

# **Consolidated Report on A Five Day National Workshop on Basics in Robotics and Applications**

**(17-12-2018 to 21-12-2018)**

A Five Day National Workshop on Basics in Robotics and its Applications has been started with marvelous presence of more than 50 participants including several experts from ISRO, IIT, NIT, IIIT'S and other major institutions/industries on 17-12-2018 at VFSTR, Guntur. This workshop organized by the Department of Mechanical Engineering in a way to enrich the basic knowledge of robotics and applications among the young scholars and researchers with in our country.

The coordinator has of this workshop Mr. Ravi Kumar Mandavahas given the welcome speech and he has discussed the importance of the workshop. Alongside, the Convener and HOD of Mechanical Engineering Dr. L.S.Raju delivered few words related the department and also he discussed the how VFSTR is initiating the robotics subject and lab. Further, the Chancellor of the VFSTR University Prof. K. Ramamurthy Naidu and the Vice – Chancellor of the VFSTR University Dr. M.Y.S.Prasad have inaugurated the workshop by lighting of lamp followed by other delegates. In this regard, the Chancellor has delivered a few words related to the robotics. Moreover, the Vice Chancellor has shared his views on the importance of the robots in daily life applications. In addition to the chancellor and Vice Chancellor, the other delegates of the inaugural function also shared their views on importance of Robots in daily usages, medical and industrial applications.

The Chief guest of the inaugural function Dr. C. D Sridhara, Director from Anatha Technologies, Bangalore, gave a talk on robots used in space applications and also he discussed the why robots are sending in space and the importance of the robots in space. Moreover, he discussed the how mobile robots landing on space and the robots working in space. Further, the guest of honor of the inaugural function Dr.V.Panduranga from IIT Bhubaneswar has given wonderful lecturer on introduction about robotics and also he explained various types of biological inspired robots and its applications.

The Second day of the workshop Dr. Rahul Kala from IIIT Allahabad has delivered a delightful lecturer on robots navigation and its motion planning. He has taken various examples in real time environment and discussed how to solve the different types of problems. Dr. Rahul Kala has shown his own algorithms and how he solved the algorithms and explained.

The afternoon session Mr. SatishPadavala, he is chief engineer of the RamsonTechlabs has conducted a hands on experience on mobile robots. He has taken total 3 sessions (18<sup>th</sup>, 19<sup>th</sup> and 20<sup>th</sup> afternoon) and discussed various types experiments such as, line following robot, wall following robot, obstacle avoidance robot, android mobile controlled robot and voice controlled robot. of line, obstacle avoidance,

The Third day of the workshop Dr. VivekSangwan from IIT Bombay has delivered a lecturer on active and passive joints of the two linked robot and also he discussed the dynamics and trajectory planning of the biped robot. Moreover, he also shown his laboratory work and videos related the active and passive joints.

The fourth day session was started by Dr.V.S.Raghunathan, URB member of VFSTR has enlightened the participants by his great lecture on the intelligent materials for sensors and actuators. On the same day, the afternoon session was continued by Mr. Aditya Maraty, CEO of

Nugenix, Bangalore has shown the live demonstration of kenova robotic and 6-DOF parallel manipulator and explained how the robots working and discussed about various applications.

The last day of the workshop Dr, Santhakumar Mohan, from IIT Palakad, was delivered wonderful lecturer on mobile robots and its dynamics. He has also shown and discussed the mobile robots developed in his laboratory. On the same day the afternoon session Mr. Ravi Kumar Mandava from VFSTR has given a talk on design and development of controllers and motion planning algorithms for the biped robot. He has discussed the kinematics and dynamics of the biped robot while walking on various surfaces. Moreover, he also discussed biped robot in motion planning while introducing static and dynamic obstacles.

On the same day evening a valedictory function has been conducted. Further, the Chief Guest of the valedictory function Dr. Santhakumar Mohan from IIT Palakad, has given a speech on importance of robotics in daily life. Certificates for all participants were distributed by the Chief Guest Dr. Santhakumar Mohan. Head of the Department Dr.L.S.Raju thanked the management for providing the necessary facilities for the conduction of workshop and also appreciated various managements of the institution for send the participants to this wonderful platform. Finally, Dr. L. Ratna Raju gave a vote of thanks message.