

## Application form

Name:  
Address for communication  
Date of Birth & Age:  
Residential address:  
Gender (M/F):  
Qualifications:  
Mobile no:  
Designation:  
E-mail id:  
Department:  
Payment details:  
Institution/University:  
Mode of Payment: Cash/DD  
Fax: DD No:  
Date :  
Bank: Amount:  
Declaration:  
The information furnished above is true to the best of my knowledge. I agree to abide by the rules and regulations of the workshop.  
Date:  
Signature of the applicant  
Place:  
Online Application Link :  
<https://forms.gle/P6YVJm4w5YrEoiEQ7>

## Registration fee:

The Faculty participants of the workshop will have to pay an amount of Rs.1000/- (Non-refundable) towards the Registration fee through DD/Cash in favour of- The Director, IST, payable at Hyderabad, along with the application.

For Students registration fee will be Rs.200/- (nonrefundable).

For TEQIP institutes **No registration fee.**

Last Date for Registration: 14<sup>th</sup> June, 2020

For Further, details contact:

Ms. S. Madhuri (PhD Scholar) - 9381547669

Mr. T. Rakesh Kumar (JRF) - 8500369869,

## Coordinators

Dr. CH. Shilpa Chakra  
Assistant Professor of Nanotechnology  
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Dayalbagh Educational Institute  
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Agra - 282 005 (U.P)



## One day workshop On *Flexible Energy Storage Devices* 20<sup>st</sup> June, 2020

Venue:  
**Centre for Nano Science and Technology  
IST, JNTUH, Kukatpally, Hyderabad-08**

**Sponsored by DST SERB & TEQIP-III  
(Under twinning program)**



**Centre for Nano Science & Technology  
IST, Jawaharlal Nehru Technological  
University Hyderabad**

In collaboration with

**Dayalbagh Educational Institute (Deemed  
University)  
Dayalbagh, Agra - 282 005 (U.P)**

## Scope:

In the contemporary world, energy seems to be ever increasing demand for households and industries who require extreme energy to be stored and delivered at any time. Existing production of energy face some problems, the climate of the increasing environment pollution and drain of fossil fuels. Renewable energy sources also infeasible along the year so necessitous to develop clean, efficient, safe and economically sophisticated methods to store energy.

To overcome the consequences traditional ways are hybrid storage methods like Batteries, fuel cells and Supercapacitors (SCs). SCs are emerging and rapidly developing electrical energy storage technology that provides significant robustness and efficiency benefits over alternative energy storages. SCs have very high capacity and a low internal resistance, that are capable to store and deliver energy at relatively vast rates as compared to batteries.

In SCs flat (flexible) and cylindrical types are available, cylindrical types are cost effective and occupy more volume and area not befitted in few applications like UPS, GPS tracking systems, Medical equipment electric vehicles etc. flexible types having more capacity, energy density, improved durable, occupying less volume with less material, large surface area, less weight and cheaper cost compared to cylindrical types So flexible type are better than cylindrical.

Current problem is important because the future is mostly depends on the hybrid energy storage devices to store electrical energy and release when it required. Solving the problem produce sophisticated energy storing devices with removal of existing challenges and improve parameters like low cell voltages, high-self discharge rates, larger volume, higher cost, lower energy density and engage larger area. Solving the problem contribute to the benefits, affordable devices with least possible weight, larger surface area, higher efficiency, least production cost, Higher energy density, large power density, high specific capacitance, quick charge and improved discharge rates, wide operating temperature ranges, improved cell voltages.

### Themes:

- Overview of Energy Storage Technologies
- Integration of Energy Storage
- Energy storage and Electric Vehicle Integration
- Thermal Energy Storage and Hydrogen Storage
- Supercapacitor
- Solar energy storage

### Thrust Areas:

The energy storage on flexible supercapacitor, lithium, sodium ion batteries and Pd- H system new way to design materials

### About IST, JNTUH

The Institute of Science and Technology is a constituent unit of Jawaharlal Nehru Technological University Hyderabad. It established in 1989 and is currently offering postgraduate and research programmes in interdisciplinary areas of science and technology leading to M.Sc, M.Tech and Ph.D degrees. The units offering academic programmes in the Institute are Biotechnology, Environmental sciences, Spatial Information technology, Chemical science and technology, Pharmaceutical sciences, Water resources and Nano science and technology. All the centres are equipped with state of art laboratories and the faculty members of the institute attract funded research projects.

### Centre for Nano Science and Technology (CNST)

Centre for Nano Science and Technology (CNST) was established in 2007 at Institute of Science and Technology, Jawaharlal Nehru Technology University Hyderabad with main focus on teaching and research in the field of Nano Technology under the support of DST-Nanomission. Centre has well equipped classrooms with audiovisual facilities, research and computer facilities. The Centre has modern infrastructure for carrying out research in the advanced areas of Nano science.

**Dayalbagh Educational Institute (Deemed to be University):** The Government of India declared the Dayalbagh Educational Institute as an institution *Deemed to be a University* from the session 1981-82, under Section 3 of the University Grants Commission Act, 1956 (3 of 1956). The Institute has since been accorded the membership of the Association of Indian Universities. The Institute comprises faculties of Arts, Commerce, Education, Engineering, Science and Social Sciences.

### Speakers:

- DRDO
- ARCI
- BARC
- IICT
- C-MET
- IIT's
- NIT's
- Central University
- Industry Partners

### Organizing committee:

Sri Jayesh Ranjan, IAS	Chairman
Hon'ble Vice-Chancellor, JNTUH	
Prof. Dr. A Govardhan Rector, JNTUH	Member
Prof. B. Venkateswara Rao Director, IST, JNTUH	Member
Prof. M. Anji Reddy Director, DRD, JNTUH	Member
Dr. V. Hima Bindu Head, CEN, IST, JNTUH	Member
Dr. A Jayashree Head, CCST, IST, JNTUH	Member
Dr. A. Uma Head, CBT, IST, JNTUH	Member
Dr. K Venkateswara Rao Head, CNST, IST, JNTUH	Member
Dr. S. Shobha Rani Head, CPS, IST, JNTUH	Member
Dr. C Sarala Head, CWR and CSIT, IST, JNTUH	Member
Dr. Ch. Sasikala Professor CEN, IST, JNTUH	Member
Dr. T. Vijaya Lakshmi Ass. Prof., & Coordinator, TEQIP-III CEN, IST, JNTUH	Member

Students, Research organizations, Entrepreneurs, Public sector Enterprises Consultants, Industry associations and universities, relevant officials from public funded R & D Organizations.

### Coordinators

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