

*As part of outreach endeavors, 18 days of immersive*



# REFRESHER & PREPARATIVE WINTER SCHOOL (RPWS)

**4 - 21 December 2024**

For 2<sup>nd</sup> year M.Sc. Science Students  
(Biology, Chemistry & Physics)



**Target Participants: Ph.D. Aspirants**

*(Preparing for national exams like NET, GATE, JGEEBILS, JEST, etc.)*

◆ Last Date: 15<sup>th</sup> July 2024

**Venue:**  
IISER Thiruvananthapuram

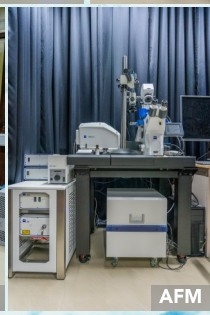
- ☛ Accommodation, Food & Registration are all free!
- ☛ The selected candidates need to cover only their travel!

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NOW**



**Labs**


**Facilities**





**Hostels**




**Winter School in Biology** is aimed at fostering active learning of fundamental concepts in modern biology with a research outlook. The training includes interactive lecture sessions, glimpse of biology labs, research seminars and soft-skills for science. The program will focus on training highly talented and motivated students who are interested in pursuing a research career after Masters.

 **ELIGIBILITY**

 **INTAKE:** 50 Students

 [rpwsbio@iisertvm.ac.in](mailto:rpwsbio@iisertvm.ac.in)

- ◆ Final year of M.Sc. and Integrated BS-MS in Biological Sciences and allied subjects.

 **TOPICS & SPEAKERS**

Free Online Registration

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- ◆ **Biochemistry:** *Dr. Ravi Maruthachalam & Dr. Vijay Jayaraman*
- ◆ **System Physiology (Plant):** *Dr. Ravi Maruthachalam, Dr. Anirban Guha & Dr. Yugander Arra*
- ◆ **System Physiology (Animal):** *Dr. Satish Khurana*
- ◆ **Evolution and Behaviour:** *Dr. Ullasa Kodandaramaiah, Dr. Nisha N Kannan,  
Prof. Hema Somanathan & Dr. Yashraj Chavhan*
- ◆ **Microbiology:** *Dr. V. Stalin Raj, Dr. Sabari Sankar Thirupathy & Dr. Sandhya Ganesan*
- ◆ **Cellular Organization:** *Prof. S. Murty Srinivasula, Dr. Swathi Devireddy & Dr. Sandhya Ganesan*
- ◆ **Methods in Biology:** *Dr. Natesh Ramanathan & Dr. Vijay Jayaraman*
- ◆ **Inheritance Biology:** *Prof. Nishant K.T & Dr. N. Sadananda Singh*
- ◆ **Molecular Biology:** *Dr. Nishana Mayilaadumveetil*
- ◆ **Neurobiology:** *Dr. Poonam Thakur & Dr. Amrutha Swaminathan*
- ◆ **Ecological Principles:** *Prof. Hema Somanathan, Dr. Ullasa Kodandaramiah &  
Dr. Yashraj Chavhan*
- ◆ **Immunology:** *Dr. Kamalakannan Vijayan, Dr. Karthik Chandiran & Dr. Sandhya Ganesan*
- ◆ **Structural Biology:** *Dr. Natesh Ramanathan & Dr. Vijay Jayaraman*
- ◆ **Developmental Biology:** *Dr. Jishy Varghese & Dr. Bandan Chakraborty*
- ◆ **Plant Biochemistry:** *Dr. Sanu Shameer*
- ◆ **Cell Communication and Cell Signaling:** *Prof. Tapas K. Manna*





## Winter School in Chemistry

The Refresher and Preparative Winter School 2024, at the School of Chemistry, intends to imbibe a scientific attitude and aptitude for research in young enthusiasts. The program will focus on training highly talented students who are motivated to pursue research careers after their master's degree. Through an interactive learning environment, this winter school is aimed to (i) instill a strong foundation of the

fundamental concepts through a quick recap, ii) strengthen understanding of advanced concepts and iii) develop logical thinking and problem-solving capabilities in diverse areas of chemistry, which include organic, inorganic, physical, and theoretical chemistry. This program also intends to provide critical inputs on different opportunities available to the students after their postgraduate program. The winter school will select fifty students (at the national level) based on their academic performance.



ELIGIBILITY



INTAKE: 50 Students



rpwschm@iisertvm.ac.in

- ◆ Final year of M.Sc. and Integrated BS-MS in Chemical Sciences and allied subjects.



### TOPICS & SPEAKERS

Free Online Registration

REGISTER  
NOW

- ◆ **Principles of Quantum Chemistry:** *Dr. R. S. Swathi & Dr. V. Sivaranjana Reddy*
- ◆ **Principles and Application of Spectroscopy:** *Prof. K. George Thomas & Dr. Adithya Lakshmana*
- ◆ **Equilibrium Thermodynamics:** *Dr. K. R. Krishnadas*
- ◆ **Statistical Thermodynamics:** *Dr. Pushpita Ghosh*
- ◆ **Chemical Kinetics and Electrochemistry:** *Dr. Muthukrishnan & Dr. Jerry Fereiro*
- ◆ **Symmetry and Group Theoretical Applications in Chemistry:** *Dr. Vinesh Vijayan*
- ◆ **Mathematical Methods for Chemists and Data Analysis:** *Prof. Mahesh Hariharan*
- ◆ **General Organic Chemistry:** *Dr. Rajendar G. & Dr. Reji Varghese*
- ◆ **Reagents in Organic Chemistry:** *Dr. Alagiri Kaliyamoorthy & Dr. Veera Reddy Yatham*
- ◆ **Pericyclic and Photochemistry:** *Prof. K. M. Sureshan & Dr. Soumen De*
- ◆ **Heterocyclic Chemistry:** *Dr. Basudev Sahoo*
- ◆ **Asymmetric Synthesis:** *Dr. Ramesh Rasappan*
- ◆ **Structure Determination of Organic Compounds:** *Prof. J. N. Moorthy & Dr. Reji Varghese*
- ◆ **Coordination and Bioinorganic Chemistry:** *Dr. Subrata Kundu & Dr. Rajendra Kurapati*
- ◆ **Organometallics:** *Dr. Ravi Yadav & Dr. Ramaraj Ayyappan*
- ◆ **Solid State Chemistry:** *Prof. Sukhendu Mandal & Dr. Thirumurugan A.*
- ◆ **Main Group Chemistry:** *Dr. S. Gokulnath & Dr. Indranil Mondal*



## Winter School in Physics

The refresher program is specially designed for highly motivated students at the Master's level, and aims to instill the fundamental concepts of Physics through problem-solving exercises. Additionally, it offers insights into the state-of-the-art research activities in the field and prospective avenues for future exploration.



### HIGHLIGHTS



INTAKE: 50 Students



[rpwsphy@iisertvm.ac.in](mailto:rpwsphy@iisertvm.ac.in)

- ◆ Comprehension, Reasoning and Problem Solving in Physics
- ◆ Exposure to cutting-edge international research
- ◆ Discussions on opportunities after Masters

Free Online Registration

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### TOPICS & SPEAKERS

- ◆ **Mathematical Methods:** *Dr. D. V. Senthilkumar & Dr. Bindusar Sahoo*
- ◆ **Classical Mechanics:** *Prof. M. M. Shaijumon, Prof Joy Mitra, Dr. Soumen Basak & Prof. G Ambika*
- ◆ **EM Theory and Optics:** *Dr. Chandrakala Meena, Dr. Rajeev Kini, Dr. Nitin Yadav & Prof. Ramesh Chandra Nath*
- ◆ **Quantum Mechanics:** *Dr. Amal Medhi, Dr. Debashis Saha & Dr. Madhu Thalakulam*
- ◆ **Thermodynamic and Statistical Physics:** *Dr. Shabnam Iyyani, Dr. Sreedhar B. Dutta & Dr. Souvik Paul*
- ◆ **Electronics and Experimental Methods:** *Dr. Suhesh Kumar Singh, Dr. Tuhin S. Maity & Dr. Bikas Das*
- ◆ **Atomic & Molecular Physics:** *Dr. Ravi Pant, Dr. Krishnendu Gope & Prof. Anil Shaji*
- ◆ **Condensed Matter Physics:** *Dr. Deepshikha Jaiswal Nagar & Dr. Vinayak Kamble*
- ◆ **Nuclear and Particle Physics:** *Dr. Tanumoy Mandal, Dr. Pramitha M. & Dr. Mathew Arun Thomas*
- ◆ **Lab:** *Dr. S. Kumaragurubaran & Prof. Manoj Namboothiri*

