

## *SYMPOSIUM*

on

# **Today's Techniques in Engineering Materials(T'sTEM)**

DEPARTMENT OF PG STUDIES AND RESEARCH IN PHYSICS  
ALBERT EINSTEIN'S BLOCK, UNIVERSITY COLLEGE OF SCIENCE, B. H. ROAD  
TUMKUR UNIVERSITY, TUMKUR

March -28, 2019

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**THEMATIC SYMPOSIUM ON TODAY'S TECHNIQUES IN ENGINEERING MATERIALS** will be organized according to the scientific interests of the participants including university and industry level. It involves variety of invited lectures, presentations and discussions on some special areas of the science such as liquid crystals, LASERS, photo voltaic, nano materials, super capacitors and energy devices, bio-materials, dielectrics and polymers, instrumentation & others. Further, the demonstrations/talk on characterization and instrument calibrations, experimental data interpretation, etc., by the resource persons. Participants may get clarification for the doubts and difficulties during symposium and encouraged to write mails to organizer in advance also for the difficulties facing in your labs if any .

### **PARTICIPANTS**

The symposium is addressed to students, teaching staff, researchers, engineers, technical staff and technologists, belonging to academic structures as well as private companies of India. There will be round table sessions with experts in symposium.

### **IMPORTANT DATES**

Registration starts on **March 01, 2019**. Participants write a mail to the Dr. B. S. Palakshamurthy; [palaksha.bspm@gmail.com](mailto:palaksha.bspm@gmail.com) to confirm the participation. University made provision for the participation at the free of cost.

**PURPOSE OF THE SYMPOSIUM** is to encourage the creativity of the participants in various fields of science, to provide exposure on today's techniques in engineering the materials for the young researchers.

**PROGRAM:** A detailed schedule will be available on **March 28, 2018** for all participants. Participants can contact Narayan Gaovakar-9448995642, for your stay in Tumkur. For assistance or clarifications kindly contact:Dr. Chikkappa Udagani 8050695873.

## SPEAKERS IN THE SYMPOSIUM

*Dr K Girish* Speaks on **THE FUNCTIONS OF BLOOD CELLS AND THEIR DEATH IN DIFFERENT PATHOLOGIES**. He covers the venom pharmacology especially on viper venom induced sustained tissue necrosis at the bitten site. The topic also covers the molecular mechanism of sustained tissue necrosis and iron mediated cell death. Further, talk is going to cover the usage of bioactive molecules to protect the cell in different pathologies



*Dr. Gurumurthy Hegde* Speaks on **WASTE TO WEALTH IN ENERGY**: He covers advanced technologies to handel unhealthy waste materials in the atmosphere and tackle the waste is material problem in the future. He will cover how to tackle with the bio waste materials by converting it to spherical shaped nano particles and to get high quality supercapacitors, energy storage devices. Details about synthesis, characterization, preparation and then its applications.

*Dr Shanker* speaks on **LIQUID CRYSTALS, APPLICATION AND INSTRUMENTATION**: He covers Liquid crystals (LCs) and its potential applications, the concept of biaxiality and its importance over the existing uniaxial materials in LC displays. Significance of chromonic LCs and its lyophilic role in the synthesis of self-assembled hybrid nanomaterials. Isomerisation process in the photoresponsive LCs: Instrumentation like optical polarizing microscopy (OPM), Differential Scanning Calorimeter (DSC). Also, the macroscopic phase structure confirmation by XRD measurements and Electro-optical (EO) investigations. Aggregation dependent properties, hybrid nanomaterials accomplished using UV-Vis and sol-gel techniques. The fascinating properties of LCs and Graphene hybrid materials synthetic approach would be discussed.



*S. Jayakumar* speaks on **ADVANCED OPTICAL CHARACTERIZATION TECHNIQUES**: He covers the use of optical probe in the physical and chemical properties of matter and the use of specialized instrumentation to extend the range, acuity, sensitivity, and precision by the usage of light (optical probe) to determine materials properties. The optical characterization and advanced techniques in the recent days to employ the fiber optic instrumentation for the ease measurement. Material characterisation using absorbance or transmittance or reflectance or fluorescence or Raman spectroscopy. The usage of fiber optics in the spectrometers and instrumentation. Characterization of materials in solid, liquid, gaseous and thin film; the modern material characterization techniques with minimum or no sample preparation. The discussion also covers use of nano-materials to enhance the sensitivity of measurement while characterization of materials such as use of SERS in Raman spectroscopy. Also use of reflectance techniques for the thickness measurement of thin films will be highlighted.

**VENUE:**

Department of PG Studies & Research in Physics  
Albert Einstein Block, University College of Science  
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**NATIONAL LEVEL ORGANIZING COMMITTEE:**

Dr. Manohar Shinde: Professor, Dept. of Studies and Research in Bio Chemistry, TUT.  
Dr. S. R. Manohara: Associate Professor, Dept. of Physics, SIT, BH Road Tumkur.  
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Dr. G.V. Ashok: Assistant Professor, Dept. of Physics, Govt. Atonomous College, Mandya.  
Dr. K. R. Nagabhusha: Associate Professor, Dept. of Physics, PES University, Bangalore.  
Dr. Anilkumar: Assistant Professor, Dept. of Physics, Govt. First Grade College, Magadi.  
Dr. Ravikumar Nayaka Assistant Professor, : Dept. of Physics, Govt. First Grade College, Rani Bennur.  
Dr. Kempaiah, A : Assistant Professor, Dept. of Physics, Govt. First Grade College, K. R Pet.  
Dr. Ravi, C: Assistant Professor, Dept. of Physics, Govt. First Grade College, Hunsur.  
Dr. Jagadish Naik: Assistant Professor, Dept. of Physics, Karnataka Science College,Dharwad.  
Dr. Vinayak Naik: Assistant Professor, Dept. of Physics, Karnataka Science College,Dharwad.  
Dr. Madhu B J: Assistant Professor, Dept. of Physics, Govt. First Grade College, Chithradurga.  
Dr. Lingaraju: Assistant Professor, Dept. of Physics, Govt. First Grade College, Tumkur.  
Dr. Chanrdashekar: Professor, Dept. of Chemistry, Govt. Sridevi Institute of Technology, Tumkur.

**LOCAL ORGANIZING COMMITTEE:**

Harisha Kumar. K: Assistant Professor, Dept. of PG Studies and Research in Physics, U C S, TUT  
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