

A Report on Two Day National Workshop

on

“Recent Advances in Bioinformatics and Medical Image Analysis”

Sponsored by **Department of Science and Technology (DST-SERB)**

18th & 19th November, 2016

A Two Day National Workshop was organized by the Department of Computer Science and Systems Engineering on **“Recent Advances in Bioinformatics and Medical Image Analysis”** sponsored by **DST-SERB** on 18th & 19th November, 2016. Workshop is inaugurated by Dr. DVS Bhagavanulu, Director, Dr. I Sudarshan Kumar, Chief Operating Officer, Dr. K Ramani, Prof. and Head of te Dept. IT and Dr. B Narendra Kumar Rao, Prof. and Head of the Dept. CSSE.



Dr. DVS Bhagavanulu mentioned that image processing techniques are also useful in Civil Engineering Applications. Dr. I Sudarshan Kumar mentioned that there are lots of research opportunities by the intersection of disciplines and also discussed about necessary in identifying new drug / computational chemistry. Dr. B. Narendra Kumar Rao highlighted various applications in Bioinformatics and Medical Image Analysis. Dr. M. Naresh Babu, convener of this workshop, well informed about the outlook of the program.

Prof. K Ramani, Prof. Jayanthi Sivaswamy, Prof S Jyothi, Dr. P Sateesh, Dr. G Ramesh Kumar and Dr. M Naresh Babu are the resource persons. Faculty from different colleges gained knowledge on Image Processing, Medical Image Analysis and its Deep Learning, Research Opportunities and Challenges in Transdisciplinary Area, Big Data and Next Generation Sequencing (NGS) and how to Identify Single Drug Multiple Targets for Diabetes Mellitus.

During the first session, **Prof K Ramani, Head of the Dept. of IT, SVEC**, enlightened audience with fundamentals of image processing and explained different applications of digital image processing. She also explained various types of noise in the images and various types of filters.



Dr. K Ramani discussing about Fundamentals of Image Processing

In the next two sessions, **Prof Jayanthi Sivaswamy, IIIT Hyderabad**, explained about Medical Image Analysis with its Applications and Challenges in Acquisition and Processing.



Prof. Jayanthi Sivaswamy discussing about Medical Image Analysis

On the last session of the first day **Prof. S Jyothi, Sri Padmavathi Mahila Viswavidyalayam, Tirupati** explained Deep Learning : Medical Image Analysis and also explained how Neural Networks and Machine Learning applied for medical image analysis.



Prof. S Jyothi discussing about Deep Learning in Medical Image Analysis

On the Second day of workshop in first session **Dr. P Sateesh, Maharaj Vijayaram Gajapathi Raj College of Engineering, Vizianagaram**, discussed about various opportunities in Bioinformatics and explained basics of Bioinformatics.



Dr. P Sateesh discussing about Research Opportunities and Challenges in Transdisciplinary Area

On the next session **Dr. G Ramesh Kumar, AU-KBC Research Centre, Chennai** enlightened various biological databases and explained how Big Data analytics can be applied to NGS data and also mentioned about Cloud for Bioinformatics applications.





Dr. G Ramesh Kumar discussing about NGS - Big Data

On the last session of the workshop **Dr. M Naresh Babu, Associate Professor, CSSE Dept., Sree Vidyanikethan Engineering College, Tirupati** explained about how network centralities can be applied to Biological Networks to identify most influential proteins.

