

## ABOUT THE DEPARTMENT

The Department of Life Science at NIT Rourkela is envisioned to be a state-of-the-art department which emphasizes on the understanding of mechanisms of life processes at molecular and cellular levels in all living systems, which will pave the way towards deciphering the molecular mechanisms of the diseases and translation to patients.

It encompasses both basic and advanced fields of science, such as zoology, botany, cell biology, genetics, biochemistry, microbiology, molecular biology, immunology, environmental sciences, biophysics, bioinformatics, systems biology, biomedical technologies, etc.

The department was recognized as a Research Centre to provide guidance to full-time/part-time Ph.D. scholars. Presently, 84 scholars are pursuing a Ph.D. in the Above-mentioned areas.

## ABOUT RNA-BIOLOGY LAB

The RNA Biology Lab at the National Institute of Technology (NIT) , Odisha, is dedicated to advancing our understanding of RNA molecules and their potential roles in cellular biology and disease. Our research explores a wide spectrum of RNA types—including mRNA, long non-coding RNAs (lncRNAs), microRNAs, and transfer RNAs (tRNAs)—with a focus on their structural modifications, functional mechanisms, and therapeutic potential. We also have a keen interest in RNA-protein interactions, RNA secondary structure dynamics, and the regulatory complexity of RNA in biological systems.

Our lab employs a wide range of molecular and cellular techniques such as in vitro transcription (IVT), RT-PCR, cell culture, spectroscopic analysis, and RNA-protein computational studies to investigate these processes at both molecular and systems levels.

## ORGANISING COMMITTEE

### PATRON

Prof. K. Umamaheshwar Rao  
Director, NIT Rourkela, Odisha

### CHAIRPERSON

Prof. Bismita Nayak  
HOD, Department of Life Science

### CONVENOR

Prof. Santosh Kumar  
Department of Life Science

### REGISTRATION DETAILS

**REGISTRATION FEE: ₹0/-**  
**(Exclusive for offline participants)**  
**(First 12 registrations will be considered )**

**REGISTRATION FEE: ₹500/-**  
**(For online participants)**

Registration fees should be bank transferred through UPI/NEFT/IMPS to the following

Account Number  
(Name):10138951784(STATE BANK OF INDIA)  
IFSC: SBIN0002109

**Registration Begins: 20th January 2026**  
**Registration Closes: 19th February 2026**

## ARB-TM-2026

An ANRF (SSR) funded five-day Workshop  
On

***“Advances in RNA- Biology and Therapeutic Methods”***

### DATE:

**23<sup>rd</sup> February to 27<sup>th</sup> February 2026**  
**Convenor**  
**Dr. Santosh Kumar**

Assistant professor  
Department of Life Science, NIT  
Rourkela



**Organized by**  
**RNA- Biology lab, Department of life science**  
**NATIONAL INSTITUTE OF TECHNOLOGY, ROURKELA**  
**Ssector-1, Rourkela, Odisha, India, 769008**

## ABOUT WORKSHOP

This workshop is designed to educate and impart technical knowledge to graduate and postgraduate students, as well as research scholars, on key molecular techniques necessary for pursuing research in the field of RNA biology. It will help participants to get comprehensive knowledge about the recent advances in the field of RNA biology, focusing on human health and therapeutics. Interaction with industrial and academic experts will help participants choose their career path in academia or industry, tackle career challenges, and build a solid foundation for productive and useful research. Additionally, this workshop will address the topic of comprehending cancer and identifying potential remedies, which will set a basic idea among the participants. Experts will also deliver insightful talks on recent advances in the field of RNA biology and its Applications. The use of AI and machine learning to transcriptomic research will also be discussed in detail, which will be helpful to participants who want to work in this area. This five-day workshop, which is led by a team of experts, aims to combine lectures by eminent scientists, visual aids, live demonstrations, and practical sessions, which will be helpful to the participants.

## HIGHLIGHTS OF WORKSHOP

- RNA biology: History, current trends, and perspectives
- RNA-protein interaction, RNA modifications and its impact on diseases.
- Mammalian cell culture techniques
- RNA isolation and purification
- In vitro transcription and its application
- Molecular assays in RNA biology

## OUTCOMES

- Understand key concepts in RNA biology through expert lectures covering diverse RNA types and their functions.
- Observe and learn core RNA experimental techniques, including IVT, PCR, RNA handling, and basic cell culture demonstrations.
- Gain insights into RNA structure and RNA–protein interactions using experimental and computational perspectives.
- Appreciate the principles of RNA-based therapeutics and their applications in disease biology.
- Integrate theoretical knowledge with laboratory demonstrations for a holistic understanding of RNA research workflows.

## SELECTION CRITERIA

- The workshop is open to **Graduate (UG), Postgraduate (PG), and Faculty members** from life sciences and related disciplines.
- **A total of 12 participants** will be selected through a screening process by the organizing committee.
- **Offline participation is free of charge**, while **online participants are required to pay a registration fee of ₹500**.
- Selection will be based on the **academic background and relevance of interest**.
- **Selected participants will be informed via email**.
- **No TA/DA will be provided** to any participant.
- **Accommodation may be provided**, subject to availability and institute norms.

## HOW TO REGISTER

Eligible students can apply directly to the Convenor by submitting a duly completed registration form before the closing date. The registration form can be accessed via the link below. The application should be accompanied by a student ID card showing the affiliation.

(The convenor deserves the right to scrutinize and select the participants based on the mentioned criteria.).

Registration link for offline participants:

[https://docs.google.com/forms/d/e/1FAIpQLScG\\_8rFy4D23WuKsb18kXqK3pegCxfBICc9-FGGNqYvlhla5A/viewform?usp=publish-editor](https://docs.google.com/forms/d/e/1FAIpQLScG_8rFy4D23WuKsb18kXqK3pegCxfBICc9-FGGNqYvlhla5A/viewform?usp=publish-editor)

Registration link for online participants:

<https://docs.google.com/forms/d/e/1FAIpQLScovPXLiCY56GtK2ZIsIWJVuw1UAaF2il-INwhlh3YtsMidXg/viewform?usp=publish-editor>

## CONTACT US

**Convenor**  
**Dr. Santosh Kumar**

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