SREE VIDYANIKETHAN ENGINEERING COLLEGE
Sree Sainath Nagar, A. Rangampet, Tirupati – 517102.
(An Autonomous Institution, Affiliated to JNTUA, Anantapur)
DEPARTMENT OF MECHANICAL ENGINEERING

Report on

Two day Faculty Development program on

"3D Printing and Scanning - Multi disciplinary applications & Research Perspectives"

26 -27, Nov, 2018.

3D Printing is an Additive Manufacturing technique that creates a physical object from a virtual 3D CAD model in faster and effective way. It has gained a lot of attention as it has changed the way a product can be manufactured. The concept of "Additive Manufacturing" is yet another technological advancement made possible by the transition from analog to digital processes. In recent decades, communications, imaging, architecture and engineering have all undergone their own digital revolutions. Now, AM can bring digital flexibility and efficiency to manufacturing operations. 3D printers is the medium through which AM happens. It has a great impact on manufacturing domain. Hence it is important for the academicians to get awareness of the present day technology.

With this objective, a Faculty Development Program on "3D Printing and Scanning - Multi Disciplinary Applications & Research Perspectives" has been organized for the in-house faculty of Sree Vidyanikethan Engineering College during 26th - 27th, November 2018. Dr.K.C.Varaprasad, Professor & HOD, Department of ME, SVEC and Mr. K.Rakesh, Engineer, Think3D, Hyderabad are the resource persons. Mr.Ravi from Think3D, Chennai has also accompanied Mr.Rakesh to help during hands on sessions.

In the first session, Dr.K.C.Varaprasad presented on the topic "Overview of 3D printing and Scanning techniques" in which Dr.Varaprasad explained 3D printing as a process in which material is joined or solidified under computer control to create a three-dimensional object with material being added together.

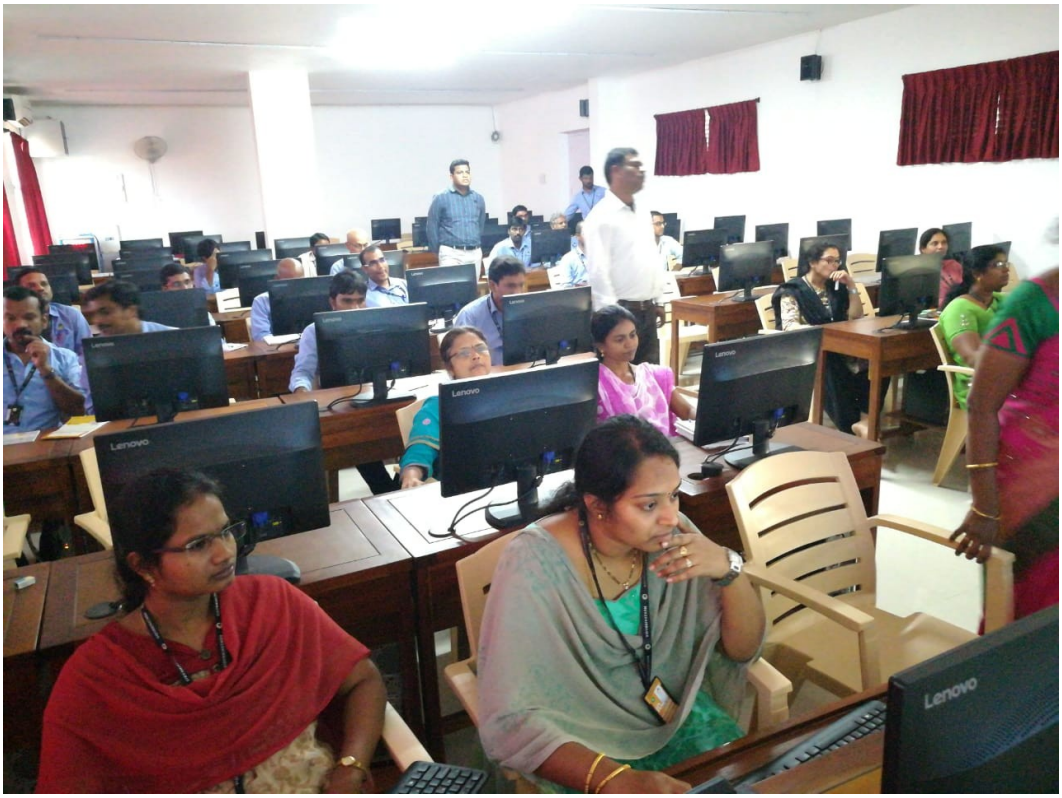
Dr.K.C.Varaprasad explaining the 3D printing techniques

The Additive manufacturing also uses data computer-aided-design (CAD) software or 3D object scanners to direct hardware to deposit material, layer upon layer, in precise geometric shapes. Dr.Prasad also explained various techniques in 3D printing i.e., SLS, FDP, SLA etc., with their applications, methodology and differences.

In the next session, Mr. K. Rakesh explained "3D Printing in Multi-disciplinary applications with industrial case studies". Mr. Rakesh gave practical applications and examples in which 3D printing has been used in a wide spread – Constructions, Bio Medicine, Manufacturing etc. Then, Mr. Rakesh demonstrated about Flash Forge 3D printer with its working principle and printed some models. A hands-on-session was conducted for the participants by Mr.Ravi to demonstrate the use of Flash Print software.

On second day, i.e., on 27th, November, 2018, Mr.Rakesh gave deep insights into industry needs and requirements in the field of 3D printing. The participants came to know about the areas of research in 3D printing and scanning. Later, Mr. Rakesh demonstrated the use of 3D scanner and the working principle. Then Mr. Rakesh demonstrated practically some trouble shootings in printer and scanner.

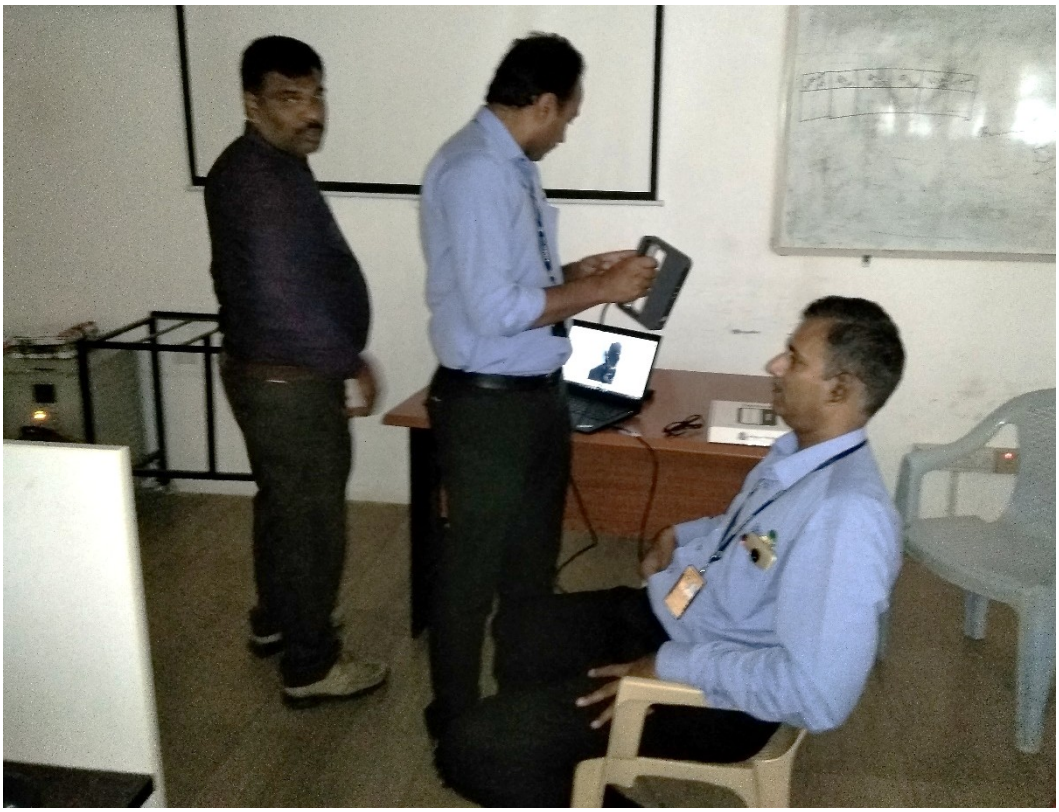
Mr. K.Rakesh demonstrating the 3D printer



Participants having hands on training session

Clarifying doubts of Participants on 3D printer

Live demo on 3D printer for Participants



Mr.Rakesh guiding participants during Hands-on-practice on 3D scanners

Dr.K.C.Varaprasad giving momento the resource person

3D printer and 3D printed models

During the valedictory function, Dr. K.C.Varaprasad explained the role of 3D printers and the research opportunities in the field of 3D printing. He motivated the faculty to update themselves in line with present technology. Then he appreciated and thanked the resource person Mr.K.Rakesh for his support and for sharing his expertise with faculty. The organizing team member Mr.G.V.V.S.Reddy Prasad has thanked Dr.K.C.Varaprasad and all other faculty members for their support and cooperation. Finally, Ms.Theja Sree, Asst Professor, gave the vote of thanks and thanked all the participants for their interest in learning a new topic.