



Tata Institute of Fundamental Research

Homi Bhabha Road, Colaba, Mumbai, INDIA, 400005



ASET Colloquium

Virtual laboratories for development of Higher Order Thinking Skills (HOTS) in students

“Engineering happens in laboratories” but teachers and students face many difficulties while carrying out experiments in physical labs. I realized the potential of the virtual laboratories and started researching various aspects of these labs. During the outreach activities, I trained engineering instructors and students in using the virtual labs. It was during these training sessions I found that the instructors were in need of comprehensive guidelines for the effective use of virtual labs. The guidelines in engineering education were converted to an online format in the form of The SDVlcE Tool. The tool has been used by more than 1000 teachers to design virtual lab experiments, initially for using existing virtual labs. Currently, it is being used for the design and development of new virtual lab experiments. In this Colloquium, the participants will be taken through the various virtual labs currently available for use, recent trends in virtual labs, and features of virtual labs that lead to the development of Higher Order Thinking Skills (HOTS) amongst the students.

Dr. Anita Diwakar (IIT Bombay & AIEE Edtech)

Dr. Anita Diwakar did her Ph.D. in Educational Technology from IIT Bombay on the “Development of guidelines for teaching and learning with virtual laboratories in Engineering Education”. She is part of the TUET Teachers Use of Educational Technology Researchers group from IDP in ET IIT Bombay and Designated Partner of AIEE Edtech. She trained more than 6000 engineering teachers and more than 5000 engineering students in the domain of design and development of Virtual laboratory experiments. She is a Mentor and Investor in SINE IIT Bombay Incubated Startups (iCapotech and Holo Shiksha). She is a Life Member of ISTE, Member of CSI, IAOE, GOLC and Senior Member of IEEE, and the Chairperson of the Educational activities committee IEEE Bombay section. She is a member of the Board of Studies of the School of Education and Research at the MIT Art, Design and Technology University, Pune. She is an expert member in the National Education Policy Task Force, Symbiosis International, Pune.



Date & Time: Friday, 20th August 2021, 4pm

YouTube live-stream link: https://youtu.be/8A_egl94iu4