About Kolhapur City and University

Kolhapur is a historic city on the banks of the Panchaganga River, in the West Indian state of Maharashtra with highest per capita income in state. It is known for its temples like the ancient Mahalakshmi Temple, old palaces like New Palace, Shalini Palace, Bhavani Mandap and Rankala Lake as well. Kolhapur is famous for its Kolhapuri Chappals, Jaggery and many more unique things. Under the innovative and socially reformist leadership of Chhatrapati Shahu Maharaj the princely ruler of Kolhapur, the city had become at the beginning of this century, a focal point of educational opportunities for all classes and communities of South Western Maharashtra, and northern parts of neighbouring Karnataka. Shivaji University, established in 1962 is named after the Great Maratha Warrior and founder of the Maratha empire Chhatrapati Shivaji. It was inaugurated on 18th November, 1962 by Dr. Radhakrishnan, the President of India. The University provides an education in the areas of Science & technology, Commerce & Management, Social Sciences, Languages, and other interdisciplinary courses, etc by offering UG, PG, M.Phil., and Ph.D. programme. In addition, University has high-end instrumental facilities such as TEM, XPS, XRD, etc. for conducting breakthrough research as well as cutting-edge technology. Due to its high quality academic and research excellence, many credentials have been received by the University and it is still progressing with the unique contributions in the various fields of education.

Chemistry Department

Department of Chemistry is one of the first five departments established by the Shivaji University in 1964. The department has made significant contributions in academics and research in all areas of chemistry and allied branches. It offers programme such as M.Sc. Chemistry with Organic, Inorganic, Physical, Analytical, Industrial and Applied Chemistry specializations and M.Phil. and Ph.D. degree. The major thrust areas of research include synthetic chemistry, green chemistry, supramolecular chemistry, organo metallic chemistry, material chemistry, nanomaterials and nanocomposites, etc. The department is recognized by Department of Science and Technology (under FIST program) and by University Grants Commission (under SAP DRS scheme).

Course Objectives

- To learn the recent advances in the field of advanced materials and their further utilizations in the green energy strategies from eminent experts.
- To provide the lessons regarding the practical problems and their solutions through tutorials in the various aspects of research endeavors including scientific writing, career directions, use of analytical tools, etc.
- To develop an advanced research skills among the stakeholders and to orient them to chose a proper field for their future endeavors.

Who can attend?

- UG/PG Students (B.Sc./B.Tech./M.Sc./M.Tech.), Research Scholars, Faculty from reputed academic and research institutions.
- Executives, engineers and representatives from industries.

How to Register?

Interested participants can register through following online registration link with electronic transfer payment on or before 10th October 2023.

https://sukapps.unishivaji.ac.in/WorkshopConferenceSeminarPro_app/#/login

Course Registration Fee

Participants from India

UG/PG Student	Rs. 1,770/-	(Rs. 1500+18% GST)
Research Scholar	Rs. 2,950/-	(Rs. 2500+18% GST)
Faculties	Rs. 4,720/-	(Rs. 4000+18% GST)
Industrial Representative	Rs. 5,900/-	(Rs. 5000+18% GST)
SAARC Countries	US$ 355 = Rs. 29,500/-	(Rs. 25,000+18% GST)
Non-SAARC Countries	US$ 600 = Rs. 49,560/-	(Rs. 42,000+18% GST)

Registration fee includes course materials, breakfast, high tea, and lunch only. Accommodation based on payment basis in the SUK guest house (Limited seats) and hotels

Organizing Committee

Patrons

Prof.(Dr.) D. T. Shirke — Vice Chancellor, SUK
Prof. (Dr.) P. S. Patil — Pro Vice Chancellor, SUK
Dr. V. N. Shinde — Registrar, SUK

Executive Advisory Committee

Prof. (Dr.) Mrs. S. H. Thakar — I/c. Dean of Science & Technology, SUK
Smt. S. S. Patil — Finance & Accounts Officer, SUK
Prof. (Dr.) K. D. Sonawane — I/c. HOD, Chemistry, SUK
Prof. (Dr.) S. D. Delekar — Course Coordinator, SUK

Local Organizing Committee

Prof. G. B. Kolekar
Prof. S. S. Kolekar
Prof. K. M. Garadkar
Prof. P. V. Anbhule
Prof. G. S. Rashinkar
Dr. S. A. Sankpal
Dr. S. N. Tayade
M. Sc. Students
Prof. S. S. Chavan
Prof. A. V. Ghule
Prof. D. M. Pore
Prof. S. P. Hangirgekar
Prof. D. H. Dagade
Dr. D. S. Bhange
Ph. D. Research Scholars
Non-Teaching Staff

Correspondance

Prof. (Dr.) S. D. Delekar
Course Coordinator, GIAN-Programme
Department of Chemistry ,
Shivaji University, Kolhapur 416004 (MS), India
www.unishivaji.ac.in
E-mail: sdd_chem@unishivaji.ac.in
Contact :+91 231 2609338
Mob. : +91 9890291575

Last date of online registration with e-payment: 10th October 2023

Workshop Website Link :
https://www.unishivaji.ac.in/about_suk/Workshop-Seminars-Conference

GIAN WORKSHOP

ADVANCED FUNCTIONAL MATERIALS AND GREEN ENERGY STRATEGIES

16th - 20th October, 2023

... Organized by ...

DEPARTMENT OF CHEMISTRY,
SHIVAJI UNIVERSITY, KOLHAPUR 416 004, (MS) INDIA

... Organizing Co-partners ...

UNIVERSITY-INDUSTRY INTERACTION CENTER
SHIVAJI UNIVERSITY, KOLHAPUR

SUK-RESEARCH & DEVELOPMENT FOUNDATION
SHIVAJI UNIVERSITY, KOLHAPUR

INSTITUTION'S INNOVATION CELL
SHIVAJI UNIVERSITY, KOLHAPUR

... Sponsored by ...

MHRD SCHEME- GLOBAL INITIATIVE ON ACADEMIC NETWORK (GIAN), INDIAN INSTITUTE OF TECHNOLOGY, KHARAGPUR

Visiting Faculty

Prof. Prashant V. Kamat is a Professor in Department of Chemistry & Biochemistry and Radiation Laboratory, University of Notre Dame, Notre Dame, USA. He is a leading expert in the physical chemistry and material science by developing advanced nanomaterials for cleaner and more efficient light energy conversions. Professor Kamat's research has made significant contributions to four areas: (1) Photoinduced catalytic processes using semiconductor and metal nano particles, nano structures and nano composites, (2) Development of light energy harvesting assemblies for solar cells, (3) Utilization of carbon nanostructures (SWCNT and graphene) in solar cells and fuel cells, and (4) Environmental rededications. He has published the huge number of articles in the journals of international repute. In addition to large multi-disciplinary interdepartmental and research center programs, he has actively worked with industry-sponsored research's. He has served on many international panels on nanotechnology and energy conversion processes. He is an Editor as well as Member of Editorial board of many ACS journals.

Course Coordinator

Prof. S. D. Delekar is presently working as Professor in Department of Chemistry, Shivaji University, Kolhapur. His research interests include the synthesis and designing of functional nano composites for energy technologies, photo catalytic transformations, biomedical fields. He has been published 100+ research publications, 10+ books/chapters and 10+ Indian patents. In addition to his PG and Ph.D. degree, he is recipient of fast track research proposal for Young Scientists under DST-GOI and also completed post-doctoral fellowship at Florida State University, USA as well as summer research fellowship from Indian Institute of Science, Bangalore (India). He has successfully completed the major research projects funded by DST, UGC, RGSTC, etc.

In addition, the representative lectures of this course will be engaged by other eminent scientists from reputed organizations.

Schedule of Course

Day 1 :

Lecture 1: 1 hrs: Prof. Prashant V. Kamat
The Clean Energy Challenge: Net Zero Carbon by 2050

Lecture 2: 1 hrs : Prof. Prashant V. Kamat
Nanostructures and Advanced Energy Materials-I:
Metal and Semiconductor Nanostructures

Lecture 3: 1 hrs : Prof. Prashant V. Kamat
Nanostructures and Advanced Energy Materials-II:
Excited State Characterization of Semiconductor Quantum Dots

Tutorial 1: 2 hrs: Prof. Prashant V. Kamat
PhD and Beyond: Laying the Foundation for a Successful Career

Day 2 :

Lecture 4 : 1 hrs: Prof. Prashant V. Kamat
Directing Energy and Electron Transfer in Semiconductor Nanostructures

Lecture 5: 1 hrs: Prof. Prashant V. Kamat
Solar Cells-1: Inorganic-organic Hybrid Nano-assemblies for Light Energy Conversion, Liquid Junction Solar Cells

Tutorial 2: 1 hrs: Prof. Prashant V. Kamat
How Chat GPT & Other AI Tools are Making a Change in Scientific Publishing

Tutorial 3: 1 hrs: Prof. Prashant V. Kamat
Effective Scientific Writing

Lecture 6: 1 hrs: Prof. Satish A. Patil (IISc, Bengaluru)
Organic Solar Cells

Lecture 7: 1 hrs: Prof. Satish A. Patil (IISc, Bengaluru)
Redox Flow Batteries

Day 3 :

Lecture 8 : 1 hrs: Prof. Prashant V. Kamat
Solar Cells-2: Organic-lead Halide based Perovskite Solar Cells

Lecture 9: 1 hrs: Prof. Prashant V. Kamat
2D Materials: Graphene and Beyond

Lecture 10: 1 hrs: Prof. Prashant V. Kamat
Hydrogen Economy-(Photocatalysis):
Solar Fuels (H_2O splitting, CO_2 reduction).

Tutorial 4: 2 hrs: Prof. Prashant V. Kamat
Avoiding Pitfalls in Photocatalysis and Electrocatalysis

Day 4 :

Lecture 11: 2hrs: Prof. Prashant V. Kamat
Challenges and Opportunities in Energy Research

Tutorial 5 : 1hrs: Prof. Santosh Haram (SPPU, Pune)
Characterization of Solar Cell Performance and Best Practices in Photovoltaic Research

Tutorial 6: 1 hrs: Prof. Santosh Haram (SPPU, Pune)
Scanning Electro-chemical Microscopy (SECM) in Energy Research

Day 5 :

Lecture12 : 1 hrs: Prof. Sagar D. Delekar (SUK)
Solar Cells-3: Functional Nanocomposites-based Solar Energy Harvesting Systems

Lecture 13 : 1 hrs: Prof. Sagar D. Delekar (SUK)
MOF-derived Metal Oxides for Supercapacitor Studies

Lecture14 : 1 hrs: Prof. Pramod S. Patil (SUK)
Nanomaterials-based Composites for Energy Technologies

Tutorial 7 : 2 hrs : Prof. Sagar D. Delekar (SUK)
Determination of Band Structure Parameters using UV-DRS and CV Measurements