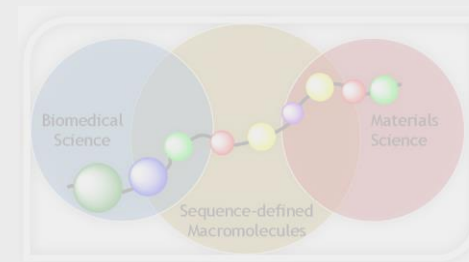
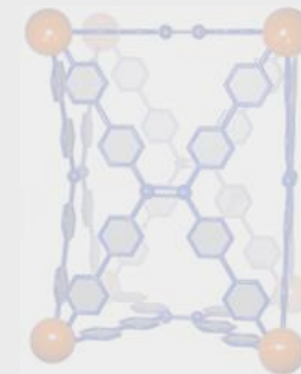
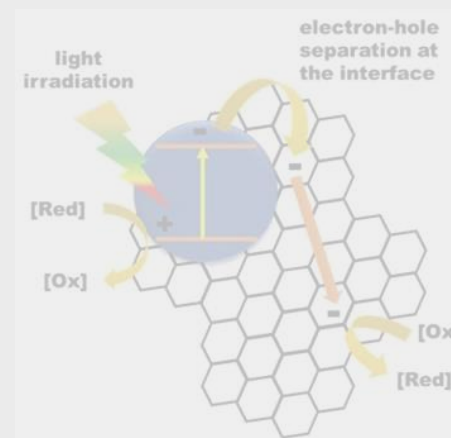


Faculty Development Program on “Novel Materials”

05th – 09th July, 2021

Organized by
Department of Chemistry
Indian Institute of Technology Bhilai
Chhattisgarh



Sponsored by
AICTE Training And Learning (ATAL)
Academy

Faculty Development Program

on

Novel Materials

(05-09th July, 2021)



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Eligibility:

- The faculty members of AICTE approved Institutions, Universities, Research Scholars; Participants from Government, Industry (Bureaucrats/ Technicians/Industry experts etc.) and staff from host institution.
- There is no course fee.
- Selection of the participants will be based on the first come first serve basis.

Registration:

- All the participants should register online to attend the FDP.
- There is **No Registration Fee** for the course.
- To register yourself, you may visit the following web-link, fill the required details and submit.
- **Link for the registration:** <https://atalacademy.aicte-india.org/signup>.

Guidelines:

- All sessions will be conducted online. No physical presence is needed. Meeting link shall be shared with the registered participants for smooth conduction of online FDP.
- An assessment test will be conducted online at the end of the program.
- The certificates will be issued to those participants who are registered and attend the program with minimum 80% attendance and score minimum 60% marks in the test.
- All the participants are required to have a Laptop/Smart Phone with Internet Connectivity to attend the live sessions.

Chief Patron

Prof. Rajat Moona
Director, IIT Bhilai.

Resource Persons

Dr. Sanjib Banerjee
Dr. Arup Mukherjee
Dr. Suchetan Pal
Dr. Satyajit Gupta
Dr. Raghavender Medishetty
Dr. Rukmankesh
Dr. MD. Mehboob Alam
Dr. Dr. Dhruv Pratap Singh
Dr. Anindita Ghosh

Course Coordinator

Dr. Ganapathy D.
Assistant Professor
Department of Chemistry,
IIT Bhilai

Contact Details

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Indian Institute of Technology Bhilai
chemistry@iitbhilai.ac.in



Faculty Development Program on Novel Materials



About IIT Bhilai

Indian Institute of Technology Bhilai was established in the state of Chhattisgarh by Ministry of Human Resource and Development in the year 2016. IIT Bhilai is presently housed in its transit campus at Government Engineering College (GEC) Raipur, Chhattisgarh.

IIT Bhilai offers Bachelors of Technology (B.Tech.), Masters of Technology (M.Tech.) and Doctoral programs (PhD) in the department of Mechanical engineering, Computer science and engineering and Electrical engineering. In addition to this, IIT Bhilai also offers M.Sc. and Ph.D. programs in the disciplines of Physics, Chemistry, Mathematics and Liberal Arts. IIT Bhilai provides a unique structure of fractal academics wherein students are engaged with advanced topics early in their curriculum without increase in any academic load.

IIT Bhilai, on its roster, has more than 50 faculty members, working in various cutting-edge research areas spread over engineering, mathematical and scientific disciplines. IIT Bhilai aspires to prepare young individuals to become the professional leaders of tomorrow by equipping them with the technical know-how and competence to face and overcome future challenges.

Department of Chemistry

The Department of Chemistry, IIT Bhilai was established in 2016, along with the inauguration of IIT Bhilai. The department is committed to engage in high quality research and pursuit of excellence in teaching. It offers institute core courses and departmental electives for undergraduate B.Tech. and postgraduate M.Tech. students of Engineering in the Institute. It also offers a two years M.Sc. programme and a Ph.D programme in Chemistry. Major thrust is in the areas of inorganic and organometallic chemistry, polymer chemistry, halide perovskite solar-cells, bionanotechnology, photoactive metal-organic hybrid materials, theoretical and computational chemistry, asymmetric catalysis, total synthesis and antibiotics, molecular dynamics simulations and bioinformatics.

The Department has distinguished faculty members, trained at renowned Institutes in India and abroad. The faculty members attract substantial financial support for their research activities from both government and private agencies. Several members of the faculty have been awarded medals/prizes for distinction in their areas of research. The faculty members have also been active in organizing scientific meetings/workshops from time to time and they are being invited to deliver lectures at various national and international conferences and symposia.

About the Short-Term Course

The objective of this course is to provide a deeper insight and a platform for learning/development in the following thrust areas of “Novel Materials” through well designed lecture sessions. The training course will update the knowledge of post-graduate students and faculty members of various institutes/colleges on the recent developments in the field of materials science. This training is highly interdisciplinary by nature, encompassing aspects of basics of materials and its applications in the field of nanomedicine, solar-fuels, energy storage, etc. This training is broadly classified in five sections which are (a) Healthcare materials and Nanomedicine (b) Semiconductor materials for solar-cell and solar-fuels (c) Solid state materials and Hybrid Materials (d) Molecular modeling and quantum mechanical simulations for optical properties of materials (e) Polymer materials for energy storage applications. This course presents key insights for the participants to consider for starting research and teaching initiatives in their institutes involving material science.



Course Content and Technical Schedule
Inauguration by Prof. Rajat Moona, Director, IIT Bhilai
(9:00 AM to 9:10 AM)



Date	9:15 AM to 11:15 AM	11:15 AM to 11:30 AM	11:30 AM to 01:30 PM	01:30 PM to 02:30 PM	2:30 PM to 04:30 PM
Day-1 (05/07/2021)	Session 1 Introduction to Materials (Dr. Arup Mukherjee)	Short Break	Session 2 Energy Storage Technologies: Current Status and Future Perspectives (Dr. Sanjib Banerjee)	Lunch Break	Session 3 Introduction and Applications of Nanomedicine (Dr. Suchetan Pal)
Day-2 (06/07/2021)	Session 4 Introduction to Modeling and Simulation (Dr. Rukmankesh)	Short Break	Session 5 Metal-Organic Framework Thin-films and Their Fabrication (Dr. Raghavender Medishetty)	Lunch Break	Session 6 Introduction to Solution Processable Semiconductors: Synthesis, Properties, and Characterization (Dr. Satyajit Gupta)
Day-3 (07/07/2021)	Session 7 Introduction and applications of healthcare materials (Dr. Suchetan Pal)	Short Break	Session 8 Semiconductors for Light- Driven Multi-Functional Applications: Solar-cell to Solar-Fuel (Dr. Satyajit Gupta)	Lunch Break	Session 9 Quantum Mechanical Simulation for Predicting the Optical Properties of Materials (Dr. Md. Mehboob Alam)
Day-4 (08/07/2021)	Session 10 Functional Polymer Materials (Dr. Sanjib Banerjee)	Short Break	Session 11 Hybrid Materials (Dr. Arup Mukherjee)	Lunch Break	Session 12 Synthesis of Solid-State Materials (Dr. Raghavender Medishetty)
Day-5 (09/07/2021)	Session 13 Nanomotors for Environmental Biomedical Applications (Dr. Dhruv Pratap Singh)	Short Break	Session 14 Mental health - Psychology of Well- being (Dr. Anindita Ghosh)	Lunch Break	Session 15 Test and Valediction (Dr. Ganapathy D.)