

# NCTS/NCU Short Course on Data Science

姚遠教授

Professor Yuan Yao, Peking University



## TITLE & ABSTRACT

### **Mathematical Introduction/Foundations to Data Analysis**

Maximum likelihood estimator: Sample mean and PCA stein's phenomenon and shrinkage in high dimensional statistics random projection and compressed sensing extended PCAs: robust PCA, sparse PCA, and MDS with uncertainty geometry and low rank structures: manifold learning.

Time: Course May 5, 6, 7, 15:00 – 17:00

Tea time May 5, 14:30 – 15:00

Venue: 107, Hung-Ching Building, Dept. of Math, NCU

### **\*\*An introductory talk on Data Science**

NCTS / CMMSC Seminar on Applied Mathematics

### **Introductory Lecture on Data Science**

It is a warm up talk for my serial lectures on Data Science on May 5, 6, 7 at NCU. But the lectures at NCU are self-contained.

Time: 16:00 – 17:00, April 30 / Venue: Science Building 1, Room 307, NCTU

## **ABOUT THE SPEAKER**

Professor Yuan Yao is an expert on mathematical theory of data science. He got his Ph.D of Mathematics on the subject of mathematical learning theory from UC Berkeley 2006. Then he worked at Department of Mathematics and Computer Science at Stanford University as a postdoctor from 2006-2009. He was recruited by the Peiking University as a Professor in the Hundred Talents program from 2009. His most recent interests are focusing on mathematics for data sciences, in particular topological and geometric methods for high dimensional data analysis and statistical machine learning, with applications in computational biology and information technology. He has published more than 40 papers on in this field. His homepage: <http://www.math.pku.edu.cn/teachers/yaoy/>.