



डॉ० ए०पी०जे० अब्दुल कलाम प्राविधिक विश्वविद्यालय
DR. A.P.J. ABDUL KALAM TECHNICAL UNIVERSITY
(Formerly UP Technical University)

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Letter No: AKTU/VCO/2017/१०५७

Dated: September 8, 2017

To
The Directors/Principals
Affiliated Institutions In Kanpur,
Lucknow & Adjoining area.

Sub:- One day Workshop on Virtual Laboratories at IIT Kanpur on 16 September
2017 for faculty member of engineering Colleges.

Dear Sir

Please refer the letter of Dr. Kantesh Balani, Associate Dean, IIT, Kanpur, dated 19 August, 2017 as attached regarding the one day workshop on 16 September 2017, at IIT, Kanpur.

You are requested to advise at least 15 engineering faculty members of different branches to attend this workshop to expose them with concept of virtual laboratories and its pedagogic advantage.

You are further requested to share the list of these faculty members department wise who shall be attending this workshop from your institute at vc@aktu.ac.in and copy marked to kbalani@iitk.ac.in.

Thanking You

Your Sincerely


(Prof. Vinay Kumar Pathak)
Vice Chancellor



Dr. Kantesh Balani

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To:

Date: Aug. 19, 2017

Prof. Vinay Pathak

Vice Chancellor, Dr. A.P.J. Abdul Kalam Technical University
Lucknow

Dear Prof. Pathak,

Sub: One-day workshop on *Virtual-Laboratories* at IIT Kanpur on Sept. 16, 2017 (Saturday) targeted at faculty members from engineering colleges under AKTU located in and around Kanpur.

In order to circumvent the problems in performing experiments, such as physical distances, lack of resources/infrastructure, knowledge-base, manpower, etc., web enabled virtual experiments are being developed under initiatives of MHRD, for eventual use by the faculty members and students of various engineering colleges and institutes across the country. To showcase this development, we at IIT Kanpur are organizing a *one-day workshop on "Virtual Laboratories"* on *Sept. 16, 2017 (Saturday)* at our campus. This workshop is designed to expose the concept of virtual laboratories and its pedagogic advantages to the faculty members of engineering colleges and institutes under AKTU in Kanpur and adjoining areas. The first announcement of the workshop is attached herewith for your perusal.

We request you to **kindly disseminate this information to all colleges of AKTU**, especially those located in and around Kanpur. We look forward to your support in ensuring good and vibrant participation in this workshop. We propose to host about 150 faculty members from the following areas; the scope of virtual experiments to be demonstrated is also indicated below:

Branch	Scope of experiments covered in the workshop
Mechanical/ Aerospace	Heat Transfer, Fluid Mechanics, Combustion and Atomization, Energy Systems, Manufacturing, Mechantronics, Production Technology Materials Science, Nano-composites, Flow control, Aerodynamics, Flame visualization , Vortex Combustor
Computer Science/ Electrical / Electronics/ Physics	Networks and Systems, Microwaves, RF characterization Instrumentation, Laser spectroscopy, Astrophysics
Civil/ Materials	Soil Property, Consolidation, Compression Test, Vibrations Materials Science, Biomaterials, Surface Properties/ Non-wetting

Detailed information is provided in the attached flyer. Please do not hesitate to contact me in case you need any further clarifications.

Thanking you,

With best regards,

Kantesh Balani

Workshop coordinator, Virtual Laboratories

Who can attend?

Faculty members of AICTE approved engineering colleges/ institutions, from the following fields/ branches/ departments are encouraged to attend the workshop:

Branch	Field of Study/ Courses
Mechanical	Heat Transfer, Fluid Mechanics, Combustion and Atomisation, Energy Systems, Manufacturing, Mechantronics, Production Technology, Materials Science, Nanocomposites
Computer-Science/ Electrical/ Electronics/ Physics	Networks and Systems Microwave/RF characterization, Laser spectroscopy, Instrumentation
Civil/ Aerospace/ Materials Science	Soil property, consolidation, compression test, Vibration/ Flow control, <i>Aerodynamics</i> , Flame visualization, Vortex Combustor/ Materials Science/ Biomaterials

Registration Fees

There is no registration fee for participants. However, the total number of participants which can be accommodated is limited to 150. Every institute can recommend up to a total of 7-10 participants, typically equally distributed amongst the above mentioned branches/ areas.

Important dates

Application in the prescribed format typed on an A4 size paper, by the Principal/Head of the Institute should reach the coordinator on or before Sept. 05, 2017 (Tuesday). You are advised to send a prior intimation on telephone/ e-mail, followed by hard copy of the application. In case of shortage of time, the hard copy may be brought on the day of the workshop, however, prior intimation of the same is necessary.

Travel and Accommodation

There is no lodging arrangement needed as the workshop is for one day.

Local participants are expected to come to the IIT Kanpur campus by their own arrangements.

Lunch and refreshments will be provided.

How to reach

The campus of IIT Kanpur is located on G. T. Road (Direction Delhi). It is about 15 kms from the railway station.

The venue of the workshop will be the Lecture Hall Complex, located inside the academic area. Use Gate 3.

If you need more information, please contact the coordinator. Information about the Institute is available at our website www.iitk.ac.in.

Contact

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Associate Professor

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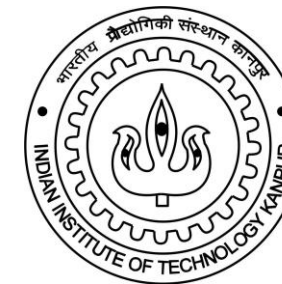
An MHRD Govt of India Initiative

FIRST ANNOUNCEMENT

One Day Workshop on Virtual Laboratories

September 16, 2017

Organized by
**INAE Kanpur Chapter &
Indian Institute of Technology Kanpur**



Under the aegis of
Ministry of
Human Resource and Development
Government of India
**National Mission on Education through
Information and Communication
Technology**

Workshop Coordinator

Kantesh Balani

Department of
Material Science and Engineering
Indian Institute of Technology Kanpur
Kanpur 208016

Background

Physical distances and the lack of resources make us unable to perform experiments, especially when they involve sophisticated instruments. Also, good teachers are always a scarce resource. Web-based and video-based courses address the issue of teaching to some extent. Conducting joint experiments by two participating institutions and also sharing costly resources has always been a challenge. With the present day internet and computer technologies the above limitations can no more hamper students and researchers in enhancing their skills and knowledge. Also, in a country such as ours, costly instruments and equipment need to be shared with fellow researchers to the extent possible. Web enabled experiments can be designed for remote operation and viewing so as to enthuse the curiosity and innovation into students. This would help in learning basic and advanced concepts through remote experimentation. Today most equipment has a computer interface for control and data storage. It is possible to design good experiments around some of this equipment which would enhance the learning of a student. Internet-based experimentation further permits use of resources – knowledge, software, and data available on the web, apart from encouraging skillful experiments being simultaneously performed at points separated in space (and possibly, time).

The aim of the one-day workshop is to expose the concept of virtual laboratories, being developed under the initiative of MHRD, Government of India, to the faculty members of various engineering colleges and institutes. This will be the first step for implementation of this model in regular engineering education in the coming years.

Objectives of the Virtual Labs

- To provide remote-access to Labs in various disciplines of Science and Engineering. These Virtual Labs would cater to students at the undergraduate level, post graduate level as well as to research scholars.
- To enthuse students to conduct experiments by the arousing their curiosity. This would help them in learning basic and advanced concepts through remote experimentation.
- To provide a complete Learning Management System around the Virtual Labs where the students can avail the various tools for learning, including additional web-resources, video-lectures, animated demonstrations and self evaluation.
- To share costly equipment and resources, which are otherwise available to limited number of users due to constraints on time and geographical distances.

Demo of Virtual Laboratories on:

- Virtual combustion and atomization
- Aerospace Virtual Laboratory
- Geotechnical Engineering Laboratory
- Ultrafast Laser Spectroscopy
- Transducers and Instrumentation
- RF and Microwave Characterization Laboratory
- Networks Monitoring Laboratory
- Production Shop Simulation Laboratory
- Optical Visualization of Heat Transfer and Fluid Flow Phenomena
- Nano-composite fabrication and bio-materials laboratory
- Material response to micro-structural, mechanical and thermal stimuli
- Waves and phenomena
- Virtual astrophysics laboratory

One-Day Workshop on Virtual Laboratories

September 16, 2017

Name of the institute:

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Address:

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.....

E-mail:.....

Tel:.....Mob:.....

List of nominated participants:

(Please attach on a separate sheet)

S. No.	Name	Department

Note: Every institute can recommend up to a total of 7-10 participants, equally distributed amongst branches/ areas mentioned in the brochure.

Signature of the Principal or the Head of the Institute

Name.....

Designation.....

Date:

Place:

Signature and seal of the
recommending/forwarding authority