



IEEE – MVSR STUDENT BRANCH
Student Branch Code: 12161 , School Code: 41329276

3D PRINTING TECHNOLOGY

A seminar on **3D PRINTING / ADDITIVE MANUFACTURING TECHNOLOGY** has been conducted in MVSR Engineering College under IEEE SB in collaboration with **EEE Department** in order to make students aware of the technology which can manufacture a three dimensional object of any shape. The seminar included a demo on how a 3D Printer prints a 3 dimensional object.

Student Branch Mentor:

Dr. Atul Negi,
Professor, School of CIS,
University of Hyderabad.

Student Branch Advisor:

Mr. V. Ashwini Kumar,
Assoc. Professor, IT Dept.,
MVSR Engineering College.

WIE Student Branch Advisor:

Ms. Dr. G. Kanaka Durga,
Head, IT Department,
MVSR Engineering College.

Student Branch Counselor:

Ms. A.V.Vahini
Asst. Professor, IT Dept.,
MVSR Engineering College.

Student Branch Executive Committee:

Ch. Vinay Kumar – Chairman
E.Sanjana - Vice Chair
Soumya Reddy – Secretary
G .Vinay Kumar - Joint Secretary
P. Sushma – Treasurer

WIE Affinity Group:

K. Akshitha Reddy - Chairman
A. Shivani Reddy – Vice-chair
K. Pooja - Secretary
A. Manideep – Joint Secretary
D. Sreeya Reddy- Treasurer

Event Details:

Date: **20-02-2015**

Time: **10:30 AM - 1:00 PM**

Venue: **CSE Seminar Hall, MVSR Engineering College**

Number of Participants: **250**

The workshop started with a welcome note by Dr. Venu Madhava Chary, Head, EEE Dept., MVSR Engg College on benefits of IEEE and its role to build up technical skills and knowledge. Apart from that, he also spoke about the advantages of 3D printing technology.



Dr. Venu Madhava Chary, Head, EEE Dept., MVSR Engg College

Agenda of the Seminar:

- (a) Introduction to 3D printing
- (b) History of 3D printing
- (c) Various 3D printing technologies
- (d) 3D printing workflow process
- (e) Advantages & Limitations of 3D printing
- (f) Live demo on 3D printing
- (g) Conclusion.

The speaker of the seminar was **Mr. Rajashekar Upputuri**, Co-founder of the company **Think3D**



Mr. Rajashekar Upputuri, presenting the seminar



Students and Faculty listening to the seminar

About 3D Printing:

3D Printing is a form additive manufacturing technology where a three dimensional object is created by laying down successive layers of material. It can make physical 3D models of objects either designed with a CAD Program or scanned with a 3D Scanner. The concept of 3D manufacturing is exciting nearly to everyone. This is revolutionary method which saves time and cost by eliminating the need to design, print and glue separate model parts.

In this seminar, the participants could know the advantages and application of 3D Printing and could get a glance idea about it through the introduction.

After the introduction, the speaker explained about the origin of this technology and how it evolved into a technical wonder.

As a part of it, the speaker gave few fascinating examples of applications of 3D printing like 3D printed house, 3D printed human organs.



A picture of a 3D printed house which took 10 hours of manufacturing is shown to describe the applications of a 3D Printer.

After the history of 3D Printing, the speaker explained about various technologies used in 3D printing like

- Stereo lithography: The main technology in which photo-polymerization is used to produce a solid part from a liquid.
- Fused deposited modeling: The object is produced by extruding melted material to form layers as the material hardens immediately after extrusion from a temperature controlled print head
- Selective laser sintering: This technology uses a high power laser to fuse small particles of plastic, metal, ceramic or glass powders into a mass that has the desired three dimensional shape.

After discussing various technologies, the students were aware of the terminologies used in the 3D Printing or manufacturing. The speaker explained about the working process of a printer.

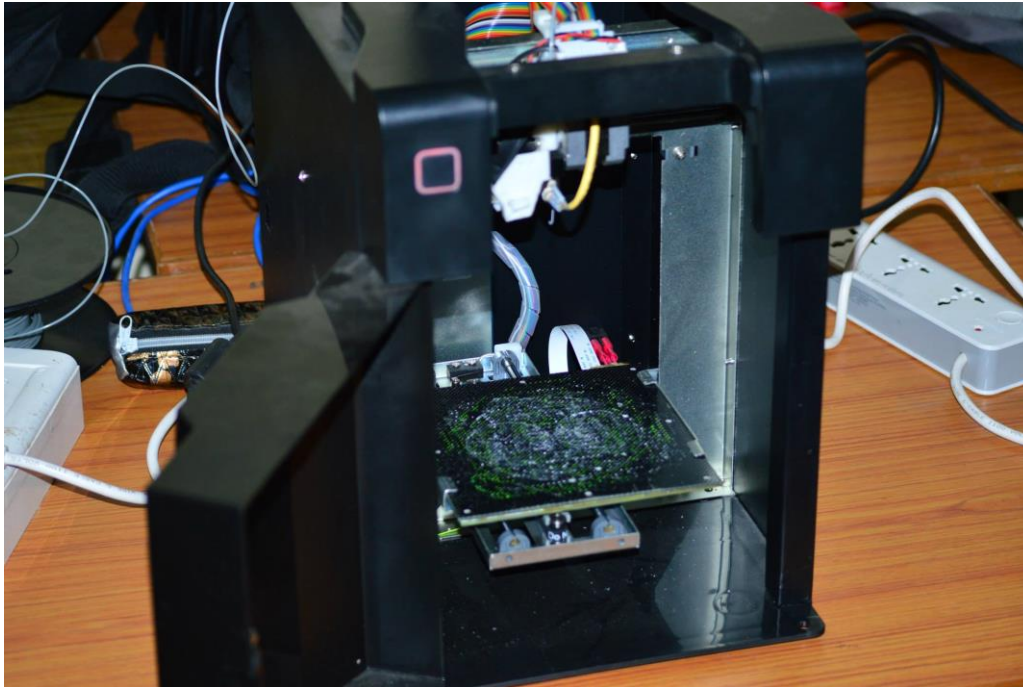
Under working process, the students were explained about CAD program and 3D Scanner which takes the dimensions of an object and makes a digital copy of an object and puts into a 3D modeling program.



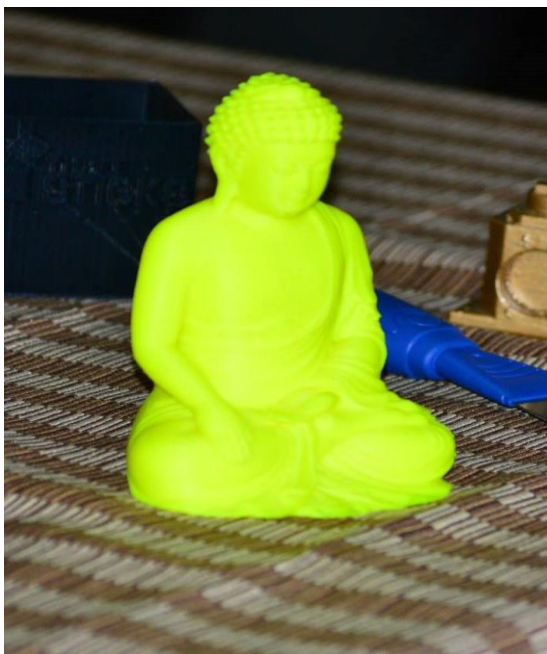
Mr.Rajashekar Upputuri, showing 3D printed objects with moving parts.

A live demo of 3D Printer

The speaker showed a demo on how to print an object using 3D Printer. As a part of that he printed a statue of Lord Buddha.



3D Printer



A 3D printed statue of Lord Buddha which was printed in the demo.



A 3D printed model of Mr.Rajashekar Upputuri.



From left: V.B. Mounika, Mrs. A.V.Vahini, Students Branch Counselor, Dr.G. Kanaka Durga, Head, IT Dept.,MVSREC along with students in the seminar.

At the end of demo, the students interacted with the speakers and clarified their doubts regarding the technology and future applications and extension of the technology.



The speaker responding to the queries of students and faculty



Students interacting with the speaker

At the end of the seminar, the students could gain good knowledge of the technology, its advantages and applications in various fields of industries, medicine, accessory manufacturing etc.

