshi@curaj.ac.in



Dr. M. Bhanuchandra

Designation: Assistant Professor

Education: Ph.D.: University of Hyderabad; Post-doc: Kyoto University, Japan

Research Areas: Transition-Metal Catalyzed Organic Transformations, Synthesis of Organic Materials, Organosulfur Chemistry

Email: mallibhanuchandra@curaj.ac.in



Dr. Partha Roy

Designation: Assistant Professor

Education: Ph.D.: Indian Association for the Cultivation of Science (IACS), Kolkata; Post-doc: Weizmann Institute of Science, Israel & University of Alberta, Alberta, Canada

Research Areas: Growing TiO₂ Nanotubes and Nanowires Array, Superhydrophobic Surfaces, Characterizing Optoelectronic Properties of the Nano Scale Materials

Email: partharoy@curaj.ac.in



Prof. R. T. Pardasani

Designation: Professor (Ret.)

Education: Ph.D.: The University of Manchester, U.K.; Post-doc: University of Wales, Swansea, U.K.

Research Areas: Organic Heterocyclic and Computational Chemistry

Email: rtpardasani@curaj.ac.in



Dr. Ritesh Singh

Designation: Assistant Professor

Education: Ph.D.: CSIR-CDRI, Lucknow; Post-doc: University of Rochester, USA; UNIST, Korea; KPUM Japan (JSPS Fellow)

Research Areas: Sustainable Synthetic Methodology Development, C-H Bond Functionalization, Biocatalysis

Email: ritesh.singh@curaj.ac.in



Dr. Rajagopala Reddy Seelam

Designation: Assistant Professor

Education: Ph.D.: University of Hyderabad; Post-doc: Freidrich Alexander Universität Erlangen-Nürnberg, Germany & University of Namur, Belgium & Albert Ludwig Universität Freiburg, Germany

Research Areas: Theoretical Chemistry, Non-adiabatic molecular dynamics, Molecular Spectroscopy, Computational chemistry

Email: rajagopala.seelam@curaj.ac.in



Dr. Thirumoorthi R.

Designation: Assistant Professor

Education: Ph.D.: IIT Kanpur; Post-doc: University of Massachusetts, Amherst, USA. & University of Calgary, Canada

Research Areas: Main Group Chemistry, Organometallic Chemistry

Email: thirumoorthi@curaj.ac.in

Details of Publications in the Department (Last Five Years)

Year	Number of Publications
2016	20
2017	17
2018	14
2019	13
2020	19

For further details, visit:

<https://curaj.ac.in/departments/department-chemistry>