



## **SAL INSTITUTE OF TECHNOLOGY AND ENGINEERING RESEARCH**

**Department of Electronics and Communication Engineering**

**&**

**Department of Instrumentation and Control Engineering**

E-workshop Report

**On**

**Design Engineering: Modelling for Innovation**

28<sup>th</sup> December 2020

Director & Principal: Dr. Rupesh Vasani

Head of Department: Prof. Jigar S. Barot

Conducted by – Mr. Chitranshu Kumar

Coordinated by – Prof. Kuldeep Shukla

Prof. Sunil Nayak

The online workshop was organized as part of Institutions Innovation Council calendar activity on google meet platform on 28th December, 2020, Monday for all the students of Electronics and Communication Department and Instrumentation and Control Engineering Department. Total 104 students of Electronics and Communication as well as Instrumentation and Control Engineering were as a part of this event.

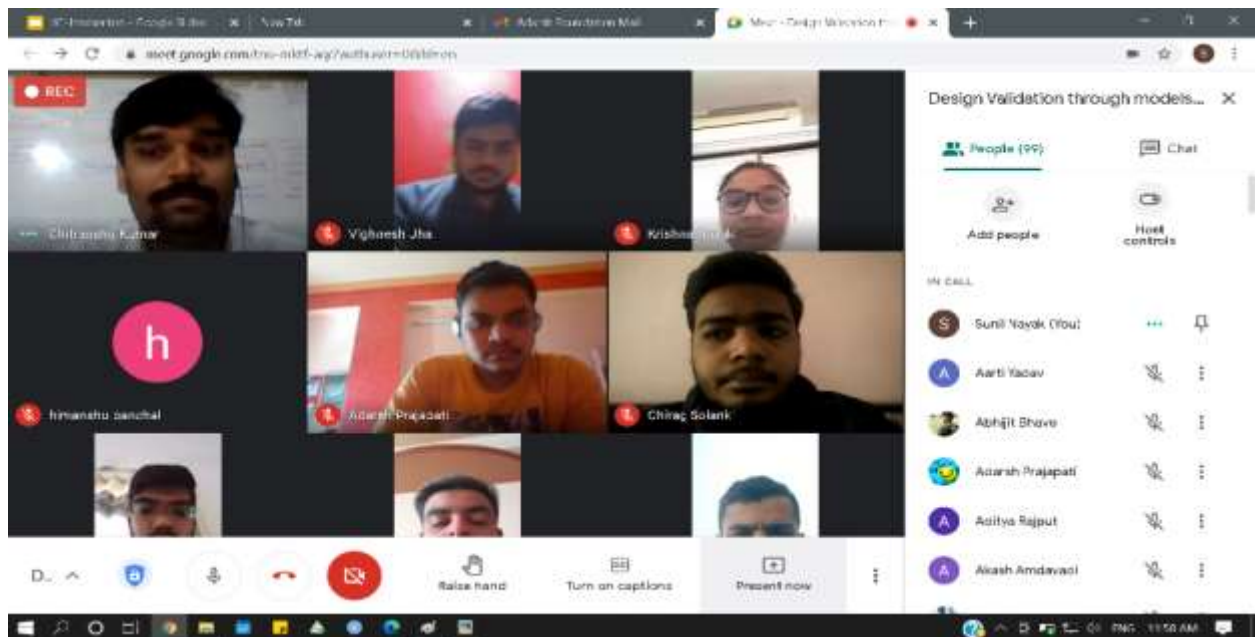
The speaker Chitranshu Kumar who is a well-known social Innovator and Designer, has done his product design (M.Des.) , NID Ahmedabad and Electrical Engg. (B.Tech.), IIT Gandhinagar. He is the recipient of Outstanding Innovation Award at 5th Convocation of IIT Gandhinagar.

He has a work experience of more than a year at Design Innovation Center, IDC, IIT Bombay. His work experience includes ethnographic studies in rural villages of Maharashtra, working in collaboration with NGOs, working on projects for the well-being of financially weak families and education for the underprivileged.

He has facilitated workshops on Design thinking, Life skills and Robotics to students of various grades. He is doing his project that focuses on developing interventions for sustainable livelihood of the families from the unorganized sector in rural Uttar Pradesh. He has received the NID-Ford Foundation Grant for the same.

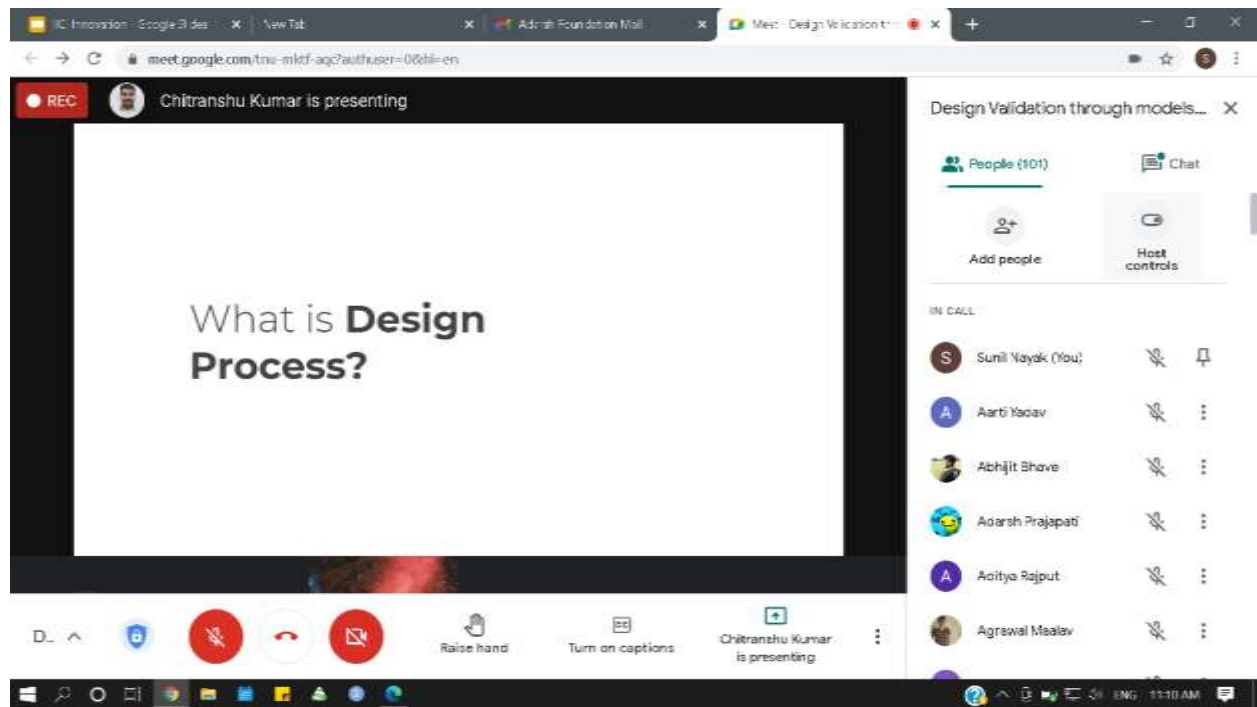
He is currently an army Stretcher for mountain regions with narrow pathways.

The workshop was pertaining to innovation in design engineering and how to model them in real



time with keeping production in mind.

How the product has been designed was clearly taught, students enjoyed the way the design process was being described.



How the design process initially began with the models and which role one needs to play was also discussed.

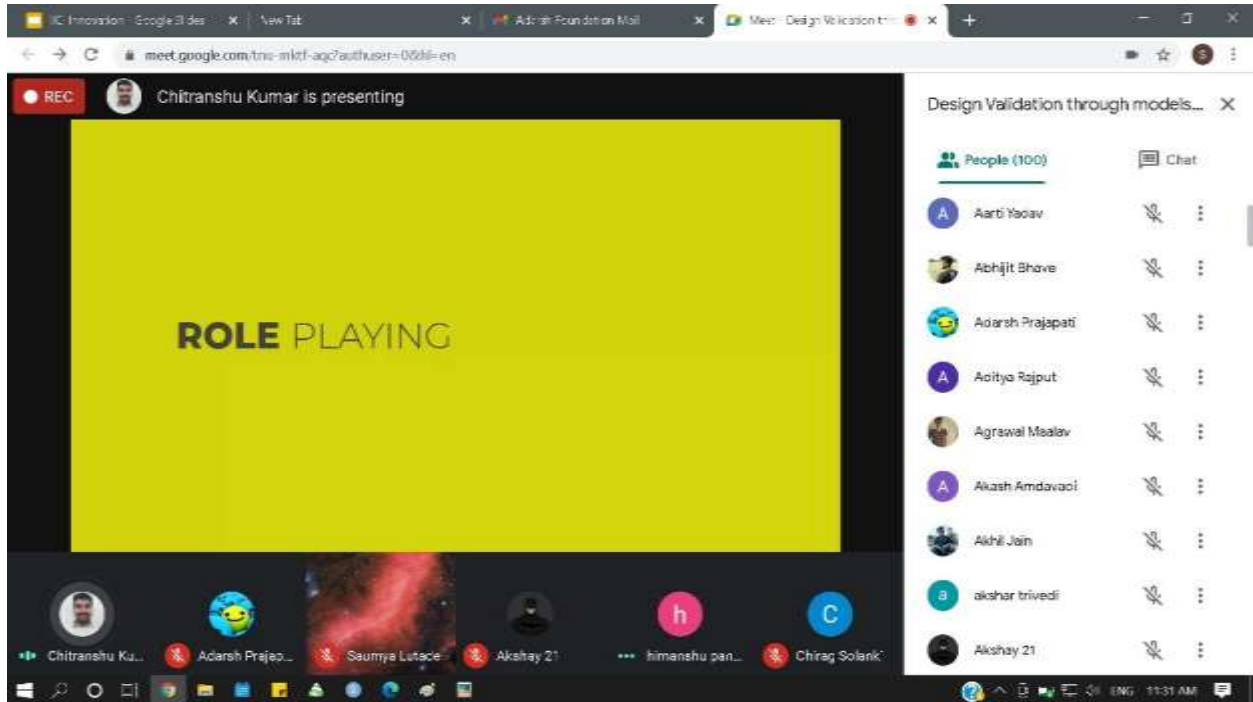
Modeling and simulation enable designers to test whether design specifications are met by using virtual rather than physical experiments.

The use of virtual prototypes significantly shortens the design cycle and reduces the cost of design. It further provides the designer with immediate feedback on design decisions which, in turn, promises a more comprehensive exploration of design alternatives and a better performing final design.

Simulation is particularly important for the design of multi-disciplinary systems in which components in different disciplines like mechanical, electrical, embedded control, etc. are tightly coupled to achieve optimal system performance.

Finally, he addressed the issue of collaborative modeling. Design of complex multi-disciplinary systems requires the expertise of a group of collaborating specialists. Designers with backgrounds in different disciplines collaborate with analysts, manufacturing engineers, marketing specialists, and business managers.

To support this collaborative aspect of simulation and design, it is important to carefully document the models, capture their semantics, and make them available in well-organized repositories that fit within the context of the world-wide-web.



In addition to that, which parameters are used while designing, that is to be decided by the survey. The workshop was concluded with the vote of appreciation.

