Five Days Faculty Development Programme (WEBINAR) under AICTE

on

"Application of Smart Materials"
(28th Feb. - 4th March 2022)

Organized by
Department of Chemistry
National Institute of Technology, Manipur
Langol, Pin - 795004, Manipur, India

Organizing Committee

Patron:

Prof. Goutam Sutradhar
Director, NIT Manipur, Imphal

Coordinator:

Dr. Chandi Charan Malakar
Assistant Professor (Department of Chemistry)

Conveners:

Dr. Mithun Roy
Assistant Professor (Department of Chemistry)
Dr. Th. David Singh
Associate Professor (Department of Chemistry)

Contact Us

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Chandi Charan Malakar

About NIT Manipur

National Institute of Technology Manipur, a centrally funded institution is set up to impart quality technical education at various levels of higher learning. It is one of the ten new NITs established and developed as Institute of National Importance by an act of Parliament. NIT Manipur started its first session with the three branches of Engineering-Electrical & Electronics Engineering, Electronics & Communication Engineering and Computer Science Engineering. The functioning of the institute was started at its temporary Campus at Takyelpat, Imphal under the mentorship of NIT, Agartala. The Institute has acquired 138.2 hectares of land in the lush green areas of Langol, Imphal and started its functioning at its permanent campus since 2014. This Institute now has all five branches of Engineering *viz* CSE, EEE, ECE, Civil, Mechanical and Basic Sciences and Humanities Department and open courses on B. Tech., M. Tech., M. Sc. and Ph. D.

Objective of the FDP

The programme aims at bringing the information regarding necessity of the up-to-date information on:
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(i) Improving the knowledge through Skill Development & Improved Communication Tactics for the development of students, faculties, academicians and entrepreneurs.
(ii) Enhancing the quality of institution for the benefit of its students, teaching and technical staff.
(iii) Leveraging the quality of pedagogy and taking up concepts like Research & Development, Innovation & Startup, and Research Guidance etc.

Theme of the Workshop

The workshop focuses on following topics:

Organic Synthesis, Main group chemistry, Theoretical Inorganic Chemistry, Coordination Chemistry, Organometallic Chemistry and catalysis, Inorganic Reactions, Bioinorganic and medicinal inorganic chemistry, Environmental Inorganic Chemistry, Physical Methods in Inorganic Chemistry, Physical Chemistry, Polymer Chemistry, Nanotechnology, Material Science and Spectroscopic methods.

Overview of the Webinar

This workshop is featuring several lectures, focusing on the recent advances and new trends in inorganic, organic and physical chemistry as well as interdisciplinary studies at the interfaces between inorganic/organic/physical chemistry and other subjects like nano-technology, materials sciences,

catalysis and biochemistry etc. The workshop is designed to provide a learning and incubation platform to the young researchers.

Targeted Audience

Faculties, Scientists, Engineers and Researchers from Academia, R&D Laboratories from AICTE approved North Eastern and other Institutions.

Registration

Deadline for registration 21st Nov. 2021
Registration Link will be circulated in well advance

Teaching Faculties

(1) Dr. Subrata Dutta (Department of Chemistry, SVNIT Surat)
(2) Dr. Nagarajan S. (Department of Chemistry, NIT Manipur)
(3) Dr. Mithun Roy (Department of Chemistry, NIT Manipur)
(4) Dr. Chandi C. Malakar (Department of Chemistry, NIT Manipur)
(5) Dr. Th. David Singh (Department of Chemistry, NIT Manipur)
(6) Dr. Bibhu Prasad Swain (Department of Physics, NIT Manipur)
(7) Dr. L. Herojit Singh (Department of Physics, NIT Manipur)

Brief Biography of teaching faculty

Dr. Subrata Dutta (Department of Chemistry, SVNIT Surat)

Dr. Subrata Dutta received his Ph.D. in 2012 from the University of Heidelberg in Germany under the supervision of Prof. Andriy Mokhir. His doctoral dissertation was focused on the development of chemical

methods to detect nucleic acids in vitro. After postdoctoral research with Prof. Nicolas Winssinger at the University of Geneva (2013-2015) and Prof. Jevgenij Raskatov at the University of California, Santa Cruz, USA (2015 – 2018), he began his habilitation research at the University of Erlangen-Nuremberg in Germany (2018 – 2020). In June 2020, he began his independent career as an assistant professor at Vellore Institute of Technology Vellore and then in May 2021, he moved to Sardar Vallabhbhai National Institute of Technology, Surat, as an assistant professor. His current research interests are point-of-care nucleic acid detection, peptide-based catalysis, and small molecule drugs for Alzheimer's and Parkinson's diseases. View our group at: https://www.svnit.ac.in/facup/Subrata%20Dutta%20CV.pdf

Dr. Nagarajan S. (Department of Chemistry, NIT Manipur)

I am Dr Nagarajan, S. working as an Assistant professor at National Institute of Technology Manipur, an institute of national importance under MHRD. Prior to this current position, I was working as a contract faculty at national institute of technology Tiruchirappalli for 2 years. Prior to that, I was a Postdoctoral fellow at University of Heidelberg, Germany in collaboration with Advanced Light Source, Lawrence-Berkeley National Lab, University of California, Berkeley USA. I completed my PhD from CSIR-NCL under chemistry scheme between 2006-2011. My area of research is Materials and its applications in Catalysis, currently supervising 3 full time PhD students. I have around 20 scientific publications in a international peer reviewed journals and few more are in pipeline. I am taking part in various administrative position in the institute. View our group at: https://nitmanipur.irins.org/profile/132615

Dr. Mithun Roy (Department of Chemistry, NIT Manipur)

Dr. Mithun Roy received Master's degree in Chemistry from the University of North Bengal, September 2003. Then, he completed (2009) the Ph.D degree from the department of Inorganic and Physical

Chemistry, Indian Institute of Science, Bangalore in the area of Bioinorganic Chemistry. He worked as Postdoctoral Research Associate (2010-2014) at Indian Institute of Science, Bangalore, Ruprecht-Karls-Universität Heidelberg, Heidelberg, Germany, University of Colorado, Boulder (USA) in metal-based photo-chemotherapy, DNA-templated chemical reactions and the chemical synthesis of long DNA. Then, Dr. Roy moved to National Institute of Technology Manipur in October 2014 and currently working as Assistant Professor. His area of research involves photo-chemotherapeutic application of transition metal complexes, medicinal and clectro-chemical application of nanoparticles, theoretical inorganic photochemistry and DNA based asymmetric catalysis. View our group at: https://nitmanipur.irins.org/profile/132613

Dr. Chandi C. Malakar (Department of Chemistry, NIT Manipur)

Dr. Chandi C. Malakar completed his Master's Degree in Chemistry at Indian Institute of Technology Kanpur (2006). Then, obtained the Ph.D degree in 2011 from University of Hohenheim Stuttgart, Germany

under the guidance of Professor Uwe Beifuss. After successive postdoctoral research with Prof. K. A. Tehrani at University of Antwerp (2011-2012), Prof. Günter Helmchen at Ruprecht-Karls-Universität Heidelberg (2012-2014), Prof. P. S. Mukherjee at Indian Institute of Science, Bangalore (2015) and industrial experience (2014-2015) as Senior Principal Scientist at SignalChem LifeSciences Pvt. Ltd., he started his career at National Institute of Technology Jalandhar as an Assistant Professor in July 2015. Then, Dr. Malakar moved to National Institute of Technology Manipur in October 2015 and currently working as Assistant Professor. He received several awards such as BOF Postdoctoral fellowship from Belgium, SERB (Govt. of India) Early career research fellowship & core research grant fellowship, fellowship from GIAN MHRD (Govt. of India) as course coordinator, etc. He also experienced with several administrative positions such as Coordinator for TEQIP-III project, Associate Dean (R&C), Head of the Department, Chief Warden etc. He has published more than 70 research articles in peer-reviewed international journals. His

current research interests are C-H activation, Enantioselective synthesis, transition-metal catalysis, organocatalysis, domino reactions, and multi-component reaction.
View our group at: https://nitmanipur.irins.org/profile/132584

Dr. Th. David Singh (Department of Chemistry, NIT Manipur)

Dr. Th. David Singh is currently working as an Associate Professor at the Department of Chemistry,

National Institute of Technology, Manipur. He completed the PhD degree from Nagaland University in 2006 under the supervision of Prof. M. Indira Devi. Afterwards, he has completed several post PhD research experiences such as research associate at Nagaland University under the supervision of Prof. M. Indira Devi during 2006-2007 and research associate at Manipur University under the supervision of Prof. N. Rajmuhon Singh during 2007-2010. He has completed a DST Manipur sponsored research project in 2017. Also during his carrier at NIT Manipur, Dr. Singh has gone through several administrative responsibilities such as Dean (S/W) and Registrar (i/c). His current research interest focuses on the material chemistry and nanotechnology. Dr. Singh has contributed 54 research articles in journal publications. View our group at: https://nitmanipur.irins.org/profile/132587

Dr. Bibhu Prasad Swain (Department of Physics, NIT Manipur)

Dr. Bibhu Prasad Swain is currently working as an Associate Professor & HOD in Department of Physics, NIT Manipur. He was Ex. IIC President and Ex. Dean (Academic Affair) at the National Institute of

Technology, Manipur. He did his M.Sc (Physics) and M.Tech. (Materials Science) from NIT Rourkela and Barkatullah University. He perused his Ph.D in the field of Semiconductor Thin Films from Department of Metallurgical Engineering and Materials Science, IIT Bombay. He was awarded JSPS Fellow (Govt. of Japan), Brain Korea 21 Fellow (Materials Research, Seoul National University) and NRF Fellow (University of Cape Town, South Africa) in his postdoctoral career. Before he joined at NIT Manipur, He worked as Associate Professor in Centre for Materials Science and Nanotechnology (CMSNT), Sikkim Manipal University for 6 Years. He has published 100 SCI/SCIE/Scopus indexed international journals, 15 book chapters and 2 Book in his credit. View our group at: https://nitmanipur.irins.org/profile/132581

Dr. L. Herojit Singh (Department of Physics, NIT Manipur)

Dr. Loushambam Herojit Singh Completed Ph.D. from Homi Bhabha National Institute (HBNI), Indira

Gandhi Centre for Atomic Research Chapter, Kalpakkam, Tamil Nadu (2008-2014). Postdoc experience (2014-2015) was obtained from Department of Physics, University of Brasilia, Brazil. He is serving as Assistant Professor at Dpartment of Physics, NIT Manipur since Oct 2015. He published 24 Sci-journals. He is working in the area of defects in stainless steel (302, 412 and Eurofer), high entropy alloy for magnetic switching, Spinel ferrites nanoparticles and composites of spinel ferrites with zeolite using Mossbauer spectroscopy as main characterization technique. Currently, the research is focused on the photo catalysis and electrocatalysis using MOF and metal oxides composites as catalysis for water purification. View our group at: https://nitmanipur.irins.org/profile/132608

SCHEDULE FOR FIVE DAYS FDP PROGRAM: Application of Smart Materials

The inaugural event will proceed on 28th February 2022 as per the schedule given below:

S.N	Details	Schedule
1	Joining of participants via Google Meet link	11:30 hrs
2	Welcome Address and Introduction about the FDP by Coordinator: Dr. Chandi C. Malakar, Assistant Professor, Department of Chemistry, NIT Manipur	11:30 - 11:35 hrs
3	Address by Guest of Honour Registrar, NIT Manipur	11:35 - 11:40 hrs
4	Address by Dean (F/W), NIT Manipur	11:40 - 11:45 hrs
5	Inaugural Address by the Chief Guest Prof. (Dr.) Goutam Sutradhar, Director, NIT Manipur	11:45 - 11:50 hrs
6	Vote of Thanks by Dr. Mithun Roy, Assistant Professor Department of Chemistry, NIT Manipur	11:50 - 11:55 hrs
7	Technical Sessions	12:00 hrs onwards

Technical Session

Day 1	
Session 1 (12:00 – 13:00 hrs)	Dr. Subrata Dutta (Chemical reactions towards detection of nucleic acids)
Session 2 (14:00 – 15:00 hrs)	Dr. Nagarajan S. (Surface Science Aspects of Heterogeneous Catalysis)
Session 3 (15:00 – 16:00 hrs)	Dr. Mithun Roy (Photo-reactive transition metal-complexes: Potential strategic tools for targeted anticancer therapy)
Day 2	
Session 1 (12:00 – 13:00 hrs)	Dr. Th. David Singh (Advancement in nano-materials)
Session 2 (14:00 – 15:00 hrs)	Dr. Chandi C. Malakar (**Application of Release & Catch Catalytic System**)
Session 3 (15:00 – 16:00 hrs)	Dr. Bibhu P. Swain (The art of fabrication and characterization of one dimensional (1D) devices)
Day 3	
Session 1 (12:00 – 13:00 hrs)	Dr. Subrata Dutta (Peptide-based potential therapeutics for Alzheimer's disease)
Session 2 (14:00 – 15:00 hrs)	Dr. Nagarajan S. (Three Way Catalytic Converter Reactions on Palladium Surfaces)
Session 3 (15:00 – 16:00 hrs)	Dr. Mithun Roy (dsDNA in enantiomeric organocatalysis reactions)
Day 4	
Session 1 (12:00 – 13:00 hrs)	Dr. Th. David Singh (Characterization technique in material science)
Session 2 (14:00 – 15:00 hrs)	Dr. Chandi C. Malakar (**Nano-Based Materials for Waste Water Treatment)**
Session 3 (15:00 – 16:00 hrs)	Dr. L. Herojit Singh (Application of Mössbauer spectroscopy in material science)
Day 5	
Session 1 (12:00 – 13:00 hrs)	Dr. L. Herojit Singh (Implication of vibrational spectroscopy in characterization of materials)
Session 2 (13:00 – 14:00 hrs)	Dr. Bibhu P. Swain (The art of fabrication and characterization of two dimensional (2D) devices)

Session 3 (14:00 – 15:00 hrs)	Assessment/Quiz
Session 4 (15:00 – 16:00 hrs)	Valedictory Function and remarks by Prof. Goutam Sutradhar, Director, NIT Manipur

Link for Registration:

https://docs.google.com/forms/d/e/1FAIpQLSd3YHnNnhC-LuUX0VGh_mL1qZExpCM8kgbmx57DIiKeHJIRPw/viewform

NO Registration Fees is Required