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The Department of Mechatronics Engineering, G H Patel College of Engg & Technology, Gujarat, India organized 3rd International Conference on Innovations in Automation and Mechatronics Engineering 2016, (ICIAME 2016) during 5-6 February 2016. This conference was in continuation of the previous successful two conferences on "Innovations in Automation and Mechatronics Engineering, ICIAME – 2013 and ICIAME-2014" The proceeding of ICIAME2014 was published in Procedia Technology, Vol. 14, 2014. In this respect the selection and peer review of the papers have been done with collaboration of the Scientific and Organizing Committees. We would like to thank all involved people who allowed us to improve the quality of the papers at high international standard level.

The thrust areas covered during the conference included:

1. MEMS and NEMS; Robotics,
2. Automation & Artificial Intelligence;
3. PLC and Micro-controllers;
4. Machine Vision;
5. Micro and Nano fabrication;
6. Modeling, Simulation & Optimization;
7. CFD & Thermal Science Engineering;
8. Manufacturing Engineering;
9. CAD, CAM & CAE;
10. Signal Processing & Condition Monitoring;
11. Oil Hydraulic & Pneumatic Systems.

The keynote speeches were delivered in ICIAME2016 by Professor Sondipon Adhikari of Swansea University, UK on "Computational Methods for Nano mechanical Sensors" and by Professor T Asokan, IIT Madras on "Autonomy in Robotics myths and Facts".

We do hope that the speakers and the delegates had a fruitful exchange and discussions on technical and scientific developments and issues during the conference.

The Organizing committee is very much thankful to the Chairman, Charutar Vidya Mandal, Advisory committee members and Reviewers for their unconditional support and guidance. We would also like to thank the delegates for their contributions and the fellow colleagues of the Institution to make this conference successful one.

Dr. Vinod N Patel
Professor
Mechatronics Engineering Department
G.H.Patel College of Engineering and Technology
Bakrol Road, Vallabh Vidyanagar - 388120
Gujarat, India

Dr. Anand Y Joshi
Professor
Mechatronics Engineering Department
G.H.Patel College of Engineering and Technology
Bakrol Road, Vallabh Vidyanagar - 388120
Gujarat, India

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G H PATEL COLLEGE OF ENGINEERING & TECHOLOGY
VALLABH VIDYANAGAR – 388120

MECHATRONICS ENGINEERING DEPARTMENT

VISION

The department aims to educate Mechatronics Engineering students in global standards by way of imparting the responsible, worthy, and exploratory approach, & thereby enabling them to face Industrial challenges in the ever-changing technical era by providing platform to learn and execute the multidisciplinary subjects with focus on Design, Control and Automation aspects.

MISSION

To accomplish our vision for continuous improvement, the Mechatronics Program has the prime mission of providing a high-quality education with

A. A curriculum that provides synergic integration of engineering fundamentals and applications.
B. The faculty committed to offer a broad experience that will promote professional growth and prepare students for a variety of engineering careers, graduate studies, and continuing education.
C. Project experiences that build on fundamentals and develop multidisciplinary team skills.
D. Interdisciplinary facilities and equipments those are readily accessible.
E. An environment that is conducive to learning and encourages students from different genders and backgrounds.

PROGRAMME EDUCATIONAL OBJECTIVE

Programme Educational Objectives of Mechatronics Engineering are best outlined in terms of goals for its graduates. Mechatronics engineering graduates will be:

i. Effective inter-disciplinary engineers, well educated in the basic engineering sciences and fundamentals of mechanical, electrical, electronics and control engineering.
ii. Capable of designing, analyzing, and testing “smart” products and processes that include suitable controllers, sensors and actuators.
iii. Active oral, written, and graphical correspondents.
iv. Functioning effectually as members of multi-disciplinary teams.
v. Having a gratefulness for the individual, society, and human heritage, and be conscious of the influence of their designs on human-kind and the environment.
vi. Knowledgeable and ambitious to secure high merit to make them employable.

PROGRAM OUTCOMES

Mechatronics Programme graduates validate the ability to:

a. Smear knowledge of mathematics, science, and mechatronic engineering to frame and unravel problems.
b. Exhibit the knowledge of electrical and electronic circuits, control system, logic design and image processing using hardware and soft programming for automation.
c. Demonstrate the knowledge of statics, dynamics and solid mechanics related to Mechatronics systems.
d. Synthesis and Analysis of mechanisms which integrate computers, sensors, and actuators to meet the needs for evaluating system performance with respect to specifications.
e. Understanding the general engineering and production fundamentals by experimental studies.
f. Use of current industry / shop floor standard using various engineering tools.
g. Understand the fundamentals of management, optimization and current standards & developments on the front of quality assurance and reliability.
h. Converse technical matters efficiently in oral, written, and graphical form.
i. Function independently to prove their knowledge of multiple disciplines of engineering.
j. Understand their professional and ethical responsibilities, the impact of their activities on society and the environment, and appreciate contemporary issues facing society.
k. Use information resources and recognize the importance of continued learning.