

## The Lynne and William Frankel Center for Computer Science Department of Computer Science



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## **Distinguished Lecturer Series**



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## Towards theoretical foundations of clustering

Clustering is one of the most widely used techniques for exploratory data analysis. Across many disciplines, people try to get intuition about their data by identifying meaningful groups among the data points. In the past five decades, many clustering algorithms have been developed and applied to a wide range of practical problems. However, in spite of the abundance of clustering research published every year, we are far from having satisfactory understanding of some of the most basic general issues in clustering.

In this talk I survey some recent work on developing a general theory of clustering, aiming, among other things, to provide the clustering user with some systematic guidance concerning the matching between clustering algorithms (and their parameter settings) and specific clustering tasks.

Shai Ben-David grew up in Jerusalem, Israel. He attended the Hebrew University studying physics, mathematics and psychology. He received his PhD under the supervision of Saharon Shelah and Menachem Magidor for a thesis in set theory. Professor Ben-David was a postdoctoral fellow at the University of Toronto in the Mathematics and the Computer Science departments, and in 1987 joined the faculty of the CS Department at the Technion (Israel Institute of Technology). He held visiting faculty positions at the Australian National University in Canberra (1997-8) and at Cornell University (2001-2004). In August 2004 he joined the School of Computer Science at the University of Waterloo.