

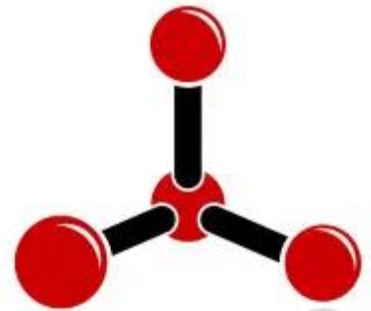
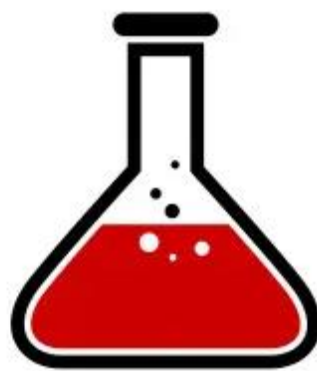
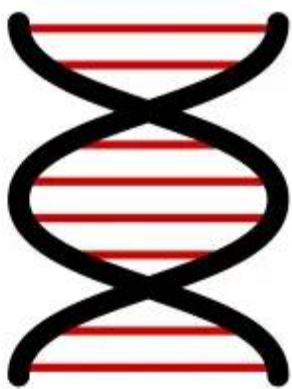


SWAMI VIVEKANANDA UNIVERSITY

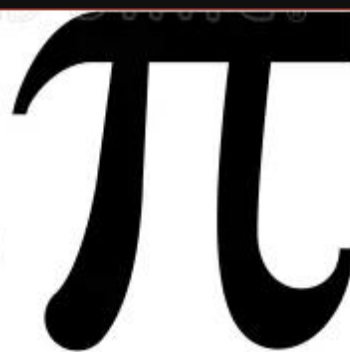
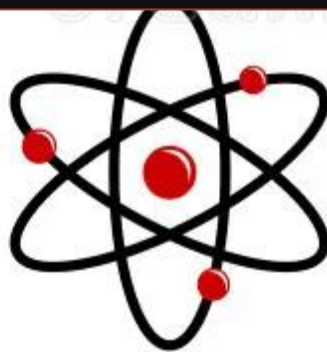
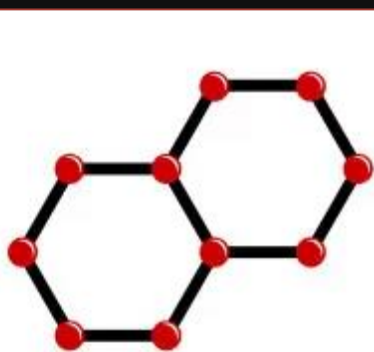
NEWSLETTER

VOL III, ISSUE II

MARCH – APRIL 2026



SCHOOL OF BASIC SCIENCES



MESSAGE FROM THE HOD

It gives me the greatest joy to connect with you through this edition of the four-newsletter. The School of Basic Sciences continues to uphold its commitment to academic excellence, research, and innovation. Our dedicated faculty and bright students are making remarkable strides in the various fields, contributing to the ever-expanding frontiers of knowledge. This year, we have witnessed significant accomplishments, from groundbreaking research publications to student accomplishments in national and international forums. Our department remains focused on fostering a culture of inquiry, curiosity, and collaboration, ensuring that our students receive the best foundation in the fundamental sciences. I take this opportunity to express my sincere gratitude to our faculty, researchers, and students for their unwavering dedication. Let's continue to strive for excellence and work toward making meaningful contributions to science and society.



Dr. SUBHABRATA
MONDAL
HOD and Assistant
Professor
School of Basic Sciences

MESSAGE FROM THE CONVENOR

The School of Basic Sciences is committed to fostering a culture of curiosity, innovation, and academic excellence. As we embark on another exciting semester, I encourage everyone to explore the wonders of science, collaborate across disciplines, and push the boundaries of knowledge. Let's make the most of the opportunities ahead, whether in the lab, classroom, or beyond. Together, we can achieve remarkable milestones and contribute meaningfully to the scientific community. Wishing you all a productive and inspiring term ahead!



Dr. KAZI HASIBUR
RAHMAN
Assistant Professor
School of Basic Sciences

Editor's Note

TEACHER EDITOR'S

I would like to express my gratitude to the respected Head of the Department, Faculty members, Editorial team members, and article contributors for their contributions to the newsletter's SECOND edition in 2026. This newsletter's content includes fascinating articles and the most recent scientific advancements. Being a member of the editorial team is an excellent experience for me. Students are encouraged to develop an engrossing interest in science by this newsletter.



Dr. Sagar Chakraborty

Assistant Professor
School of Basic Sciences



Team Basic Sciences

Events

MEMORIE'S

SEMINAR ON SOME FUNDAMNTAL CONCEPTS OF REDOX REACTIONS

05 / 03 / 2026



Some Fundamental Concepts of Redox Reactions



DR. GURUCHARAN MUKHOPADHYAY

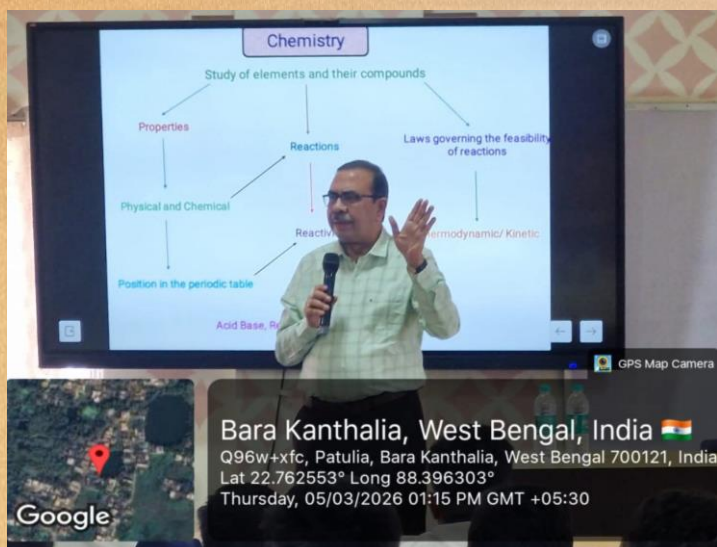
Former Associate Professor, Presidency College and
Bidhaanngar College (Kolkata)

Time: 12:30 p.m
Date: 05.03.2026

Organized By:
School of Basic Sciences

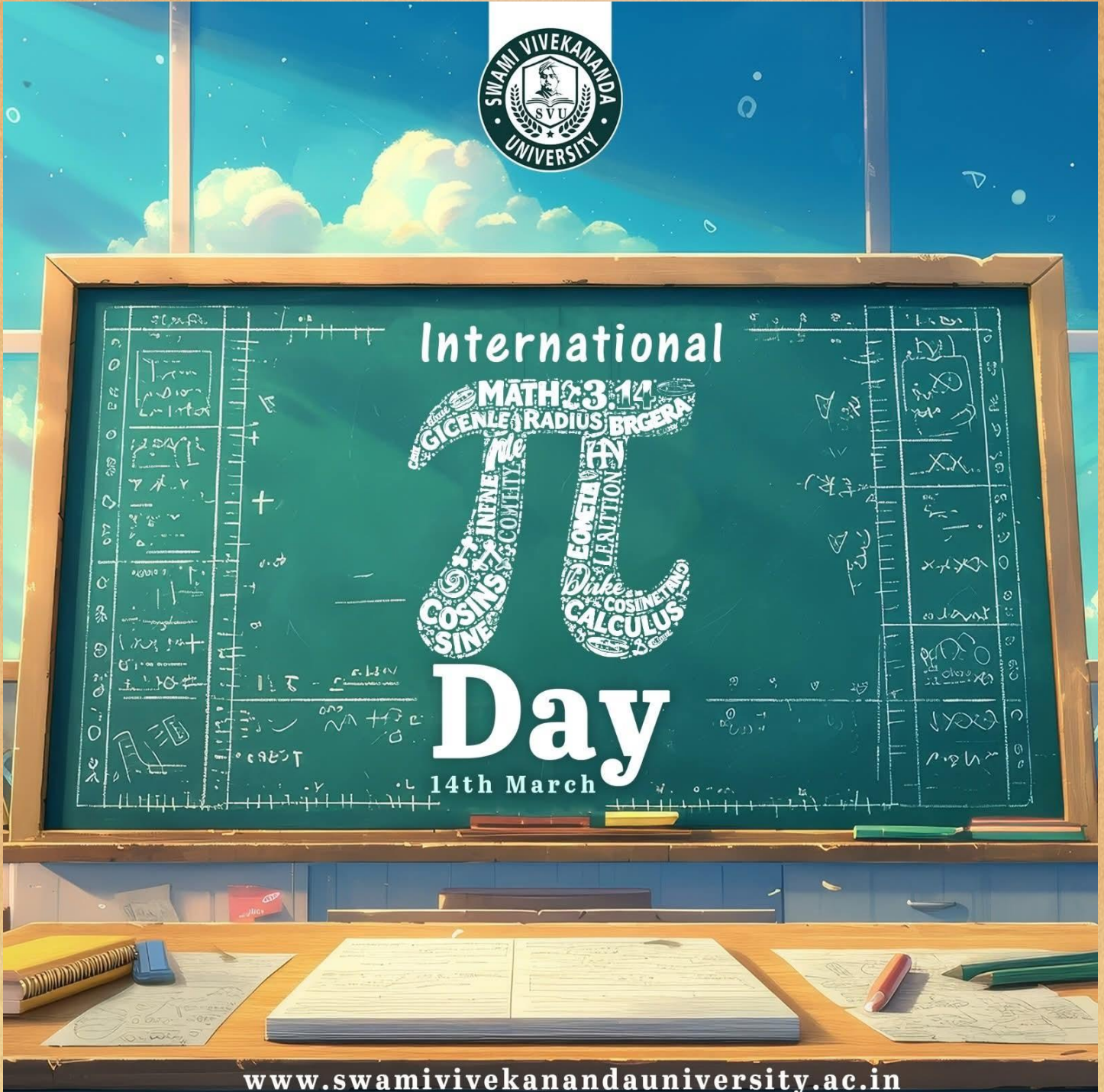
SEMINAR ON SOME FUNDAMNTAL CONCEPTS OF REDOX REACTIONS

05/ 03/ 2026



PIE DAY CELEBRATION

14/ 03/ 2026



SYMPOSIUM ON THE ROLE OF INTEGRATED FUNDAMENTAL SCIENCES IN EMERGING TECHNOLOGIES

17/ 03/ 2026, 18/ 03/ 2026



Symposium on the Role of Integrated Fundamental Sciences in Emerging Technologies 17th -18th March, 2026

GUEST OF HONOUR



Prof. (Dr.) Ashutosh Ghosh,
Vice Chancellor, University of Calcutta, Kolkata

KEYNOTE SPEAKER



Prof. (Dr.) Kalyan Kumar Chattopadhyay,
Department of Physics, Jadavpur University, Kolkata

SPEAKERS



Prof. (Dr.) Shouvik Chattopadhyay
Professor
Department of Chemistry,
Inorganic Section,
Jadavpur University, Kolkata



Prof. (Dr.) Achintya Kumar Sarkar
Ex Professor of
Bidhannagar Govt. College Kolkata



Dr. Parthasarathi Mukhopadhyay
Associate professor
Department of Mathematics
Ramakrishna Mission
Residential College, Narendrapur



Dr. Mriganka Mandal
Assistant Professor
Cryptology and Security
Research Unit (CSRU),
R. C. Bose Centre for Cryptology
and Security, Indian Statistical Institute, Kolkata



Dr. Amit Tribedi
Associate Professor
Department of Physics,
Sushilkar College (Affiliated to the
University of Calcutta)



Dr. Satyaki Kar
Assistant Professor
Aghorekamini Prakashchandra
Mahavidyalaya, Bengal, West Bengal

Organized By

School of Basic Sciences, Swami Vivekananda University, Bara Kanthalia, West Bengal

www.swamivivekanandauniversity.ac.in

SYMPOSIUM ON THE ROLE OF INTEGRATED FUNDAMENTAL SCIENCES IN EMERGING TECHNOLOGIES

17/ 03/ 2026, 18/ 03/ 2026



SYMPOSIUM ON THE ROLE OF INTEGRATED FUNDAMENTAL SCIENCES IN EMERGING TECHNOLOGIES

17/ 03/ 2026, 18/ 03/ 2026



TAKE ON TECHIE

25 / 03 / 2026



Organised by School of Basic Science



DR. SABYASACHI SAHA
CEO/ FOUNDER
TECHNO EXPONENT

TAKE ON TECHIE

HOW TO SHAPE AN ENGINEERING
MIND



12:30PM



25/03/2026

TAKE ON TECHIE

25 / 03 / 2026



Lecture delivered by
MS. SOHINI SADHUKHA

01 / 04 / 2026



Organised by
SCHOOL OF BASIC SCIENCE
& SVU TECH COHORT

LECTURE SESSION ON
**AGE IS NOT A LIMIT
TO THINK BIGGER**



GUEST
LECTURER

**MS. SOHINI
SADHUKHA**

Kolkata's youngest founder
at just 17

Wednesday
1st
APRIL
FROM 12:30

BLOCK 6, HALL 2A
at SVU CAMPUS

For more details
JOIN US



Ph.D. Viva-Voce Examination in Department of Mathematics

13/ 04/ 2026



Ph.D. Viva-Voce Examination of Mr. Tarak Nath Halder in Department of Mathematics under the supervision of Dr. Arijit Das

Achievements



पेटेंट कार्यालय, भारत सरकार

The Patent Office, Government Of India

डिजाइन के पंजीकरण का प्रमाण पत्र

Certificate of Registration of Design

डिजाइन सं. / Design No.

486907-001

तारीख / Date

12/01/2026

पारस्परिकता तारीख / Reciprocity Date*

देश / Country

प्रमाणित किया जाता है कि संलग्न प्रति में वर्णित डिजाइन जो **THERMOELECTRIC BAND** से संबंधित है, का पंजीकरण, श्रेणी 10-07 में 1.Sayan Pal 2. Dr. Krishanu Chatterjee 3.Dr. Chiranjib Bhowmik 4.Dr. Arup Ratan Biswas 5.Dr. Arup Ratan Dey 6.Dr. Oshmita Dey 7.Dr. Sucheta Adhikari 8.Dr. Shilpa Maity के नाम में उपर्युक्त संख्या और तारीख में कर लिया गया है।

Certified that the design of which a copy is annexed hereto has been registered as of the number and date given above in class 10-07 in respect of the application of such design to **THERMOELECTRIC BAND** in the name of 1.Sayan Pal 2. Dr. Krishanu Chatterjee 3.Dr. Chiranjib Bhowmik 4.Dr. Arup Ratan Biswas 5.Dr. Arup Ratan Dey 6.Dr. Oshmita Dey 7.Dr. Sucheta Adhikari 8.Dr. Shilpa Maity.

डिजाइन अधिनियम, 2000 तथा डिजाइन नियम, 2001 के अधधीन प्रावधानों के अनुसरण में।

In pursuance of and subject to the provisions of the Designs Act, 2000 and the Designs Rules, 2001.



उत्पादक
उत्पादक

जारी करने की तिथि : 26/02/2026
Date of Issue

महानियंत्रक पेटेंट, डिजाइन और व्यापार चिह्न
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Articles

**Write-ups
That Inspire**

JOURNAL ARTICLE

Recent Advances on Sustainable and Green Production of Light Olefins From Short-Chain Alcohols via on-Purpose Selective Catalytic Dehydration



Author(s) : Arpan Mukherjee, Oseen Negi, Chanchal Samanta, Ankur Bordoloi.

Journal: Chemistry – An Asian Journal

Publisher : Wiley-VCH

Language: English

Publication Year: 2026

DOI : <https://doi.org/10.1002/asia.70709>

IF : 3.3 (SCI)

DESCRIPTION

Light olefins are primary building blocks for various value-added chemicals and have become an indispensable part of our daily lives. Steam and fluid catalytic cracking are traditional methods for production of light olefins, which are highly energy-intensive, amounting to significant CO₂ emissions. In light of the above aspects, the increasing demand for light olefins needs to be met through environmentally sustainable, energy efficient, and on-purpose production routes having lower carbon footprint. Among them, selective catalytic dehydration of renewable alcohols to light olefins offers an attractive on-purpose production route. Recent advances covering catalysts and processes in the production of light olefins from ethanol, C₃ and C₄ alcohols have been analyzed in this article. The narrative encompasses chemical composition of each catalytic system, role of supports and reaction parameters.

JOURNAL ARTICLE

Cellular dynamical model using fractional derivatives to assess the impact of memory and host-immunity in controlling Ebola transmission



Author(s) Piu Samui, Jayanta Mondal and Subhendu Maji

Journal: Discover public health

Publisher : Springer Nature Link

Language: English

Publication Year: 2026

DOI : <https://doi.org/10.1186/s12982-026-01905-2>

IF : 1 (Scopus)

DESCRIPTION

Ebola viral disease, or simply Ebola is a fatal and highly contagious disease caused by the Ebolav irus. Macrophages and dendritic immune cells are the predominant target cells of Ebola virus. In this present study, a novel three dimensional ODE deterministic model is proposed consisting of infected target immune cells load, Ebola virions load and concentration of CTLs. The host pathogen interrelationships and role of host immunity in eliminating virions are delineated by a nonlinear functional response. The model assumes maximum concentration level of infected cells proliferation. The model is further upgraded to fractional-order system in Caputo sense and order of fractional derivatives (ϑ) stands for the index of immunological memory.

Study on structural, magnetic, hyperfine, optical properties and dye-degradation of self-assembled $\text{Co}_{0.5}\text{Zn}_{0.5}\text{Fe}_2\text{O}_4$ microspheres



Author(s) : K. Sarkar , M. Dutta , P. Sahoo, R. Mondal, S. Dey, S. Kumar

Journal: Physica B: Condensed Matter

Publisher : Science direct

Language: English

Publication Year: 2026

DOI : 10.1016/j.physb.2026.418668

IF : 2.8 (Scopus)

ABSTRACT

Spinel ferrites with tuned hierarchical morphology and porous structure can assist in environmental remediation thorough dye degradation from wastewater. In this work, self-assembled $\text{Co}_{0.5}\text{Zn}_{0.5}\text{Fe}_2\text{O}_4$ microspheres (~ 140 nm), composed of nanoparticles (~ 25 nm), have been synthesized via a facile solvothermal route. Structural and spectroscopic analyses confirmed cubic spinel symmetry. Photoluminescence measurements have shown visible emission with a quantum yield of $\sim 17\%$. BET measurements reveal a high surface area of $173.034 \text{ m}^2 \text{ g}^{-1}$, pore diameters $\sim 1.6 - 14$ nm and pore volume of $0.452 \text{ cm}^3 \text{ g}^{-1}$. Coercivity of the samples at 300, 100, and 5 K are 165, 895, and 2963 Oe, respectively.

JOURNAL ARTICLE

Defect-Engineered Topological Light Transport in 2D Photonic Crystals at Mid-IR Wavelengths



Author(s) : Somashreeta Roy, Sohani Roy, Suchandra Mukherjee, Abhijit Biswas

Journal: 13th International Conference on 'Microelectronics, Circuits and Systems', Micro2026

Publisher : **Gautam Buddha University**

Language: English

Publication Year: 2026

DOI : <https://doi.org/10.1186/s12982-026-01905-2>

DESCRIPTION

Topological band structure engineering enables the development of robust light propagation states known as topological interface states, across a variety of media. These light states emerge at the interface between two topologically distinct lattices and are characterized by their remarkable robustness against structural imperfections. We present a systematic study of light transport in two-dimensional photonic crystal (PhC) waveguides, progressing from conventional defect-engineered designs to topologically robust architectures.