INTERNATIONAL SUMMER SCHOOL

ON

MATERIALS INFORMATICS & BIOPHOTONICS FOR MEDICAL AND ENERGY RESEARCH

InSuMMER-2023

29th May-16th JUNE 2023

Organized by

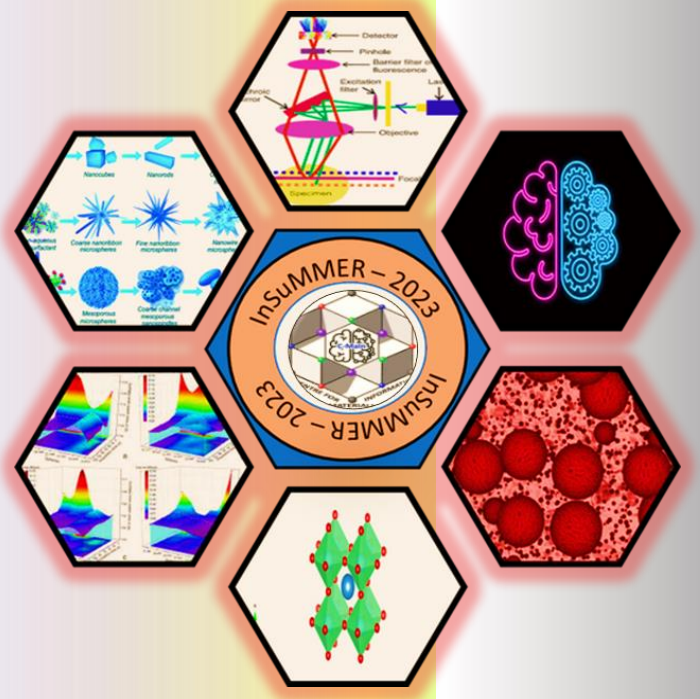
Centre For Materials Informatics (C-MaIn)

Anna University

&

SCANMAT Center

Central University Of TamilNadu (CUTN)



In association with

Department of Medical Physics

Anna University

&

University of Oslo, Norway

TOPICS TO BE COVERD

Material Informatics

Density Functional Theory

Materials for renewable energy applications

Multifunctional materials

Basics and application

Solar cell materials

Materials for radiation detection

Adsorption of pollutants

Drug Discovery & Delivery

Early cancer diagnosis

Anti-cancer drugs

Bio-Photonics

Biomedical imaging

Nano Materials

Synthesis and Characterization

Atmospheric Physics

Who Can Apply

M.Sc (Physics/Chemistry)/Material Sci./ B.E.(Materials Engg.) final year students

HANDS-ON-SESSION

ML tools for materials research

Crystal structure analysis

VIESTA, XCRYSDEN, GAUSSVIEW

DFT tools introduction & analysis

TBLMTO, GAUSSIAN16, QUANTUM EXPRESSO

Nano materials synthesis

Electrochemical workstation

Spectroscopic & Microscopic characterization

FT-IR and UV-Vis

Raman Spectroscopy

Fluorescence Spectroscopy& Imaging

Confocal Microscopy

CONVENERS

Dr. R. VIDYA

Director i/c, Center for Material Informatics Anna University

Prof. P.Ravindran

Head SCANMAT Center & Dept. of Physics (CUTN)

About C-MaIn

Centre for Materials Informatics (C-MaIn) had been started with a vision to accelerate the process of materials research with the help of machine learning and deep learning models. The center has been exploring the novel materials for renewable energy, pollution reduction, dosimetry, drug delivery and combination of traditional medicines with better synergic effects using AI. C-MaIn aims to utilize the available materials data to predict novel materials and understand their properties, thereby enhance the research outcome on various fields.

About InSuMMER-2023

The modern field of Materials Informatics has been emerging as a strong domain in materials research. Similarly bio-photonics has been playing a vital role in characterizing the materials useful for renewable energy and bio-medical applications. The main aim of this summer school is to provide information on the latest developments in materials research & bio photonics to motivate the participants towards research endeavor. This summer school is scheduled from **29.05.2023 to 16.06.2023 (3 weeks)** with invited lectures by experts from India and abroad and hands-on training sessions. It is aimed to benefit M.Sc. and final year B.E. (Materials & Metallurgy Engg.) students.

About SCANMAT Center (CUTN)

Simulation Center for Atomic and Nanoscale MATerials (SCANMAT) is a simulation center started on October 2016 and dedicated to the atomic and nanoscale modeling of advanced functional materials. The center utilizes state-of-the-art computer programs and density functional methods to investigate various properties of materials. Our calculations are supplementary and complementary to the experimental activities with our collaborative partners in India and abroad. The properties we study are Structural Stability, Chemical Bonding, High-Pressure studies, Elastic properties, Electronic, Electrochemical, Magnetic, Optical, Transport properties, Phonons and Raman Spectra, , Multiferroics, Nano-Scale modelling, Photocatalysis, Solar cells, Thermoelectric materials, Li-ion/Na-ion and multivalent ion battery electrodes and machine learning methods. Our interdisciplinary approach contributes to energy, environment, and emerging technologies advancements.

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Director i/c,
Centre for Materials Informatics (C-MaIn),
Sir C.V. Raman Science Block,
Anna University
Chennai – 600 025.

Maximum 40 students will be selected based on first come first served basis

INVITED SPEAKERS

1. Dr. David Palmer – University of Strathclyde, Scotland
2. Prof. Helmer Fjellvåg, University of Oslo, Norway
3. Prof. Anja Olafsen Sjåstad, University of Oslo, Norway
4. Prof. R. Prabhakar, Queensland University, Australia
5. Dr. Smagul Karazhanov, IFE, Norway.
6. Dr. P. Vajeeston, University of Oslo, Norway
7. Dr. Lokanath Patra, University of California, USA
8. Prof. V. Subramaniam, IIT Madras
9. Prof. P. Ravindran, Dept. of Physics, CUTN.
10. Prof. B.R.K. Nanda, IIT Madras
12. Dr. Rohit Batra, IIT Madras
13. Dr. Satyesh Kumar Yadav, IIT Madras
14. Prof. K. Thayalan, Honorary Professor, AU
15. Prof. P. Aruna, AU
16. Dr. R. Vidya, AU
16. Dr. D. Durgalakshmi
17. Dr. G.J. Bhagavathiammal, AU

Registration link : click here

Registration Fee : Rs.3000/- To be paid through Demand Draft (DD) drawn in favor of "The Director, CSRC" payable at Chennai.

or

A/c Name : CSRC Project A/C
A/c No : 30061247489
IFSC Code : SBIN0006463

Kindly contact us before the payment of registration fee