

Program Schedule

XII Biennial National Conference of Physics Academy of North East (PANE 2021)

15.12.2021 (Wednesday)

10.30 AM – 11:45 AM : Inauguration

11:45 AM – 12.00 PM: Hi Tea

12.00 PM – 12.30 PM: Keynote address

Prof. Sabu Thomas

Vice-Chancellor, Mahatma Gandhi University, India

Title: New Opportunities in Sustainable Nano Materials from Agrowaste

12.30 PM – 1.30 PM: Poster Session-I: 2CMPS to 48CMPS

Chairman: Prof. R. C. Tiwari, Department of Physics, Mizoram University

1.30 PM – 2.30 PM: LUNCH

2.30 PM – 05.00 PM: Technical Session – I

Condensed Matter Physics & Material Science (CMPMS)

Chairman: Prof. D. Bhattacharjee, Dept. of Physics, Tripura University

2.30 PM – 02.50 PM: Invited Lecture (IL-1)

Prof. Mrinal Pal

CSIR-Central Glass and Ceramic Research Institute, Kolkata, West Bengal

Title of topic: Multicolored emission from pristine ZnO nanostructure by tailoring defect states: A possible single source white LED phosphor

2.50 PM – 03.10 PM: Invited Lecture (IL-2)

Prof. Somabrata Acharya

School of Applied & Interdisciplinary Sciences

Indian Association for the Cultivation of Science, Kolkata, West Bengal

Title of topic: Fabrication of Two-dimensional Molecular Crystals at the Air-Water Interface with Photoluminescence Functionalities

3.10 PM – 03.30 PM: Invited Lecture (IL-3)

Prof. Ajay Kumar Kushwaha

Department of Metallurgy Engineering and Materials Science (MEMS), IIT Indore, India.

Title of topic: Nanostructured films for Photoelectrochemical Water Splitting

3.30 PM – 03.50 PM: Invited Lecture (IL-4)

Prof. Y. Sundarayya

Department of Physics, Nagaland University, India

Title of topic: Temperature Assisted tuning Of The Structure And Magnetic Properties Of Rare-Earth And Chromium Oxides Nanoparticles

03.50 PM – 04.00 PM: Oral-1 (1CMPMS)

Molongnenla Jamir

NIT Nagaland

Title of topic: Chitosan modified Fe₃O₄ nanoparticles for hyperthermia application

04.00 PM – 04.10 PM: Oral-2 (3CMPMS)

Bandana Gogoi, D.N. Govt. College, Itanagar

Title of topic: Magnetization Dynamics of Iron Oxide Superparamagnetic Nanoparticles above Blocking Temperature

04.10 PM – 04.20 PM: Oral-3 (9CMPMS)

Thoudam Basanta Singh, Don Bosco (Autonomous) College, Maram, Senapati - 795015, Manipur, India

Title of topic: A comparative study on five different methods of analysis of complex thermoluminescence data: A short review

04.20 PM – 04.30 PM: Oral-4 (31CMPMS)

Moirangthem Nara Singh, Dr. B Borooah Cancer Institute, Guwahati

Title of topic: Studies on Electron Traps in NaI: Tl scintillating crystal by thermoluminescence

04.30 PM – 04.40 PM: Oral-5 (41CMPMS)

Ningthoukhongjam Kirtimala Devi, Presidency College, Motbung, Manipur

Title of topic: Study of dielectric properties and ac conductivity of zinc ferrite synthesized by chemical coprecipitation technique.

04.40 PM – 04.50 PM: Oral-6 (43CMPMS)

K M S Dawngliana, Mizoram University

Title of topic: Optical basicity and electronic polarizability of Sm³⁺-doped silica glass prepared by sol-gel process

04.50 PM – 05.00 PM: Oral-7 (44CMPMS)

Dr. Manisha Bajpai, Siddharth University

Title of topic: Frequency and composition dependent impedance analysis of PFO: MEH-PPV polymer blends

16.12.2021 (Thursday)

10.00 AM – 12.00 PM: Technical Session – II

Astrophysics and Cosmology (AC)

Chairman: Dr. Ratan Das, Department of Physics, Tripura University

10.00 AM – 10.20 AM: Invited Lecture (IL-5)

Prof. Archan S. Majumdar

S. N. Bose National Centre for Basic Sciences, Kolkata, India

Title of topic: Dark energy from the perspective of cosmological backreaction

10.20 AM – 10.40 AM: Invited Lecture (IL-6)

Prof. Vikram Rantala

Department of Physics, Indian Institute of Technology Bombay, India

Title of topic: New frontiers in the search for Dark Matter

10.40 AM – 11.00 AM: Invited Lecture (IL-7)

Prof. Asoke K Sen

Department of Physics, Assam University, Silchar, India

Title of topic: Our solar system with its comets and recent space missions

11.00 AM – 11.20 AM: Invited Lecture (IL-8)

Prof. Kalyan Bhuyan

Department of Physics, Dibrugarh University, Assam

Title of topic: f(R) Theories of Gravity: A Dynamical Systems Approach

11.20 AM – 11.30 AM: Oral-8 (10AC)

SAMIK MITRA, IIT GUWAHATI

Steady-state analysis of General Relativistic Magnetohydrodynamics (GRMHD) accretion flows around black hole space-time

11.30 AM – 11.40 AM: Oral-9 (11AC)

Dr. Debika Kangsha Banik, Department of Physics, Barnagar College, Sorbhog, Barpeta, Assam

Λ CDM Model in Born Infeld $f(R)$ gravity in the background of Bianchi I Cosmology

11.40 AM – 11.50 AM: Oral-10 (14AC)

Barun Maity, NCRA-TIFR

Efficient Modelling of Cosmic Reionization using SCRIPT

11.50 AM – 12.00 PM: Oral-11 (17AC)

BISWAJIT DEB, ASSAM UNIVERSITY

Inflation in $f(R,T)$ gravity with Double-Well Potential

12.00 PM – 01.40 PM: Technical Session – III

Condensed Matter Physics & Material Science (CMPMS)

Chairman: Prof S Dorendrajit Singh, Department of Physics, Manipur University

12.00 PM – 12.20 PM: Invited Lecture (IL-9)

Prof. A. Srinivasan

Department of Physics, Indian Institute of Technology Guwahati, India

Title of topic: Development of low dimensional Heusler alloys

12.20 PM – 12.40 PM: Invited Lecture (IL-10)

Prof. Samina Husain

Centre for Nanoscience and Nanotechnology, Jamia Millia Islamia, New Delhi, India

Title of topic: Polyaniline based nanocomposites for supercapacitor electrode application

12.40 PM – 12.50 PM: Oral-12 (61CMPMS)

Hritinava Banik, Tripura University

Title of topic: Transient WORM Memory Device Using Biocompatible Protamine Sulfate with Very High Data Retention and Stability

12.50 PM – 01.00 PM: Oral-13 (49CMPMS)

Dr. Mousumi Bhuyan, Rangia College

Title of topic: Ion assisted damage studies on Tungsten for next generation fusion reactor

01.00 PM – 01.10 PM: Oral-14 (54CMPMS)

Dr. J. Marin Sam Gnanaraj, Ssn Research Centre, Ssn College Of Engineering, Kalavakkam

Title of topic: Extraction of Transition Metals from Furnace Dust and Facile synthesis of Metal Oxide nanoparticles for optical limiting applications

01.10 PM – 01.20 PM: Oral-15 (55CMPMS)

Reshma Perayil, S.N.Polytechnic College, Kanhangad

Title of topic: Quantum Systems - A Pedagogic Approach

01.20 PM – 01.30 PM: Oral-16 (59CMPMS)

Prasanth P, Government Engineering College, Thrissur, Kerala

Title of topic: Defining Temperature

01.30 PM – 01.40 PM: Oral-17 (46CMPMS)

Dr S Sundaram Nehru Institute of Technology, Coimbatore, Tamilnadu, India

Title of topic: THEORETICAL (DFT) INVESTIGATION ON HYDROGEN BONDED BINARY LIQUID CRYSTAL MIXTURE (4MCA:6OBA)

01.40 PM – 02.30 PM: LUNCH

02.30 PM – 3.40 PM: Poster Session-II:

1AC to 19AC; 1AP to 7AP; 1AMP to 5AMP; 2IR to 18IR

Chairman: Dr. Samrat Dey, Department of Physics, Pragjyotish College, Guwahati

03.40 PM – 05.00 PM: Technical Session – IV

Atomic and Molecular Physics (AMP)

Chairman: Prof. Anurup Gohain Barua, Department of Physics, Gauhati University

03.40 PM – 04.00 PM: Invited Lecture (IL-11)

Prof. Sangam Chatterjee

Institute of Experimental Physics I and Center for Materials Research (LAMA),
Justus-Liebig-University Giessen, Germany

Title of topic: Towards tailoring layered white-light emitters: recent developments in mixed organic-inorganic halide perovskites

04.00 PM – 04.20 PM: Invited Lecture (IL-12)

Prof. Dilip Angom

Department of Physics, Manipur University, India

Title of topic: Supersolid phases in optical lattices

04.20 PM – 04.40 PM: Invited Lecture (IL-13)

Prof. Prashant Kumar

Physical Research Laboratory, Ahmedabad

Title of topic: Synthetic spectrum method for laser induced breakdown spectroscopy

04.40 PM – 04.50 PM: Oral-18 (2AMP)

Aravind, A.V. Abdurahiman Haji Arts & Science College (Affiliated to the University of Calicut)

Title of topic: Understanding the relationship between the two theorems: Virial and Equipartition

04.50 PM – 05.00 PM: Oral-19 (3AMP)

Amlan Jyoti Borah, Department Of Physics, Gauhati University

Title of topic: Light from the firefly *Luciola praeusta* at very low temperatures

17.12.2021 (Friday)

10.30 AM – 12.00 PM: Technical Session – V

Nuclear Physics & High Energy Physics (NPHEP)

Chairman: Prof. Betylda Mary Jyrwa, Department of Physics, NEHU

10.30 AM – 10.50 AM: Invited Lecture (IL-14)

Dr. Faizuddin Ahmed

Department of Physics, University of Science & Technology, Meghalaya, India

Title of topic: Effects of Coulomb-type Potential with Uniform Magnetic Field on Generalized Klein-Gordon Oscillator using the Kaluza-Klein theory

10.50 AM – 11.10 AM: Invited Lecture (IL-15)

Prof. Mrinal Kumar Das

Department of Physics, Tezpur University, India

Title of topic: Phenomenological consequences of neutrino masses and mixing

11.10 AM – 11.20 AM: Oral-20 (1NPHEP)

Nayana Gautam, Tezpur University

Title of topic: Impact of texture zeros on leptogenesis within minimal inverse seesaw framework

11.20 AM – 11.30 AM: Oral-21 (4NPHEP)

Tapashi Das, Madhab Choudhury College

Title of topic: Two and Three Loop Effects in the RMS radii of Heavy Flavored Mesons in a QCD Potential Model

11.30 AM – 11.40 AM: Oral-22 (12NPHEP)

Paramita Deka, Gauhati University

Title of topic: Impact of Transverse Enhancement in neutrino oscillation measurements using NOvA

11.40 AM – 11.50 AM: Oral-23 (14NPHEP)

Manoranjan Dutta, Indian Institute of Technology Hyderabad

Title of topic: Self-interacting Dark Matter via Right Handed Neutrino Portal

11.50 AM – 12.00 PM: Oral-24 (24NPHEP)

Jodie T. Rynnga, North Eastern Hill University

Title of topic: Covariance analysis of efficiency calibration of NaI(Tl) detector

12.00 PM – 1.00 PM: Poster Session-III

50CMPS to 64CMPS; 2NPHEP to 26NPHEP; 1CI to 10CI

Chairman: Prof. Kushal Kalita, Gauhati University

1.00 PM - 2.00 PM : LUNCH

02.00 PM – 03.40 PM Technical Session – VI

Atmospheric Physics (AP)

Chairman: Dr. Anirban Guha, Department of Physics, Tripura University

02.00 PM – 02.20 PM: Invited Lecture (IL-16)

Prof. Colin Price

Environmental Studies Department, Tel Aviv University, Israel

Title of topic: Lightning, Biology, and Evolution

02.20 PM – 02.40 PM: Invited Lecture (IL-17)

Prof. Ramesh Chandra Tiwari

Department of Physics, Mizoram University, India

Title of topic: Study of mechanical, optical and electrical attributes of X ray machines to understand radiation hazard

02.40 PM – 02.50 PM: Oral-25 (2AP)

Parminder Kaur, Tripura University

Title of topic: SEM-EDX based morphological and chemical characterization of aerosols generated during wood burning

02.50 PM – 03.00 PM: Oral-26 (1IR)

ARCHANA BORA, Gauhati University

Title of topic: Application of Artificial Neural Network to determine the thickness profile of thin film samples

03.00 PM – 03.10 PM: Oral-27 (5IR)

Dr. Jhuma Biswas, Pandu College

Title of topic: Effects of COVID-19 pandemic lockdown: A satellite data-based appraisal of air quality in Guwahati, Assam

03.10 PM – 03.20 PM: Oral-28 (7IR)

Thokchom Premkumar Meitei, National Institute of Technology Manipur

Title of topic: Transport properties of polydisperse hard sphere system

03.20 PM – 03.30 PM: Oral-29 (13IR)

Nurul Alam Mazumder, National Institute of Technology Silchar

Title of topic: Amino functionalized coal fly ash: A green and efficient heterogeneous solid base catalyst for Knoevenagel condensation reaction

03.30 PM – 03.40 PM: Oral-30 (15IR)

Dr. Sarangthem Nabadwip Singh, Oriental College (Autonomous), Takyel, Imphal, Manipur

Title of topic: Analysis of thermoluminescence of natural salt by simplified General One Trap differential equation.

03.40 PM – 04.30 PM: Valedictory session

04.30 AM – 05.00 PM: PANE General body meeting

Note: IL = Invited Lecture

Guideline for participating PANE 2021 conference:

Inauguration of the program will be in **hybrid mode (offline + online)**. All participants from Tripura University must attend the inauguration program physically at Seminar Hall, Department of Physics, TU at 10.00 AM. Registration for Tripura University participants will take place during 9.30 – 10.00 AM.

Participants outside Tripura University will join the inauguration function online via **GoogleMeet**. After the inauguration all the lectures will be held online via **Googlemeet**.

Live streaming of the program (all three days) will also be arranged via **YouTube**.

Keynote lecture, Invited Talk and oral presentations will be live presentation as per schedule.

GoogleMeet link for joining the program:

<https://meet.google.com/atj-iwji-pjd>

YouTube Streaming link for joining the program:

Will be provided through whatsapp group/website by 14th December, 2021.

Issuance of certificate:

There are nine sessions including three poster sessions. Feedback will be collected for each session via **google form**, which will also be considered as attendance.

Registered participants with **attendance $\geq 80\%$ are eligible for certificate** and certificate will be issued accordingly. No certificate will be issued to the participants with attendance $< 80\%$. Oral presenter must present their paper according to schedule. Poster presenters must attend the concern poster session.

Poster presentations along with the presentation and interaction guideline:

Videos / PPT related to all posters have already been uploaded in the conference website and can be accessed in the link below.

<https://pane2021.wordpress.com/poster-presentations/>

All interested participants are requested to go through the poster presentations (PPT/video) by clicking to the link provided with the each paper in right most column in the webpage.

Any quarry / questions / suggestions on any poster (video/PPT) may be noted down along with poster number. During the poster sessions questions with poster number may be put across the chat box during that slot, Chairman of the session will read it and the concern poster presenter will answer the quarries accordingly.

Poster sessions:

15.12.2021 (Wednesday)

12.30 PM – 1.30 PM: Poster Session-I: **2CMPS to 48CMPS**

16.12.2021 (Thursday)

02.30 PM – 3.40 PM: Poster Session-II:

1AC to 19AC; 1AP to 7AP; 1AMP to 5AMP; 2IR to 18IR

17.12.2021 (Friday)

12.00 PM – 1.00 PM: Poster Session-III

50CMPS to 64CMPS; 2NPHEP to 26NPHEP; 1CI to 10CI

Respective poster presenters must attend the sessions.