

# **SEMINAR NOTICE**

## **Data Analysis: Issues due to high dimensions Dr. Balasubramaniam Jayaram, Asst. Professor, IITH**

**DATE & TIME: 28<sup>th</sup> February 2014, 4PM**

**VENUE: Seminar Room, SCIS**

### ABSTRACT

In recent times, analysis of High Dimensional data has become a major area of study. Some effects due to increasing dimensionality have been known for some time now, for instance the combinatorial explosion in search space. However, studies done during the last decade have revealed many new aspects of HD data and their impact on various algorithms and processes in Data Analysis. In this talk we will deal with one such aspect, viz., the Concentration of Norms phenomenon, which is the inability of distance measures to separate points well in high dimensions because of which the distances between any pair of points appear more or less equal. This talk intends to introduce the audience to this recently discovered behaviour of distances in high dimensions, illustrate their effects, present the findings of studies that analysed the reasons behind such behaviours and finally discuss some potential and nascent approaches that could mitigate the effects.

Dr. Balasubramaniam Jayaram (BIO):

Dr. Balasubramaniam Jayaram received the M.Sc. and Ph.D. degrees in Mathematics from the Sri Sathya Sai Institute of Higher Learning, Puttaparthi, INDIA, in 1999 and 2004, respectively. He is currently an Assistant Professor with the Department of Mathematics, Indian Institute of Technology Hyderabad, INDIA. Dr. Jayaram is an Experienced Research Fellow of the Alexander von Humboldt Foundation. He has also been a visiting researcher at various universities, notably, the Slovak University of Technology at Bratislava, SLOVAKIA, Johannes Kepler University at Linz, AUSTRIA, University of Ostrava, CZECH REPUBLIC and University of Applied Sciences at Wolfenbuettel, GERMANY. Dr. Jayaram's research interests are in Approximate Reasoning, Fuzzy Logic Connectives, Clustering in High Dimensions and Kernel Methods in Machine Learning. He has coauthored a research monograph on "Fuzzy Implications" and is the author or coauthor of more than 50 published papers in refereed international journals and conferences. Dr. Jayaram is an Associate Editor of the IEEE Transactions on Fuzzy Systems (2014- ).

**Dean, SCIS**