

# राष्ट्रीय प्रौद्योगिकी संस्थान रायपुर

## NATIONAL INSTITUTE OF TECHNOLOGY RAIPUR

(An Institute of National Importance)

Under Ministry of Education, Government of India

### DEPARTMENT OF CHEMISTRY

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#### Profile

#### **ABOUT THE NATIONAL INSTITUTE OF TECHNOLOGY RAIPUR**

National Institute of Technology Raipur (NIT Raipur) is situated in the capital of Chhattisgarh and has proven to be “avant-grade” in the field of science, engineering and technology over past few decades in this region. With sweet memory of foundation by our first President, Honorable Dr. Rajendra Prasad on 14th September 1956, the institute started with two departments namely Metallurgical and Mining Engineering. Later the inauguration of the Institute building was done by our first Prime Minister, Honorable Pt. Jawahar Lal Nehru on 14th March 1963. From 1<sup>st</sup> December 2005, the institute has become the National Institute of Technology Raipur. It is well connected with Mumbai, Delhi and all metro cities by regular flights and is on the main Howrah-Mumbai railway route. The institute is 5 km from the Raipur railway station and 18 km from the airport on NH-6, the Great Eastern Road. The institute is dedicated to the development of technical education and producing skilled graduates, postgraduates and doctorates in the field of science, engineering and technology. The institute is developing step-by-step under the eminent guidance of Prof. (Dr.) N. V. Ramana Rao, Director, NIT Raipur.

#### **DEPARTMENT OF CHEMISTRY**

Department of Chemistry came in existence since 1956. The department provides an outstanding academic and research environment and offers program leading to the award of M. Sc. In Chemistry and Ph.D. Degree. Apart from this, the department is taking care of all B.Tech. branches for basic fundamentals of Applied Chemistry, Environment & Ecology, Theory and Practical Courses. In addition to its academic programs, the department also carry research and development work in form of projects and started testing, and consultancy services to solve real-time issues. Every year the faculty members publish 20-30 research papers in different SCI / Scopus indexed Journals. Till date, the department has successfully completed 15 research projects of cost Rs. 2.425 Crore and 03 are ongoing.

#### **DEPARTMENT RESOURCES**

The Department of Chemistry has state-of-the-art laboratory facilities specializing in Applied Chemistry, Environment & Ecology, Physical Chemistry, Inorganic Chemistry, Organic Chemistry, Analytical Chemistry, Environmental Chemistry, Polymer Technology, Crystal Engineering, and Nanoscience and Nanotechnology. These laboratories are furnished with advanced equipments including UV-Visible Spectrophotometer, Fluorescence Spectrophotometer, Atomic Absorption Spectrophotometer, Rheometer, Potentiostat & Galvanostat, Microwave Synthesizer, LCR Meter, Hydrothermal Oven, Hot-Air Oven, Muffle Furnace, Bomb Calorimeter, pH Meter, Turbidity Meter, Conductivity Meter, Flame Photo Meter, DO Meter, Millipore Water Purification Unit, Fractional Distillation Unit and many more required for research purposes. The department also provides classroom with projector and library (online & Offline) facility to M. Sc. and Ph.D. students. Our M. Sc. and Ph. D. students carry out their project and interdisciplinary research work in our laboratory, and publish papers in high quality journals and conference proceedings.

## STRENGTH OF THE DEPARTMENT

The department's proficient faculty members are promised to educate undergraduates, post-graduates, and doctoral students, and also working on a diverse range of interdisciplinary research in the broad field of Chemistry to produce good numbers of publications in well refereed journals, book chapters, and conference proceedings. Till date, 38 Ph.D. degrees have been awarded and 29 students are working in doctoral program in Department of Chemistry, NIT Raipur. The key research areas and the publication achievements are highly acknowledged below for reference.

Faculty Details			
S.No.	Name of the Faculty	Key Research Areas	Research Link
1.	<b>Dr. (Mrs.) Kavita Tapadia, Associate Professor</b>	Environmental & Analytical Chemistry, Nanoparticles, Green Chemistry, Pharmacokinetic, Study of Drug and Drug Analysis, Microextraction techniques	<a href="https://scholar.google.com/citations?user=oFNbldeAAAAJ&amp;hl=en">https://scholar.google.com/citations?user=oFNbldeAAAAJ&amp;hl=en</a>
2.	<b>Dr. Shyama Prasad Mahapatra, Associate Professor</b>	Synthesis and Characterizations of Nanomaterials, Polymer Composite, Microcellular Composite & Nanocomposite and Environmental Chemistry	<a href="https://scholar.google.co.in/citations?user=DF9KmwUAAAAJ&amp;hl=en">https://scholar.google.co.in/citations?user=DF9KmwUAAAAJ&amp;hl=en</a>
3.	<b>Dr. (Mrs.) Tungabidya Maharana, Associate Professor &amp; Head</b>	Conducting Polymer Composites for Supercapacitor Application; Organic-Inorganic hybrids; Polymer synthesis; Biodegradable polymers; Development of novel biocompatible and bio assimilable metal complexes for Ring Opening Polymerization (ROP) of cyclic esters, Polymers as intelligent and smart material; Catalysis	<a href="https://scholar.google.com/citations?user=Jd16gQMAAAAJ&amp;hl=en">https://scholar.google.com/citations?user=Jd16gQMAAAAJ&amp;hl=en</a>
4.	<b>Dr. Kafeel Ahmad Siddiqui, Associate Professor</b>	Crystal Engineering; Coordination Polymers and Metal-Organic Frameworks; Composite @CP/MOF their Energy Storage and Environmental Applications	<a href="https://scholar.google.com/citations?user=-w1oW6oAAAAJ&amp;hl=en">https://scholar.google.com/citations?user=-w1oW6oAAAAJ&amp;hl=en</a>
5.	<b>Dr. (Mrs.) Sagarika Bhattacharya, Assistant Professor</b>	Carbon dots, soft nanocomposites, biosensing, metal complexes, supramolecular chemistry, Lanthanide metal-ligand complexes.	<a href="https://scholar.google.com/citations?user=jGeHUi4AAAAJ&amp;hl=en">https://scholar.google.com/citations?user=jGeHUi4AAAAJ&amp;hl=en</a>

## Research Collaborators



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