

FOREWORD

The Department of Mechanical Engineering held the first seminar in 1995, under the theme: “The Role of Mechanical Engineering in Changing Industry”. Thereafter, seven seminars were held annually until 2001. After a few years’ break, the annual seminars resumed in 2006 with the 9th series titled “Sustainable Research and Innovations”. The 10th series was held in 2007. The participants were drawn from Mechanical Engineering and the rest of the departments in the Faculty of Engineering and the University, other universities, research institutions and industry. In some occasions in the past, participants have been drawn from overseas, namely South Africa, Uganda and Tanzania. From the year 2010 the name Seminar was changed to Conference. This year’s conference has also attracted participation from many countries around the world, amongst which are, Poland, South Korea, UAE, USA, India, Finland and Italy.

Objectives/Aims:

The objectives/aims of departmental annual seminars could be categorized as follows:

1. Fulfilling individual and departmental scholarship goals:
 - a) Preparing papers for publication in seminar proceedings and other refereed journals
 - b) Pooling of potential material for the intended mechanical engineering journal
 - c) Preparing scholarly work for use in internal promotion
2. Fulfilling the social mandate of the department:
 - a) Forum for scholars in mechanical engineering and related subjects to exchange ideas on new and existing knowledge, and to get feedback from the industry and other stakeholders
 - b) Forum to inform industry on the role and relevance of mechanical engineering in the development of industry
 - c) Forum to enable participants to articulate problems facing the society, and offer viable solutions
 - d) Departmental socialization
3. Laying grounds for creating a scholarly identity amongst counterpart departments within and outside the country

2011 Mechanical Engineering Annual Conference

Research is the cutting edge of development. In modern times, research has been dependent on an interdisciplinary approach for development of new knowledge and products. In terms of investment, industrialized countries spend a significant amount of GDP on funding research in universities and other dedicated institutions and centers. Kenyan research institutions face tremendous challenges of building up capacity that ensures that our industries remain competitive in the global markets, offering innovative solutions to the increasing socio-economic problems and developing efficient methods of using the depleting natural resources. A possible approach towards tackling these challenges is using a multi-disciplinary approach to solve engineering problems.

The theme for the 2011 Mechanical Engineering Annual Conference is “Sustainable Research and Innovation”. The wide selection of topics below allow the participants an opportunity to share experiences and articulate how their activities fit in the process of industrialization and possibly the flagship projects stipulated in the Kenya Vision 2030.

List of Sub-Themes of 2011 Mechanical Engineering Annual Conference

The papers to be presented will include, but are not limited to the following topics:

1. Environmental Sciences and Engineering
2. Sustainable Research
3. Power Generation and Renewable Energy
4. New Energy Solutions
5. Technology and Society
6. Engineering Industrialization and Vision 2030
7. Engineering and Industrialization
8. Climate change and Pollution
9. Mechanical and Automotive Engineering
10. Manufacturing and Mechatronics
11. Electrical and Electronic Engineering
12. Mining, Drilling and Mineral Processing
13. Water Management and Marine Engineering
14. Engineering Management and Maintenance
15. Measurements and Standards

