

**Volume No 4**

**Year 2024**

# **CHEMINEWS**



**ICFAI UNIVERSITY TRIPURA**

**Kamalghat, Mohanpur**

**West Tripura – 799210**



### **MESSAGE**

It gives me great pleasure to know that the Department of Chemistry (ISS, FST), ICFAI University Tripura is ready to publish the fourth volume of their newsletter, CHEMINEWS volume no. 4. Regular publication of this newsletter serves as the ground for appreciation of great achievements by the Department as well as ample encouragements for the students and faculties alike. Online seminars on various advanced topics are being regularly conducted by the Department of Chemistry and are highlighted in the events section of this newsletter. I am happy to note that the Department of Chemistry has successfully conducted online international seminar “ICRTCM 2021”. The faculties were able to publish quality works in international journals and were able to keep up the good research work even during the pandemic situation. The students were able to attain great height of achievements and all of these needed to be highlighted in this newsletter which I am sure the editorial members have taken good care at. I am delighted to note that the Department of Chemistry has achieved so much in such a small time since its establishment in 2018. I convey my heartiest greetings to every member of the Department of Chemistry for all these great achievements and wish them the best for their noble endeavor towards great achievements in future as a family of the ICFAI University Tripura.

**Prof. (Dr.) Biplab Halder**

Vice Chancellor

ICFAI University Tripura



### **MESSAGE**

It is great to learn that the Department of Chemistry is bringing forward its fourth volume of CHEMINEWS. It covers the great feats achieved in the span of one year by the members of the family of the Department of Chemistry. The hard work and enthusiasm of each and every member of this department helped to achieve great accomplishment worth recognition. In the disturbing time of the lockdown due to COVID-19 pandemic it was an astonishing all-round effort put together by every member of the department to carry forward academic excellence which are mentioned in this newsletter. I am sure that this newsletter will enlighten the students inspiring them to achieve even higher goals in all aspects of life. I convey my heartiest congratulations to all the members of the Department of Chemistry.

**Prof. (Dr.) A. Ranganath**

Registrar

ICFAI University Tripura



### **MESSAGE**

I appreciate the efforts of the members of the Department of Chemistry to come up with the fourth volume of CHEMINEWS. The achievements of the students and the faculty members are put altogether in this newsletter which contains the year-around achievements worth mentioning in the department. Webinars, technical talks conducted on excellent advanced topics, extracurricular activities performed by the students, academic publications by the faculty members are all put together in this newsletter. The department leads innovative curriculum training the students to stand distinctly for their future careers. The department also successfully conducted campus-drive for the final year M.Sc. Chemistry Students setting an example in the science school. I believe that more industries and companies will be coming for recruitment in the next year. In this regard I am happy to note that the research facility for the Ph.D. students are also being upgraded in a constant effort as new scientific equipment are now being purchased by the ICFAI University for the Chemistry Department. The long list of scientific publications in international journals by the faculty members speaks for itself and I wish the Department of Chemistry to achieve great feats of accomplishment in coming years as an all-round performer in the ICFAI family.

**Prof. (Dr.) Priyangshu Rana Barthakur**

Dean, Faculty of Science and Technology

ICFAI University of Tripura



### **MESSAGE**

It is a great pleasure to witness and be a part of the remarkable journey of the Department of Chemistry at ICFAI University, Tripura. With each passing year, the department continues to achieve new milestones in academic excellence, research, and student development. The publication of the latest volume of CHEMINEWS is yet another testament to the dedication and hard work of our faculty members and students.

The Department of Chemistry has always been committed to providing quality education, research opportunities, and industry exposure to its students. The faculty members work tirelessly to mentor and guide students, ensuring they are well-prepared for both higher studies and career opportunities. Through a well-structured curriculum, hands-on laboratory training, and interactive learning methodologies, the department fosters an environment that nurtures curiosity, innovation, and analytical thinking.

One of the key focus areas of the department has been enhancing research along with higher studies, employability and career readiness among students. We take pride in organizing campus recruitment drives, industry interactions, skill development sessions, and training programs to equip students for future challenges. It is indeed gratifying to see our students securing job offers in reputed organizations like PwC, Onepaper Research Analyst Pvt. Ltd., Webomates, Eureka Classes, etc and making their mark in the professional world. The success of our students in placements, competitive exams, and research endeavors is a true reflection of the department's commitment to holistic development.

Beyond academics, the department actively encourages participation in seminars, conferences, workshops, and extracurricular activities, ensuring that students develop a well-rounded personality. The exposure to national and international platforms further enhances their learning experience and prepares them for global challenges.

I extend my heartfelt congratulations to the editorial team for their dedicated efforts in bringing out this latest edition of CHEMINEWS. This newsletter serves as a wonderful medium to showcase the department's achievements and the relentless spirit of our faculty and students.

Wishing everyone continued success and looking forward too many more accomplishments in the years ahead!

**Dr. Swarnali Nath Choudhury**

Professor & Dean of Placement

ICFAI University Tripura



### **MESSAGE**

It is with great pleasure to announce that the Department of Chemistry, ICFAI University Tripura has come up with its release of the fourth volume of our departmental newsletter, CHEMINEWS. Since our department's founding in 2018, we have made significant academic progress, and I am pleased to report that the Department of Chemistry has excelled in all areas since the start of its ambitious project. The ICFAI family responded very well to our first newsletter, which was a huge success and inspired the entire department to create the fourth volume. Our yearly achievements report is contained in this newsletter, which compiles all of the academic and associated accomplishments. This publication is a testament to the hard work and dedication of our students, faculty, and staff.

The Department of Chemistry is proud to offer parallel B.Sc. (Hons), M.Sc., and PhD programs due to its excellent teacher-student ratio. The faculty members' close mentoring proven to be very beneficial in helping the students get through the challenges of the pandemic-era combined offline-online learning environment. I want to express my gratitude to the entire faculty, students, and parents for their unwavering support in helping the Department of Chemistry flourish and reach this remarkable milestone.

Since we place a high value on education, our faculty members work tirelessly throughout the academic year to adjust the curriculum as necessary. Both theoretical and practical experiments are presented and adjusted on a regular basis in response to recommendations. Students are continuously exposed to advanced research subjects through a variety of national and international webinars and seminars. We continuously push our students to pursue higher education, conduct research, and get ready for the workforce by scheduling extra classes for competitive exams like the NET, GATE, JAM, and others.

In addition to the standard curriculum, students learn teamwork, ethics, and soft skills. Innovative and creative thinking is constantly valued, which aids in a student's academic success. Students are always encouraged to participate in extracurricular activities, and many of them have accomplished amazing things. This newsletter attempts to provide a glimpse of the wide range of academic and academic-related activities that the Department of Chemistry at ICFAI University Tripura fosters.

I would like to extend my gratitude to the editorial team for their tireless efforts in bringing this newsletter to life. Your contributions are invaluable, and I appreciate your commitment to sharing the stories and successes of our department.

**Dr. Ganesh Chandra Paul**

Assistant Professor & Head

Department of Chemistry,

ICFAI University Tripura

**Issue Editors:****Dr. Ganesh Chandra Paul**

Assistant Professor & HOD Chemistry

**Dr. Prasanta Sutradhar**

Assistant Professor, Chemistry

**Editorial Board:****Dr. Swarnali Nath Choudhury**

Professor & Dean Placement Cell

**Dr. Amitava Sharma**

Assistant Professor, Chemistry

**Dr. Tufan Singha Mahapatra**

Assistant Professor, Chemistry

**Dr. Subhadip Roy**

Assistant Professor, Chemistry

**Dr. Ankita Chakraborty**

Assistant Professor, Chemistry

**Dr. Saheli Roy**

Assistant Professor, Chemistry

**Dr. Dilip Nath**

Associate Professor, Chemistry

**Courses Offered:**

- B. Sc. (Hons.) Chemistry
- M. Sc. Chemistry
- Ph. D. Chemistry (Full time)

**Area of Research:**

- Bio-inorganic Chemistry and Catalysis
- Coordination Chemistry
- Supramolecular Chemistry
- Surfactant and Surface Activity
- Theoretical Spectroscopy
- Natural Products
- Nano-chemistry and Nanotechnology

- Computational Chemistry
- Biophysical & Colloid Chemistry
- Polymer Nanocomposites

**About the Department of Chemistry:**

The Department of Chemistry started its journey in 2018 and dedicated itself towards the benefit of the society to promote science and nurture the young students. B.Sc. (Hons.), M. Sc. And Ph. D. programs are being offered and the advanced education is carried out by highly qualified faculty members actively engaged in research. Students are exposed to the cutting edge research and technologies and are trained in theory as well as practical classes accordingly. Regular seminars, workshops and webinars are arranged to expose the students to the current advancements in science and related fields. Students take part in summer internship programs in prestigious academic institutions. The M.Sc. students experience advanced research in their M. Sc. Project tenure under the guidance of Departmental faculty members. We also organize campus drive for the recruitment of interested students.

**Highlights of the Department:**

- UG, PG and Ph.D. programs
- Highly qualified faculty members
- Well-equipped laboratory facility
- Active research and publications in high impact international journals
- International and national seminars and webinars by renowned experts
- Preparatory special classes for NET, GATE, JAM etc.
- Campus drive for students
- Six students from B. Sc. Chemistry (Hons.) qualified JAM 2024 and 2 students qualified CUET 2024.



## EVENTS

### **“Birthday Celebration of Acharya Prafulla Chandra Ray-2023”**



**Figure 1:** Prof. (Dr.) Swarnali Nath Choudhury inaugurates the event, marking the beginning of the program.



**Figure 2:** Dr. Satyajit Mondal delivering his talk on the occasion of Birthday Celebration of Acharya Prafulla Chandra Ray at Department of Chemistry.



**Figure 3:** Dr. Tufan Singha Mahapatra during his presentation on the occasion of Birthday Celebration of Acharya Prafulla Chandra Ray at Department of Chemistry.

Acharya Prafulla Chandra Ray, born on August 2, 1861, was a renowned chemist, historian, educator, industrialist, and philanthropist. Often regarded as the father of chemical science in India, Ray established the first modern Indian research school in chemistry. To honour his immense contributions, the Department of Chemistry at The ICFAI University Tripura celebrated his birthday on 2<sup>nd</sup> August 2023.



## Career Counselling Seminar for the Chemistry Students

The Department of Chemistry regularly organizes seminars to benefit students by providing guidance on career development. On 1<sup>st</sup> November 2023, Dr. Priya Nair, a former scientist at IIT Madras, delivered an insightful lecture on "Career Development for Higher Studies and Research for Chemistry Students."

The seminar aimed to:

- Provide guidance and assistance to students in achieving their career goals.
- Create awareness about various career opportunities in higher studies and research.
- Help students acquire the necessary knowledge, skills, and experience to explore career options and make informed decisions.

The session was highly beneficial for students, equipping them with essential insights to navigate their academic and professional journey effectively.

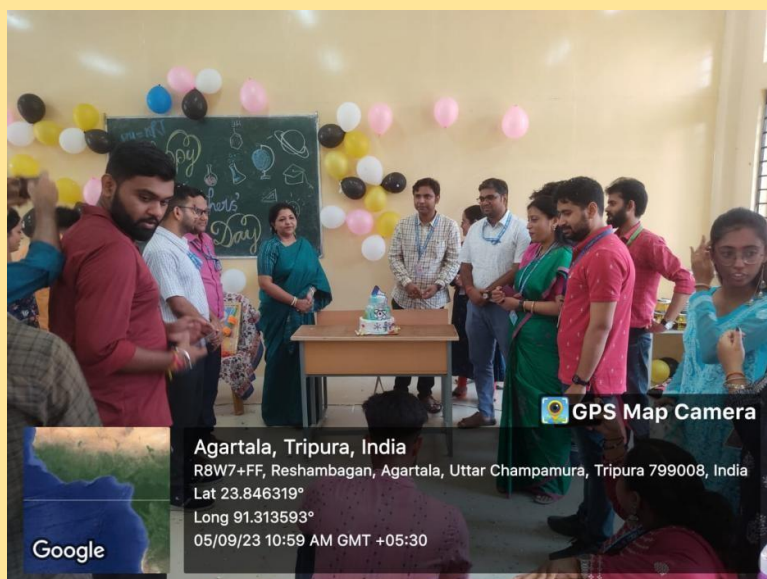


**Figure 4:** Dr. Priya Nair, a former scientist at IIT Madras with faculty members and students from Department of Chemistry after the seminar session.

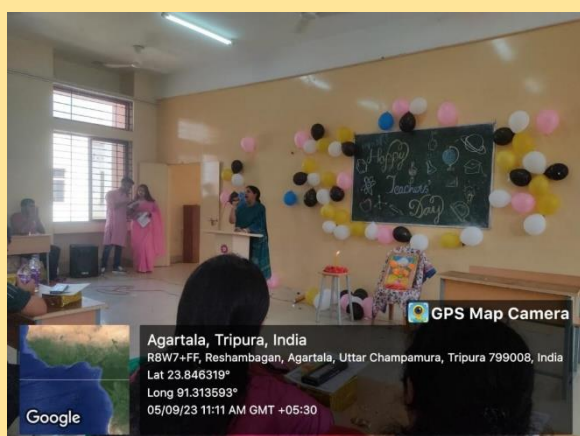
## Teacher's Day Celebration-2023

Teacher's Day, observed on the 5<sup>th</sup> of September, is a day dedicated to celebrating the immense contribution of teachers in shaping the lives of students and, by extension, society at large. This date marks the birthday of Dr. Sarvepalli Radhakrishnan, India's former President, who was a renowned scholar and a devoted teacher. The day serves as a reminder of the pivotal role that teachers play in nurturing and guiding young minds towards a brighter future.

On 05.09.2023, The Teacher's Day celebration at the ICFAI University Tripura was marked by a series of engaging activities. During the seminar, several faculty members shared their thoughts and experiences about the importance of education and the role of teachers. These speeches provided valuable insights into the educational journey and inspired both students and fellow educators.



**Figure 5:** Cake-Cutting ceremony on the occasion of Teacher's Day celebration at Department of Chemistry.



**Figure 6:** Speech by Prof. Dr. Swarnali Nath Choudhury, Head, Dept. of Chemistry.



**Figure 7:** Speech by Dr. Satyajit Mondal.



**Figure 8:** Speech by Dr. Ganesh Chandra Paul on the occasion of Teacher's Day celebration at Department of Chemistry..



**Figure 9:** Cultural event on the occasion of Teacher's Day celebration at Department of Chemistry.



## “Mole Day and National Chemistry Week” celebration

‘Mole Day’ is celebrated annually on 23<sup>rd</sup> October from 6:02 a.m. to 6:02 p.m. Mole Day commemorates Avogadro's Number ( $6.02 \times 10^{23}$ ), which is a basic measuring unit in chemistry. The week, 15<sup>th</sup> to 21<sup>st</sup> October 2023, is celebrated as ‘National Chemistry Week (NCW)’. NCW takes place on the third week of October and usually coincides with Mole Day. NCW is a public awareness campaign of the American Chemical Society (ACS) that promotes the value of Chemistry in everyday life. The Department of Chemistry has celebrated both the events on 7<sup>th</sup> November 2023 because 23<sup>rd</sup> October was Puja holiday.

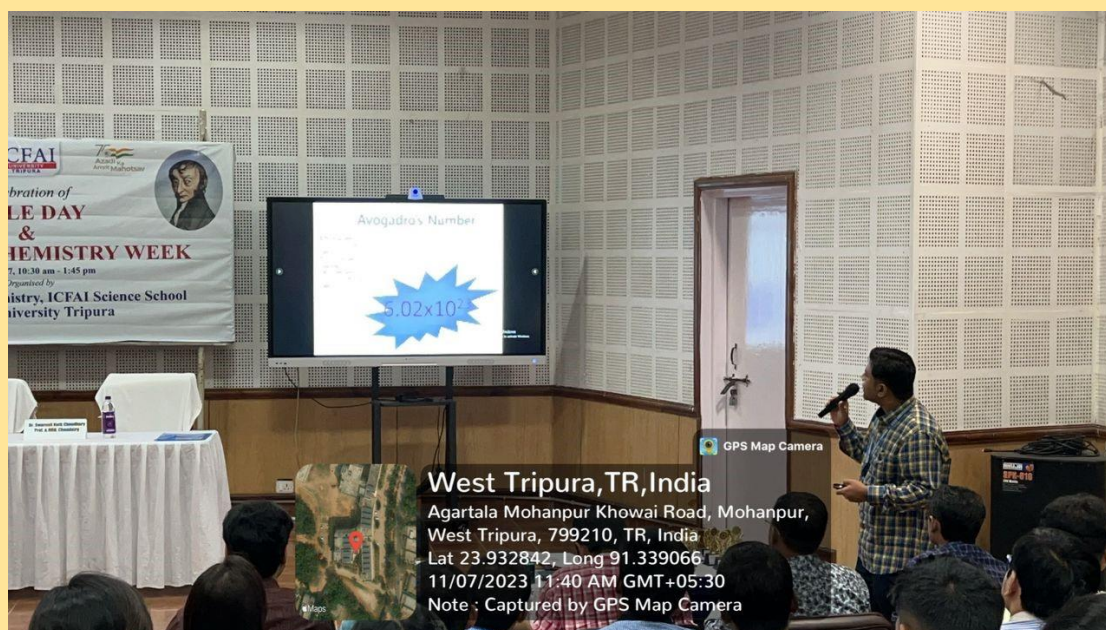


**Figure 10:** Speech by Dr. Amitava Sharma on the occasion of Mole Day and National Chemistry Week at Department of Chemistry.



**Figure 11:** Speech by Dr. Tufan Singha Mahapatra on the occasion of Mole Day and National Chemistry Week at Department of Chemistry..

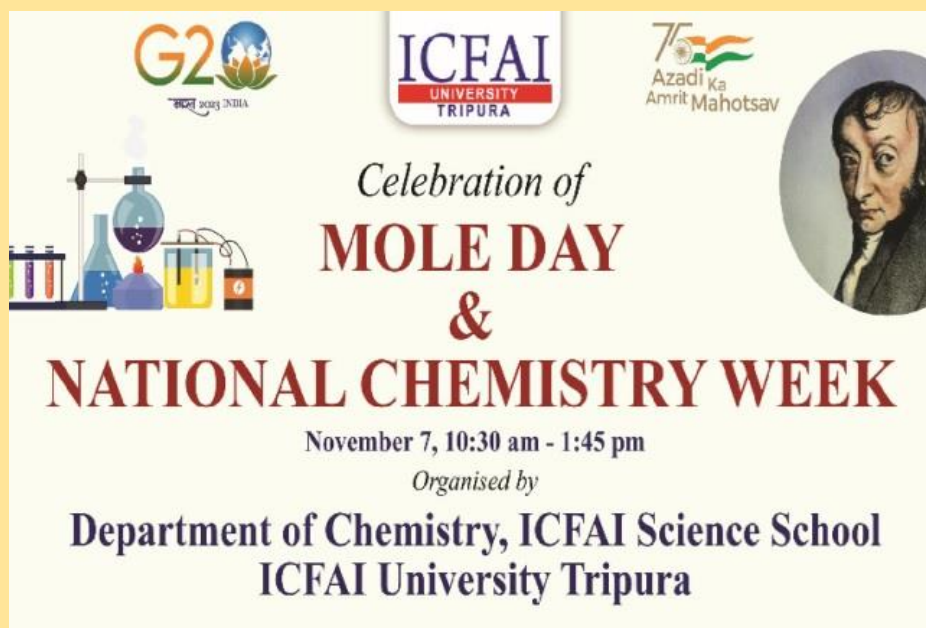




**Figure 12:** Speech by Dr. Subhadip Roy on the occasion of Mole Day and National Chemistry Week at Department of Chemistry.



**Figure 13:** Vote of thanks by Prof. (Dr.) Swarnali Nath Choudhury on the occasion of Mole Day and National Chemistry Week at Department of Chemistry.



**Figure 14:** *Flyer of Mole day & National Chemistry Week.*

### **Yoga for relaxation and mindfulness**

Yoga is an ancient practice that originated in India and has been gaining popularity worldwide for its numerous health benefits. Among these benefits, relaxation and mindfulness stand out as crucial aspects in today's fast-paced and stressful world. In this context, Department of chemistry has organized a seminar on “Yoga for relaxation and mindfulness” on 30.04.2024 to delve into the role of yoga in promoting relaxation and mindfulness, exploring its techniques and effects on the mind and body. Dr. Subhashis Biswas, Assistant Professor, Faculty of Physical Education and Yoga, The ICAI University Tripura has given a talk and training on Yoga. Dr. Biswas discussed various aspects of yoga for relaxation and mindfulness.



**Figure 15:** *Dr. Subhashis Biswas explaining causes of tension and anxiety.*



**Figure 16:** *Dr. Subhashis Biswas explaining Yoga-asana postures.*



## Communication Skills for Interview Proficiency

Effective communication skills are crucial for success in job interviews. It is not only about what a candidate says but also how they say it, which significantly impacts how they are perceived by potential employers.

To emphasize the importance of communication skills in interview settings, the **Department of Chemistry** organized a seminar titled “**Communication Skills for Interview Proficiency**” on **1<sup>st</sup> May 2024**. The session aimed to highlight key communication strategies and techniques to enhance interview performance.

The seminar was hosted by **Dr. Subhadip Roy**, Assistant Professor, Department of Chemistry, who also delivered the **Welcome Address**. Following this, **Dr. Aditya Ghosh**, Assistant Professor, Faculty of Liberal Arts, The ICFAI University Tripura, delivered a talk on communication skills. Dr. Ghosh covered various aspects of effective communication, providing valuable insights into improving interview proficiency.



**Figure 17:** *Dr. Aditya Ghosh delivering the presentation.*

## Career Prospects in Chemistry

Chemistry is a dynamic and multifaceted field offering a wide array of career opportunities across various sectors. The seminar titled "Career Prospects in Chemistry" was organized by Department of Chemistry, The ICFAI University Tripura to provide participants with insights into the diverse career paths available to chemistry postgraduates and to guide them on how to navigate these paths successfully. On 23.05.2024, **Dr. Ganesh Chandra Paul**, Assistant Professor and Head of the Department of Chemistry, provided an in-depth exploration of the various career opportunities available to chemistry postgraduates.



**Figure 18:** Career Prospects in Chemistry: Introduction Session by Dr. Ganesh Chandra Paul at The ICAFI University, Tripura



**Figure 19:** Exploring the Role of Chemistry in Daily Life and Industry by Dr. Ganesh Chandra Paul

## International Webinar on "Understanding the plastic problem: one Nano plastic at a time "



**Figure 20:** Dr. Chayan Dutta, Assistant Professor, Department of Chemistry, Georgia State University, Atlanta, Georgia 30303, USA is delivering his lecture.

The Department of Chemistry has organized an international webinar on “Understanding the plastic problem: one Nano plastic at a time” on 29<sup>th</sup> May, 2024. The webinar was hosted by Dr. Tufan Singha Mahapatra, Assistant Professor, Department of Chemistry. The program began with the welcome address of Honourable Registrar sir, Prof. (Dr.) A Ranganath. In his speech Prof. (Dr.) A Ranganath had explained the importance of such webinar.

He welcomed the resource person Dr. Chayan Dutta who gave his talk in such an interesting topic. In his talk, Dr. Chayan Dutta had mentioned about several interesting facts on plastic problem and nanoplastic. The vote of thanks was proposed by Dr. Ganesh Chandra Paul, Head of the Department, Department of Chemistry, IUT.



## **CAMPUS DRIVE FOR RECRUITMENT**

The **Department of Chemistry, ICFAI University Tripura**, proudly acknowledges the placement achievements of its **B.Sc. and M.Sc. Chemistry students (2021-2024 & 2022-2024 batches)**. These accomplishments highlight the students' dedication, academic excellence, and the department's commitment to career development.

### **M.Sc. Chemistry (2022-2024) – Placement as Assistant Teacher**

- **BISWAJIT DEY (22IUT0090018)**  
**Designation:** Assistant Teacher of Chemistry  
**Organization:** *Asian Public School, North Lakhimpur, Assam*  
**Hired through:** *Eureka Classes (An ISO 9001:2015 Certified Organization)*  
**Location:** North Lakhimpur, Assam

### **B.Sc. Chemistry (2021-2024) –Placement Offers**

1. **MD RAHUL KHAN (21IUT0060003)**  
**Organization:** *One Paper Research Analysts Pvt Ltd*  
**Role:** Relationship Manager  
**Location:** 74 Techno Park, 74/II "C" Cross Road, Opp. Gate No. 2, MIDC, Seepz Andheri East, Mumbai, Maharashtra – 400093.
2. **DIPTANU DAS (21IUT0060080)**  
**Organization:** *Rinex Technologies Private Limited*  
**Location:** Enzyme Tech Park - HSR Layout, 1st Floor, 1113, 6th Main Rd, Syndicate Bank Colony, Sector 7, HSR Layout, Bengaluru, Karnataka – 560102.
3. **ANKANA ROY (21IUT0060062)**  
**Organization:** *Webomates Private Limited*  
**Role:** Sales Development Representative Trainee  
**Location:** 2424, Ground Floor, Hudson Line New Delhi, India –110009.

## **SUMMER INTERNSHIP PROGRAM**

Summer internship program is the integral part of our bachelors and master degree curriculum, of ICFAI University, Tripura. In this academic session (2023-2024) students of Department Chemistry have done their IP during the summer holidays from 27<sup>th</sup> May, 2024 to 19th July, 2024. Students can bag an internship through various means since our University gives ample opportunities to the students to interact with some highly prestigious institutions. During their internship the students have to submit a weekly report to their respective mentor and after the completion of the IP project they have to submit a final report.

In this year, Department of Chemistry, ICFAI University has placed their students in various organizations of Tripura. Our 87 B.Sc. chemistry students have done their internship in CIPET, Agartala, where they learnt about the preparation and analysis of polymer and plastic materials. Our 16 M.Sc. students were placed in different institutions and organizations like Pollution Control Board, Tripura Institute of Technology (TIT) and Degree colleges of Tripura. During this project they have an exposure to the recent research and developments in chemistry

## SPECIAL ACADEMIC ACHIEVEMENT

The Department of Chemistry, **ICFAI University Tripura**, takes immense pride in recognizing the outstanding achievements of its **B.Sc. Chemistry (2021-24) students** who have successfully qualified for prestigious national-level entrance examinations for postgraduate studies. Their dedication and hard work reflect the department's commitment to academic excellence and career advancement.

### **JAM 2024 (Joint Admission Test for Masters)**

The following students have qualified for **JAM 2024**, a highly competitive examination conducted for admission into premier institutions such as **IITs, IISc, and NITs** for master's programs in Chemistry and related disciplines:

- **Monalisha Sutradhar** (21IUT0060028)
- **Ramanoj Shil** (21IUT0060029)
- **Pradipta Das** (21IUT0060082)
- **Iryna Debbarma** (21IUT0060069)
- **Asmita Rudra Paul** (21IUT0060087)
- **Fency Debbarma** (21IUT0060085)

Their success in JAM 2024 is a testament to their academic rigor and determination, opening doors to higher education opportunities in premier institutions.



**Figure 21:** Photos of JAM qualified students.

### **CUET (PG)-2024 [Common University Entrance Test for Postgraduate Admissions]**

Two students from the department have also qualified for **CUET (PG)-2024**, which facilitates admissions to **Central and State Universities** across India for postgraduate programs in Chemistry:

- **Amon Jamatia** (21IUT0060001)
- **Kanusree Singha** (21IUT0060078)

## CREATIVE EXPRESSIONS

**Dr. Tufan Singha Mahapatra**, Assistant Professor, Department of Chemistry, was invited to deliver an “**Invited Lecture**” at the National Seminar on “Science and Technology for Environmental Sustainability and Tribal Development” on 14th & 15th March 2024.

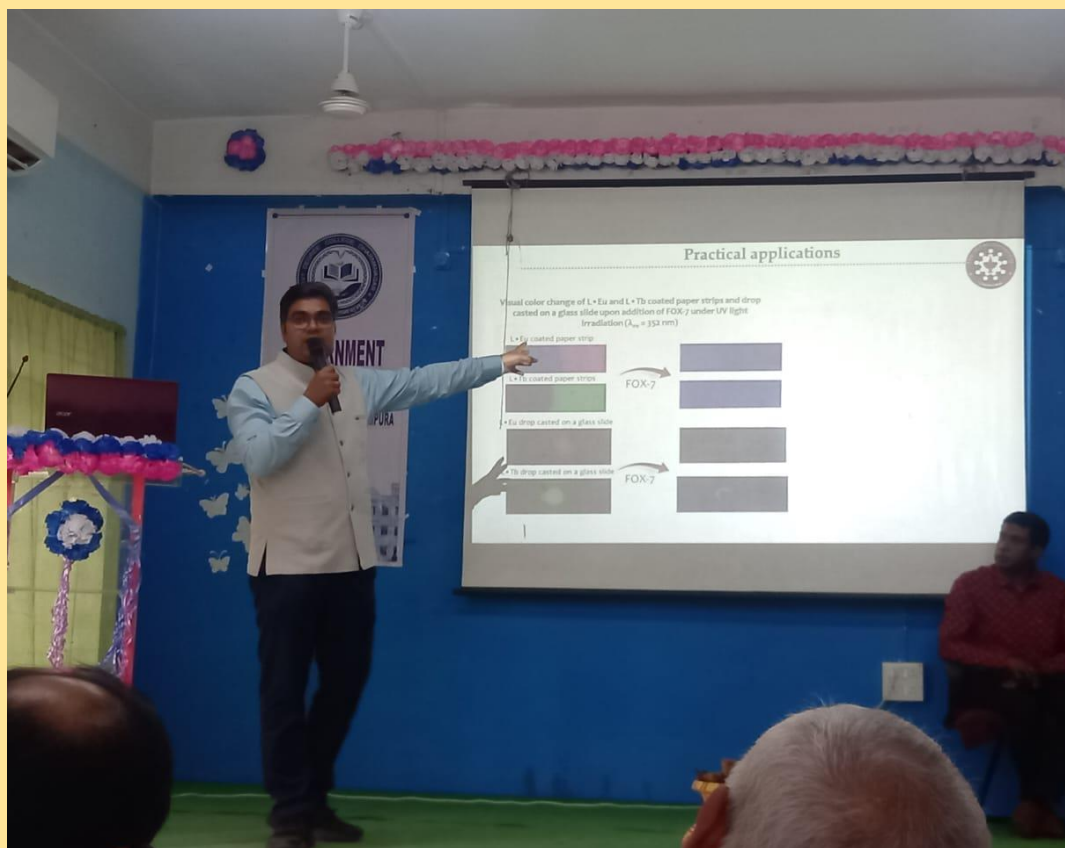
He has delivered his presentation entitled ‘*Lanthanide Coordination Nanosheets for Explosive Detection*’.

**Abstract:** Lanthanide coordination nanosheets have emerged as a new type of two-dimensional (2D)-nanomaterials in recent years. Despite the recent surge of interest in such material, research in this area is still in its infancy. Luminescent lanthanide ions, Eu(III) or/and Tb(III), as well as a bis-terpyridine ligand (L), have been used in this study as the building blocks for developing the archetypical layered structure of coordination polymers (CPs) (L•Eu / L•Tb). Luminescent 2D nanosheets are obtained by exfoliating the layered precursor of CPs in a suitable solvent system following a sonication-assisted strategy. These nanosheets exhibit lateral sizes on the micrometer scale (0.3–1  $\mu\text{m}$ ) and ultrathin thickness (2–6.5 nm). Nanosheets containing Ln(III) ions have an obvious edge over those derived from other metal ions owing to their sharp and well-defined emission bands, high-quantum yield, long emission lifetimes, and lower sensitivity towards emission quenching through vibrational energy transfer to the surrounding ligand systems. 1,1-diamino-2,2-dinitroethene (FOX-7) is a high-energy-density material (HEDM) with comparable performance to RDX, but relatively less explored. FOX-7 is of serious concern to national security and safety for its unauthorized usage. Its rapid and efficient detection is a challenging issue. The prepared luminescent nanosheets are used to detect FOX-7 both in solution and solid state through the distinct color change from red (L•Eu) and green (L•Tb) to colorless under UV light (Figure 1). Presumably, this is the first representative example of a molecular sensor for FOX-7. Importantly, above referred exfoliated nanosheets can be utilized as a solid detection system and also for developing commercial spray kits for the quick onsite screening of explosives by the naked eye.

The certificate is attached below:



**Figure 22:** Certificate of Dr. Tufan Singha Mahapatra for the attending the conference.



**Figure 23:** Picture of Dr. Tufan Singha Mahapatra while delivering a speech during the conference.

## SCIENTIFIC PUBLICATIONS

### Research and Publications 'CHEMINEWS' (2023-24)

All the faculty members from the Chemistry Department are devoted to research-related activities and during this course of time (*July 2023 to June 2024*), the faculty members published a total of **ten (10) research articles** in reputed international journals, **one (1) Edited Book** and **twelve (12) Book Chapters**.

The **Research Article** details are as follows in chronological order:

(1) In September 2023, **Dr. Subhadip Roy** coauthored a review article published in Dalton Transactions (Royal Society of Chemistry, SCIE/SCOPUS indexed, Impact Factor: 4.0). This research resulted from collaborations among St. Xavier's College Kolkata, Jadavpur University, and IUT. Additionally, the **Royal Society of Chemistry** featured the authors' short biodata in the article.

**Title:** Electron transfer catalysis mediated by 3d complexes of redox non-innocent ligands possessing an azo function: a perspective

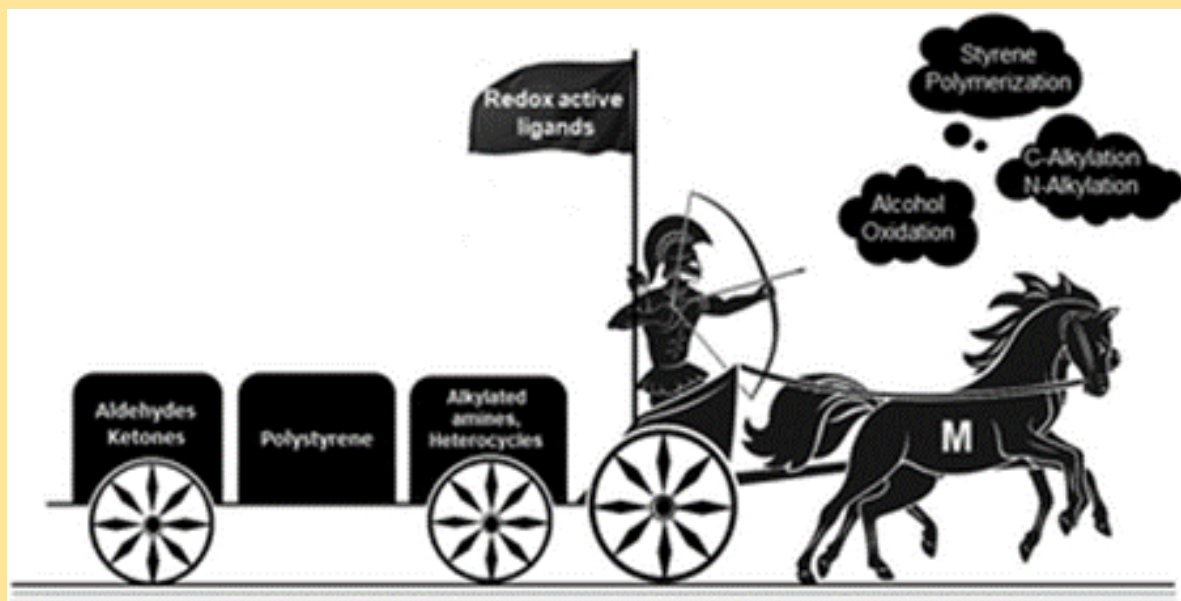
**Authors:** Alok Apan Swatiputra, Debaarjun Mukherjee, Soumitra Dinda, **Subhadip Roy**, Kausikisankar Pramanik\* and Sanjib Ganguly\*

**Journal:** Dalton Trans., 2023, 52, 15627-15646



**Link:** <https://pubs.rsc.org/en/content/articlelanding/2023/dt/d3dt02567e>

**Graphic:**



**Soumitra Dinda**

Dr Soumitra Dinda completed his Bachelor's degree from Ramakrishna Mission Vivekananda Centenary College, Rahara, and M.Sc. in chemistry from West Bengal State University. He received his Ph.D. degree from the University of Calcutta under the tutelage of Dr Sanjib Ganguly in 2022. After one-year postdoctoral research at the Indian Institute of Technology Gandhinagar (IITGN) with Prof. Biswajit

Mondal, he moved to Denmark. Currently, he is working as a post-doctoral researcher at the University of Southern Denmark (SDU) with Prof. Christine J. McKenzie. His research interests include synthetic inorganic chemistry, metal mediated transformations and electrocatalysis for energy conversion.



**Subhadip Roy**

Dr Subhadip Roy obtained his B.Sc. degree in chemistry from Ramakrishna Mission Vivekananda College (Autonomous, affiliated to the University of Madras), in 2007 and M.Sc. (chemistry) from the University of Hyderabad, in 2009. He obtained his PhD degree in 2017 from NIT Agartala, India. During August 2017 to December 2018, he worked as a SERB-National Post-Doctoral Fellow at IISER Bhopal

under the guidance of Professor (Dr) Sanjit Konar. He has been working as an Assistant Professor at the Department of Chemistry, The ICPAI University Tripura since September 2019. His research interests include coordination chemistry, molecular magnetism and multifunctional magnetic materials.

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Dalton Trans., 2023, 52, 15627-15646 | 15629

(2) In October 2023, **Dr. Subhadip Roy**, coauthored a research article published in *Inorganica Chimica Acta* (Elsevier, SCIE/SCOPUS indexed, Impact Factor: 2.8). This study involved researchers from NIT Agartala, Manipur University, IUT, and Saint Petersburg State University (Russia).

**Title:** Azo-benzoic acid derivatives directed dinuclear and tetranuclear

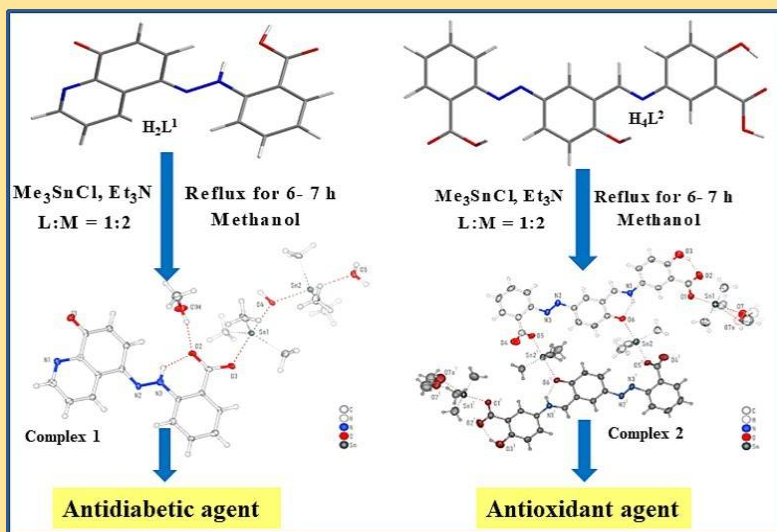
association of trimethyltin(IV) complex components and their biological activities

**Authors:** Pratima Debnatha, Paresh Debnath, **Subhadip Roy**, Maisnam Babita Devi, Mutum Mona Devi, Kananbala Sarangthem, S. Sureshkumar Singh, Manojit Roy\*, Alexander S. Novikov\*, Tarun Kumar Misra\*

**Journal:** *Inorganica Chimica Acta*, Volume 559, 1 January 2024, 121805

**Link:** <https://www.sciencedirect.com/science/article/abs/pii/S0020169323004309>

**Graphic:**



(3) In November 2023, **Dr. Subhadip Roy** published a first-author research article in **CrystEngComm (Royal Society of Chemistry, SCIE/SCOPUS indexed, Impact Factor: 3.1)**. The work involved collaboration with researchers from Spain, Russia, Canada, Portugal, and the USA.

**Title:** Two isostructural complexes of Ni(II) and Zn(II) with violurate and pyridine: a detailed structural, theoretical, magnetic, and NMR investigation.

**Authors:** Subhadip Roy, Susital Mal, Rupak Banik, Subrata Das,\* Ľubor Dlhán, Ján Titiš,\* Roman Boča, Alexander M Kirillov, \* Alexander S Novikov, Paul Hazendonk, Ray J Butcher, Antonio Bauza, Antonio Frontera\*

**Journal:** CrystEngComm, 2023,25, 6503-6511

**Link:**<https://pubs.rsc.org/en/content/article/landing/2023/ce/d3ce00871a/unauth>

(4) In November 2023, **Dr. Subhadip Roy** coauthored another research article in the **Journal of Chemical Crystallography**

(Springer, SCIE/SCOPUS indexed, Impact Factor: 0.8), involving researchers from NIT Agartala, IUT, and Saint Petersburg State University (Russia).

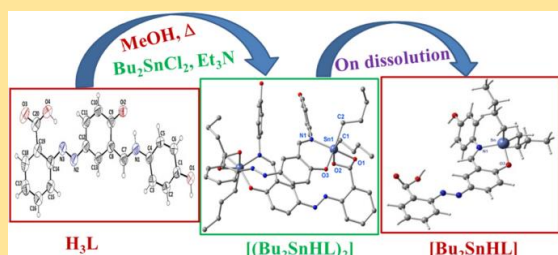
**Title:** Crystal Structure of 2-((E)-((Z)-3-(((4-hydroxyphenyl)amino)methylene)-4-oxocyclohexa-1,5-dien-1-yl)diazenyl)benzoic Acid and Synthesis, Spectroscopy, and DFT Study of Its Dibutyltin(IV) Complex

**Authors:** Pratima Debnath, Chinmoy Majumder, Arnab Bhattacharya, Paresh Debnath, Subhadip Roy, Alexander S Novikov, \* Manojit Roy, \* Tarun Kumar Misra\*

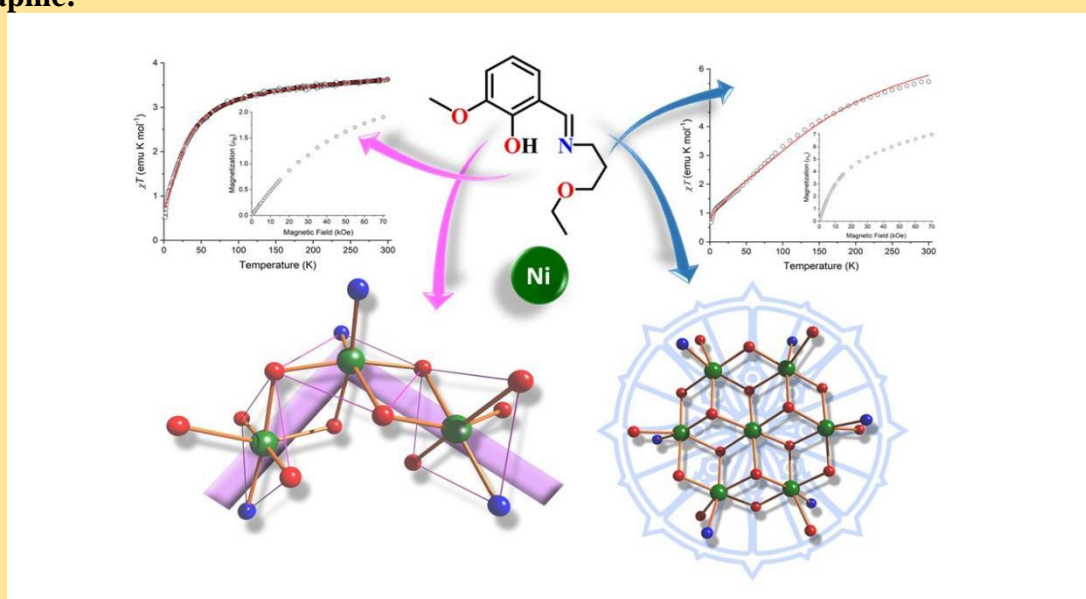
**Journal:** J Chem Crystallogr, 54, 28–40 (2024).

**Link:**<https://link.springer.com/article/10.1007/s10870-023-00996-y>

**Graphic:**



(5) In December 2023, **Dr. Tufan Singha Mahapatra**, Assistant Professor, Department of Chemistry along with his Ph.D. research scholar Mr. Bilash Chandra Roy, published a research article under the SCI category in the international journal **Graphic:**



**Highlight:** In control reaction conditions using one type of Schiff base ligand led to angular  $[Ni^{II}_3L_4]$  and wheel-like  $[Ni^{II}_7L_6]$  complexes, where antiferromagnetic interactions were observed in the former and competing ferro- and antiferromagnetic interactions in the latter.

(6) In January 2024, **Dr. Tufan Singha Mahapatra**, Assistant Professor and **Dr. Saheli Roy**, Assistant Professor, Department of Chemistry along with the Ph.D. research scholar Mr. Bilash Chandra Roy and MSc project student Mr. Pranjit Biswas, published a research article under

named 'Polyhedron' from the Elsevier with an Impact Factor of 2.4. The work was in collaboration with Dr. Michael Shatruk, Florida State University, Tallahassee, FL 32306, United States

Publication details are as follows:

**Title:** Structures and magnetic properties of a trinuclear angular  $[Ni_3]$  and a heptanuclear wheel-like  $[Ni_7]$  complexes with a Schiff base ligand

**Authors:** Tufan Singha Mahapatra,\* Bilash Chandra Roy, Biswarup Dutta, Jeff Lengyel, Michael Shatruk, and Debashis Ray\*

the SCI category in the international journal named 'ChemistrySelect' from the Wiley with an Impact Factor of 1.9. Publication details are as follows:

**Title:** Recent Advances in Stimuli-Responsive Luminescent Supramolecular Lanthanide-Based Metallogels

**Authors:** Bilash Chandra Roy, Animesh Kundu, Pranjit Biswas, **Saheli Roy\*** and **Tufan Singha Mahapatra\***

**Highlight:** This review showcases the latest advances in the research of lanthanide-based luminescent metallogels, which exhibit responsiveness to external chemical and physical stimuli sources.





Mr. Bilash Chandra Roy obtained his BSc degree in Chemistry from Maharaja Bir Bikram College, University of Tripura in 2018. He obtained his master's degree from the Department of Chemistry, ICAI University Tripura, in 2020. Presently, he is pursuing his Ph.D. under the supervision of Dr. Tufan Singha Mahapatra at the ICAI University Tripura, India. His research work focuses on the design, synthesis, and studies of 3d and 4f metal-directed self-assembled supramolecular coordination complexes and to date, he has published three articles in reputed international journals along with a Book Chapter.



Dr. Animesh Kundu received his B.Sc. degree in Chemistry (Hons.) from Hooghly Mohsin College under the University of Burdwan in 2013. He obtained his M.Sc. degree (Chemistry) in 2015 and subsequently completed his Ph.D. in 2021 from the IIT Kharagpur. After completion of his doctoral studies, he was engaged in research works at IISER Tirupati and in teaching at The Neotia University. In August 2023 he joined the Institute of Engineering & Management (IEM) Kolkata, Salt Lake Campus as an Assistant Professor of Chemistry in the Department of Basic Science & Humanities (BSH). His research interests include synthetic inorganic chemistry and catalysis.



Mr. Pranjit Biswas received his BSc degree in Chemistry from Ramthakur College, under Tripura University in the year 2020 and his MSc degree in Chemistry from ICAI University Tripura in the year 2022. He has completed his MSc project work under the guidance of Dr. Tufan Singha Mahapatra on the topic 'lanthanide-based supramolecular metallogels'. Since July 2022 he has been working with Aragen Life Sciences as a Research Associate.

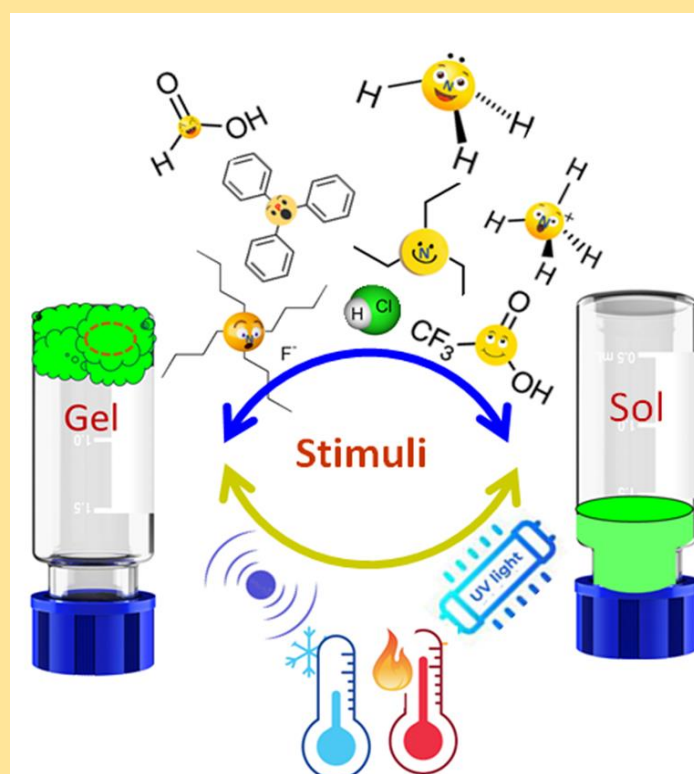


Dr. Saheli Roy received a BSc degree in Chemistry from Bethune College under the University of Calcutta and an MSc degree from West Bengal State University with a specialization in Inorganic Chemistry. She obtained her PhD from the Indian Institute of Technology, Kharagpur in 2017. She has postdoctoral research experience at CSIR-Central Salt and Marine Chemicals Research Institute from November 2017 to April 2019. Since February 2021, she has been working as an Assistant Professor in the Chemistry Department at ICAI University Tripura, India. Her current research interests focus on polymer nanocomposites, polymeric membranes, Polymeric gels and materials chemistry.



Dr. Tufan Singha Mahapatra received his BSc in Chemistry from Presidency College under the University of Calcutta and his MSc in Chemistry from IIT Madras. He earned his Ph.D. in 2017 from the IIT Kharagpur. He has postdoctoral research experience at CSIR-Central Salt and Marine Chemicals Research Institute as a National Post-Doctoral Fellow from March 2017 to August 2019. Since August 2019 he has been working as an Assistant professor at the Chemistry Department at ICAI University Tripura. His current research interests focus on the development of the lanthanide-directed synthesis of luminescent supramolecular structures including gel materials with various optical applications.

## Graphic:



(6) In *February 2024*, **Dr. Subhadip Roy** co-authored a research article published in the *Asian Journal of Chemistry* (Asian Publication Corporation, SCOPUS indexed). The study was a collaborative effort between Ramthakur College (Agartala), Tripura University, and IUT.

**Title:** Synthesis, Structural Characterization, Reactivity, and Bioactivity Studies of Some Binuclear Salen-Type Schiff Base Complexes of Manganese(III)

**Authors:** K.R. Nath Bhowmik\*, R.N. Dutta Purkayastha, and Subhadip Roy

**Journal:** *Asian Journal of Chemistry*, Vol. 36, No. 3, 2024

Link:

<https://doi.org/10.14233/ajchem.2024.31074>

(7) In *March 2024*, **Dr. Subhadip Roy** co-authored a research article published in *Crystal Growth & Design* (American Chemical Society, SCIE/SCOPUS indexed, Impact Factor: 3.8). The research was conducted in collaboration with St. Xavier's College Kolkata, Jadavpur University, IUT, and Universitat de les Illes Balears, Spain. The details are the following:

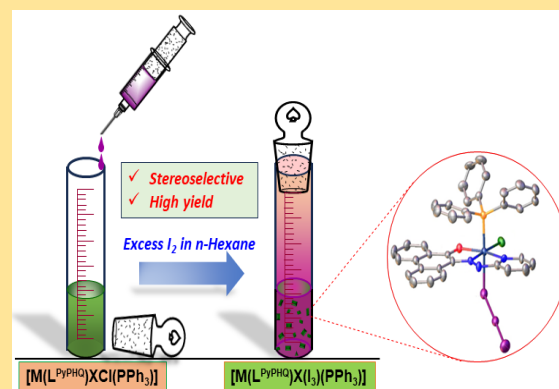
**Title:** Halogen Bonding in Stereoselective Metal Chloride (M–Cl) Bond Activation and Transformation to Metal Triiodide (M–I<sub>3</sub>)

**Authors:** Soumitra Dinda, Debashis Jana, Rosa M. Gomila, Antonio Frontera\*, Subhadip Roy, Sarat Chandra Patra, Kausikisankar Pramanik\*, and Sanjib Ganguly\*

**Journal:** *Crystal Growth & Design*, 2024

**Link:** <https://doi.org/10.1021/acs.cgd.4c00066>.

**Graphic:**



(8) In *June 2024*, **Dr. Tufan Singha Mahapatra**, Assistant Professor, Department of Chemistry along with his Ph.D. research scholar Mr. Bilash Chandra Roy and MSc project student Mr. Sourav Ghosh, published a review article under the SCI category in the international flagship journal named 'Coordination Chemistry Reviews' from the Elsevier publisher, with an impressive **Impact Factor of 20.3** (Clarivate Analytics). The work was in collaboration with Dr. Amitava Das, IISER Kolkata.

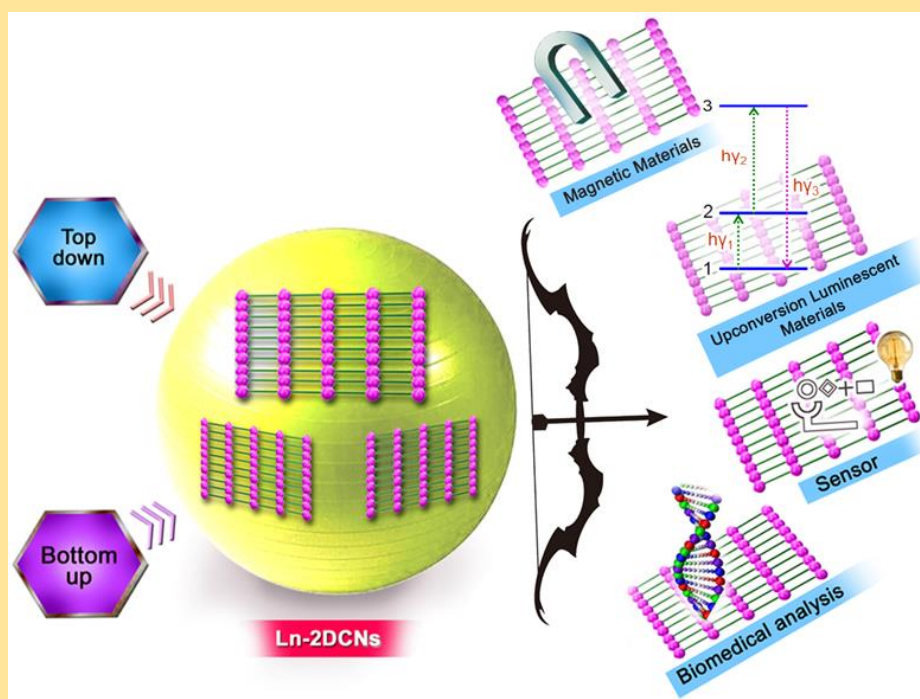
Publication details are as follows:

**Title:** Ultrathin lanthanide-based 2D-coordination nanosheets: A versatile class of 2D materials

**Authors:** Bilash Chandra Roy, Sourav Ghosh, **Tufan Singha Mahapatra\***, Amitava Das\*

**Highlight:** The latest developments in 2D-lanthanide coordination nanosheets are explored, highlighting their potential applications in upconversion luminescent materials, magnetic materials, biomedical analysis, and sensing platforms.

**Graphic:**



(9) In June 2024, **Dr. Subhadip Roy**, as the corresponding author, published a review article in *Current Organic Chemistry* (Bentham Science Publishers, SCIE/SCOPUS indexed, Impact Factor: 1.7,) in collaboration with IISER Bhopal.

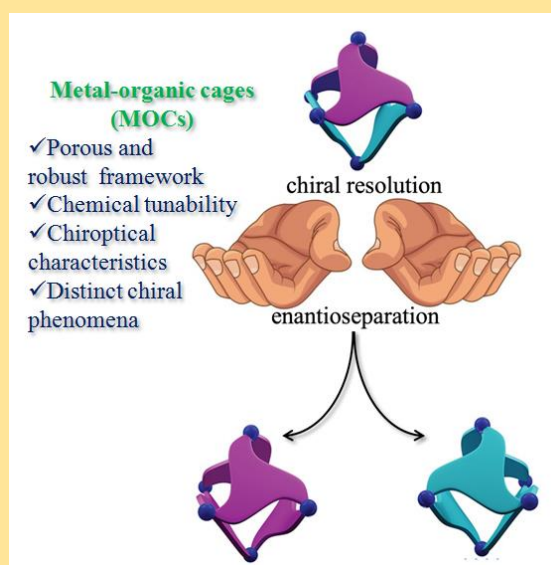
Title: Chirality Sensing in Coordination-driven Supramolecular Assemblies

**Authors:** Abhik Paul\* and Subhadip Roy\*

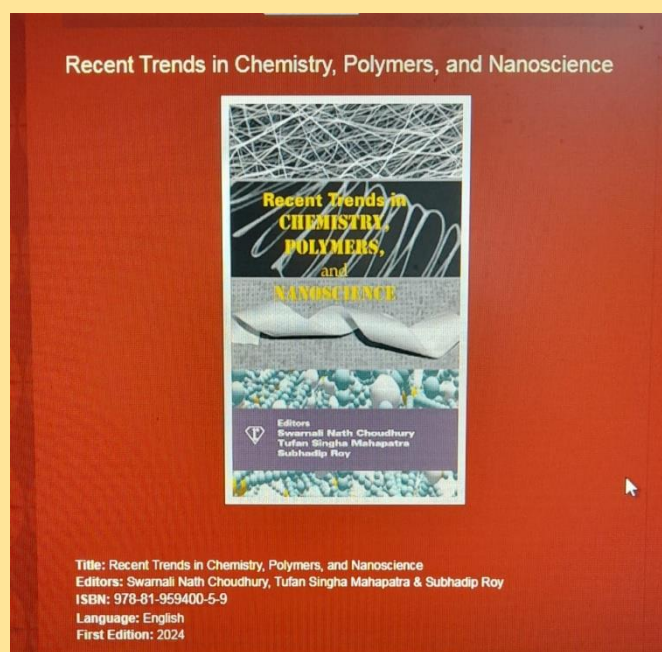
**Journal:** Current Organic Chemistry, Volume 28, Issue 12, Jun 2024, p. 941–958.

**Link:** <https://www.benthamdirect.com/content/journals/coc/10.2174/0113852728292501240301062823>

**Graphic:**



### **Edited Book**



In *March 2024* a Book was edited and published in Ruby Press Co. with ISBN No. 978-81-959400-5-9.

**Book Title:** Recent Trends in Chemistry, Polymers and Nanoscience

**ISBN:** 978-81-959400-5-9

**Editors:** Dr. Swarnali Nath Choudhury, Dr. Tufan Singha Mahapatra and Dr. Subhadip Roy

### **Book Chapters**

The **Book Chapter** details are as follows:

(1) In *March 2024*, **Dr. Swarnali Nath Choudhury**, Professor, Department of Chemistry published a Book chapter in Ruby Press Co. with ISBN No. 978-81-959400-5-9.

**Chapter Title:** Natural Products: A Historical Exploration of Significance and Metabolite Diversity.

**Authors:** Dr. Swarnali Nath Choudhury

**Book Title:** Recent Trends in Chemistry, Polymers and Nanoscience

**ISBN:** 978-81-959400-5-9

(2) In *March 2024*, **Dr. Subhadip Roy**, Assistant Professor, Department of Chemistry along with Suprit Paul, published a Book chapter in Ruby Press Co. with ISBN No. 978-81-959400-5-9

**Chapter Title:** The Chemistry of Uracil and Its Synthetic Modifications at the C-5 Position.

**Authors:** Suprit Paul, Dr. Subhadip Roy

**Book Title:** Recent Trends in Chemistry, Polymers and Nanoscience

**ISBN:** 978-81-959400-5-9



(3) In *March 2024*, **Dr. Ankita Chakraborty**, Assistant Professor, Department of Chemistry, published a Book chapter in Ruby Press Co. with ISBN No. 978-81-959400-5-9

**Chapter Title:** A Glimpse of Organic Reactions in Water.

**Authors:** Dr. Ankita Chakraborty

**Book Title:** Recent Trends in Chemistry, Polymers and Nanoscience

**ISBN:** 978-81-959400-5-9

(4) In *March 2024*, **Dr. Ganesh Chandra Paul**, Assistant Professor, Department of Chemistry along with his M.Sc project students, published a Book chapter in Ruby Press Co. with ISBN No. 978-81-959400-5-9

**Chapter Title:** Catalytic Reactivity of Transition Metal Radical Complexes.

**Authors:** Dr. Ganesh Chandra Paul, Swagata Chakraborty, Arpita Majumder, Joyasri Datta, Anupama Bose, Barnita Sarkar, Tamannya Ghosh.

**Book Title:** Recent Trends in Chemistry, Polymers and Nanoscience

**ISBN:** 978-81-959400-5-9

(5) In *March 2024*, **Dr. Tufan Singha Mahapatra**, Assistant Professor, Department of Chemistry along with his Ph.D. research scholar Mr. Bilash Chandra Roy, published a Book chapter in Ruby Press Co. with ISBN No. 978-81-959400-5-9

**Chapter Title:** Emergence and Advancements of Supramolecular Chemistry.

**Authors:** Bilash Chandra Roy, Dr. Tufan Singha Mahapatra

**Book Title:** Recent Trends in Chemistry, Polymers and Nanoscience

**ISBN:** 978-81-959400-5-9

(6) In *March 2024*, **Dr. Prasanta Sutradhar**, Assistant Professor, Department of Chemistry, published a Book chapter in Ruby Press Co. with ISBN No. 978-81-959400-5-9

**Chapter Title:** Nanoparticles: Types, Synthesis and Characterization Technique.

**Authors:** Dr. Prasanta Sutradhar

**Book Title:** Recent Trends in Chemistry, Polymers and Nanoscience

**ISBN:** 978-81-959400-5-9

(7) In *March 2024*, **Dr. Saheli Roy**, Assistant Professor, Department of Chemistry, published a Book chapter in Ruby Press Co. with ISBN No. 978-81-959400-5-9

**Chapter Title:** Polymer: The New Class of Material.

**Authors:** Dr. Saheli Roy

**Book Title:** Recent Trends in Chemistry, Polymers and Nanoscience

**ISBN:** 978-81-959400-5-9

(8) In *March 2024*, **Dr. Satyajit Mondal**, Assistant Professor, Department of Chemistry, published a Book chapter in Ruby Press Co. with ISBN No. 978-81-959400-5-9

**Chapter Title:** Surfactant.

**Authors:** Dr. Satyajit Mondal

**Book Title:** Recent Trends in Chemistry, Polymers and Nanoscience

**ISBN:** 978-81-959400-5-9

(9) In *March 2024*, **Dr. Amitava Sharma**, Assistant Professor, Department of Chemistry, published a Book chapter in Ruby Press Co. with ISBN No. 978-81-959400-5-9

**Chapter Title:** An ab-initio Computational Study of Potential Energy Surfaces of Molecules.  
**Authors:** Dr. Amitava Sharma

**Book Title:** Recent Trends in Chemistry, Polymers and Nanoscience

**ISBN:** 978-81-959400-5-9

(10) In *March 2024*, **Dr. Soumendra Nath Bandyopadhyay**, Assistant Professor, Department of Chemistry, published a Book chapter in Ruby Press Co. with ISBN No. 978-81-959400-5-9

**Chapter Title:** Micro-Heterogeneous Binary Mixtures.  
**Authors:** Dr. Soumendra Nath Bandyopadhyay

**Book Title:** Recent Trends in Chemistry, Polymers and Nanoscience

**ISBN:** 978-81-959400-5-9

(11) In *May 2024*, **Dr. Subhadip Roy**, Assistant Professor, Department of Chemistry, published a Book chapter in CRC Press, 2385 NW Executive Center Drive, Suite 320, Boca Raton FL 33431(CRC Press is an imprint of Taylor & Francis Group, LLC) with ISBN: 978-1-032-30387-1 (hbk), ISBN: 978-1-032-30529-5 (pbk), ISBN: 978-1-003-30558-3 (ebk)

**Chapter Title:** Inorganic Nanomaterials: Synthesis and Functionalization for Medical and Biotechnological Applications.  
**Authors:** Dr. Subhadip Roy

**Book Title:** Nanobiotechnology, Applications of Nanomaterials in Biotechnology, Medicine and Healthcare.

**ISBN:** 978-1-032-30387-1 (hbk), ISBN: 978-1-032-30529-5 (pbk), ISBN: 978-1-003-30558-3 (ebk)

(12) In *June 2024*, **Dr. Ankita Chakraborty**, Assistant Professor, Department of Chemistry, published a Book chapter in International Academic Publishing House (IAPH) with ISBN: 978-81-969828-4-3

**Chapter Title:** Green solvents in Organic Synthesis: A futuristic Approach.  
**Authors:** Dr. Ankita Chakraborty

**Book Title:** A Basic Handbook of Science Technology and Innovation for Inclusive Development.

**ISBN:** 978-81-969828-4-3

In addition to carrying out research work, our faculty members are also involved in *reviewing processes* with many reputed journals as *peer reviewers*.

**Dr. Subhadip Roy**, Assistant Professor, Department of Chemistry, has received the Certificate of Recognition and Appreciation for his valuable contribution and for maintaining the highest editorial standards as a peer reviewer from **American Chemical Society Publications**.



**Dr. Tufan Singha Mahapatra**, Assistant Professor, Department of Chemistry, has associated in *reviewing processes* with **Royal Society of Chemistry, Elsevier and Willey VCH** journals as *peer reviewers*.

**Dr. Saheli Roy**, Assistant Professor, Department of Chemistry, has been involved in *reviewing processes* with **Scientific Reports** (published by **Nature**) as *peer reviewers*.

**Dr. Ganesh Chandra Paul**, Assistant Professor & Head, Department of Chemistry, has associated in *reviewing processes* with **Elsevier** journals as *peer reviewers*.

## STUDENTS' SPEAK



“As a second-year BSc Chemistry student at ICFAI University Tripura, my experience so far has been excellent. The university provides a well-structured curriculum that balances theoretical and practical knowledge. The chemistry labs are well-equipped, allowing us to gain hands-on experience with experiments and research. The faculty members are knowledgeable, supportive, and always ready to help students with doubts. The university also conducts seminars, workshops, and industrial visits, which enhance our understanding of real-world applications”.

**Baishakhi Nath, B.Sc. Chemistry, 2<sup>nd</sup> Year.**



"I am deeply grateful to "ICFAI UNIVERSITY TRIPURA "for the invaluable knowledge, support, and opportunities it has provided. The dedication of the faculty, the enriching environment, and the commitment to excellence have played a crucial role in my growth. I sincerely appreciate the efforts of everyone who contributes to making this institute a place of learning, innovation, and inspiration. Thank you for shaping my journey and empowering me for the future."

**Chiranjit Roy, M. Sc. Chemistry, 2<sup>nd</sup> Year**



"ICFAI University Tripura offers a well-rounded academic environment with a focus on quality education, skill development, and overall growth. The campus is equipped with modern infrastructure, including well-equipped classrooms, libraries, and computer labs, providing students with all necessary resources for effective learning. The university fosters a student-centric approach, ensuring ample opportunities for extracurricular activities, sports, and industry exposure. Additionally, its industry tie-ups and internships enhance practical knowledge, preparing students for the competitive job market. The overall atmosphere is supportive, promoting both academic excellence and personal growth."

**Sreyashi Dey, B.Sc. Chemistry, 2<sup>nd</sup> Year.**

"It is a privilege to speak about the incredible environment and faculty at ICFAI University. Every corner of this campus encourages us to explore, ask questions, and engage in meaningful discussions.

What truly sets ICFAI apart is the dedication of our faculty. They not only impart knowledge but also inspire and mentor us to become better individuals. Their guidance and unwavering support have played a vital role in shaping our academic and personal growth.

I am grateful to be part of this university, where both the environment and faculty contribute to our success and development."

**Ankita Guha, B.Sc. Chemistry, 3<sup>rd</sup> Year.**



“I am very grateful as ICFAI UNIVERSITY Tripura, has given me the space and opportunity to grow in academic, character and skills. Though sceptical at first I have grown to appreciate the time spent at the campus along with the professors and faculty staff as a support base.

ICFAI UNIVERSITY is one of the best spring board in life on which one can jump high in the job market. The University helps the students get equipped with essential skills in COMPUTER IT, COMMUNICATION, NURSING, SPORTS, BUSINESS MANAGEMENT & LAW.

On the plus side its industry tie ups and Internships helps us students with arsenal of practical know how for challenges in Life.”

**Chumui Debbarma B. Sc. Chemistry 3<sup>rd</sup> year**



“It was my immense luck and fortune to be the part of ICFAI University where I can grow. As a student of ICFAI University Tripura the thing I like the most is the co-operative environment of the faculty members, who are always available for our help and clearing doubt, the classes provided are highly interactive. My two years at ICFAI had been a wonderful experience of learning with prolific exposure to outside. Huge respect, love and devotion to the entire faculty members and department. One of the most impressive quality of the university is its anti-ragging environment.”.

**Tania Das Choudhury, BSc. Chemistry 2<sup>nd</sup> Year**

“ICFAI University Tripura is not just another institution for me but it has been a place of change for me. In these two years, I have not only learned a lot in the academic sense, but also became a different person. With its nurturing environment, dedicated faculty, and holistic learning approach, it equipped me with the skills and knowledge. I will be getting not only the degree, but also the confidence, the skills that will help me in my future life along with lots of nice memories. I would like to thank ICFAI for educating me for the future.”.

**Akhangsha Paul  
M.Sc. Chemistry 2<sup>nd</sup> year**



## **LABORATORY FACILITY**

Department of Chemistry, ICFAI University Tripura is equipped with advanced scientific instruments, including a Shimadzu UV-visible spectrophotometer and an FT-IR Spectrometer System with ATR Sampling Module.

UV-visible spectrophotometers and FT-IR spectrometers, renowned for their precision and accuracy, are essential instruments used in chemical analysis to characterize unknown compounds prepared in the laboratory. UV-visible spectrophotometers measure the absorption of light in the ultraviolet and visible regions of the electromagnetic spectrum, providing detailed information about electronic transitions in molecules. On the other hand, FT-IR (Fourier Transform Infrared) spectrometers are used to analyse how a sample interacts with infrared light, offering valuable insights into the functional groups and chemical bonds present in the compound. These instruments, with their unparalleled accuracy, are crucial for identifying and understanding the properties of various compounds synthesized in the laboratory.

Our efforts, involving several faculty members from the Chemistry Department, research scholars, and MSc students, have led to measurements on numerous samples. These efforts are expected to yield many good publications in the near future, showcasing our shared commitment to advancing scientific knowledge.



**Figure 24:** *Photos of M.Sc. and B.Sc. Chemistry Laboratory.*





**Figure 25:** Photo of Chemistry Research Laboratory.



**Figure 26:** Photo of Melting-point apparatus.



**Figure 27:** Photo of Colorimeter.



**Figure 28:** *Photo of Conductivity Meter*



**Figure 29:** *Photo of Hot Plate.*



**Figure 30:** *Photo of Water bath.*



**Figure 31:** *Photo of Heating mantle.*



**Figure 32:** *Photo of Vacuum pump.*



**Figure 33:** *Photo of Hot Plate with magnetic stirrer.*





**Figure 34:** *Photo of Hot Air Oven.*



**Figure 35:** *Weighing balance*



**Figure 36:** *Photo of Fume Hood in M.Sc. and B.Sc. Chemistry Laboratory*



**Figure 37:** *Photo of Fume Hood in Chemistry Research Laboratory.*



**Figure 38:** *Photo of Water distillation unit in Chemistry Research Laboratory.*



**Figure 39:** *Photo of Rotary Evaporator in Chemistry Research Laboratory.*





**Figure 40:** *Photo of Shimadzu UV-VIS Spectrophotometer model: UV-1900i in Central Instrumentation Center for Chemistry Research purpose.*



**Figure 41:** *Photos of BRUKER alpha ii FT-IR Spectrophotometer in Central Instrumentation Center for Chemistry Research purpose.*

**CONTACT INFORMATION**

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Faculty of Science and Technology

ICFAI University Tripura

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