

Report
on
**All India Seminar on Applications of Imaging, Visualization, and
Optimization Technologies (AIVOT-12)**
held during 2nd – 3rd March, 2012

The All India Seminar on **Applications of Imaging, Visualization, and Optimization Technologies (AIVOT-12)** was organized during 2nd – 3rd March, 2012 by The Institution of Engineers (India), Uttarakhand State Centre (UKSC) under the aegis of Interdisciplinary Coordination Committee (ICC), IEI, Kolkata. Er. K. P. Tripathi, Chairman, IEI, UKSC presided over the inaugural session which was inaugurated by Chief Guest, Dr. Rajendra Prasad Dobhal, Director General, Uttarakhand State Council for Science & Technology, Dehradun. Dr. M.M. Kimothi, Director, Uttarakhand Space Application Centre, Dehradun; Shri Utpal Ghosh, Pro-Vice Chancellor, University of Petroleum & Energy Studies (UPES); and Dr. P. K. Mishra, Director, Central Soil & Water Conservation Research & Training Institute (CSWCRTI) were Guest of Honor on the occasion. Er. Narendra Singh, Council Member, IEI, Er. R. P. Jamloki, Immediate Past Chairman also graced the occasion. Dr. Rajendra Dobhal, Chief Guest, stressed on the need of publication of research papers, patents, and citation index for creating knowledge base of the society. He gave several examples as how the newer technology has changed the face of the society. He cautioned that if we do not proceed with the pace of the newer technology then we will be left behind. Er. K. P. Tripathi, while welcoming the Chief Guest, Guest of Honour and the participants of the seminar narrated in detail the history and growth of The Institution of Engineers (India), Kolkata and Uttarakhand State Centre, Dehradun. He explained about the research grant scheme, young engineers' award, publication of papers undertaken in association with M/s Springer and membership etc of The Institution of Engineers (India) to the participants. He also told about the infrastructure of The Institution of Engineers (India), Uttarakhand State Centre (UKSC). Dr. M.M. Kimothi in his keynote lecture, emphasized on the importance of State Geographic Information System and role of various agencies in the development process. He covered in detail various projects undertaken by Uttarakhand Space Application Centre (USAC) for development of Uttarakhand State. Prof. Utpal Ghosh stressed on product development for especially software. Dr. P.K. Mishra talked about projects for village development and how technology can play a key role in observing earth conditions. Er. Anant Bhaskar Garg, Organizing Secretary gave vote of thanks.



The Technical Session-I (Optimization Applications),II (Imaging Applications) and III (Visualization Applications & Techniques in Imaging) were chaired by invited speaker; Dr. S. P. Aggarwal, Head, Water Resources, Indian Institute of Remote Sensing, Dehradun; Dr. S. C. Jain, Group Director, DEAL, Dehradun; and Prof. Manoj Arora, IIT Roorkee respectively. One best paper from each session as selected by the committee was awarded.

Selected papers and abstracts are published in the proceedings covering the sub theme as imaging techniques, GIS, RS, evolutionary algorithm, information systems, web-based systems, optimization approach, and decision making etc. Experts and participants from IIT, Roorkee; Aeronautical Development Agency, USAC, UCOST, DEAL, IIITM, UTU, H.N.B. Garwhal University, UPES, and other engineering institutions from different parts of the country shared their research findings especially from Bangalore, Maharashtra, UP, MP, Chhattisgarh, and Uttarakhand.



Dr. D. S. Chuahan, Vice-Chancellor, Uttarakhand Technical University, was the Chief Guest during valedictory function and Dr. M. R. Tyagi, Vice-Chancellor, Graphic Era University; Er. G. P. Patel, Managing Director, UJVNL, Dehradun; Er. A. K. Jain, Managing Director, UPCL, Dehradun and Dr. Krishna Kumar, Director, Dehradun Institute of Technology were Guest of Honor. Er. K. P. Tripathi, Chairman, IEI, UKSC presided over the valedictory function M. S. Chandramouli from Aeronautical Development Agency, Bangalore for his paper entitled “*Evolutionary Algorithm Based Missile Evasion for Unmanned Aerial Systems*”; Kiran Chauhan, DEAL, Dehradun for her paper entitled “*Spectral Correlation based Material Mapping & Target Detection in Hyperion Images*” and Shweta Bansal from IIT, Roorkee for her paper entitled “*RX Algorithm for Anomaly Detection from Hyperspectral Remote Sensing Images*” received best paper award.

Dr. D.S. Chauhan, Chief Guest was all very appreciative of the seminar. He said that such topics which are now gearing up in the society may be given priority in the seminar as these are the need of the day. He further said that it is time that all the stake holders namely the policy makers, the scientists, the technologists, the implementers, media, and end-users may sit together and discuss these issues and come out with a workable and acceptable plan comprising inputs from various disciplines to solve interdisciplinary issues.



Er. K.P. Tripathi, Chairman, IEI, UKSC, highlighted the importance of remote sensing and GIS techniques for soil and water management. This Seminar provided a forum for Professionals, Managers, Scientists, Engineers, Educators & Research Scholars to present and discuss the most recent innovations, trends, experiences and concerns in interdisciplinary way for the benefit & uplift of the society. Researchers discussed various applications in control, intelligent systems, and natural resources management that require imaging, visualization, and optimization techniques to solve a particular problem in multidisciplinary way. Further they discussed technological options available through modeling, simulation, and image analysis especially for States having tough terrain such as Uttarakhand, and other parts of India.

Er. Anant Bhaskar Garg, presented recommendations emerged from the seminar and also proposed vote of thanks.