

数学与系统科学研究院

计算数学所学术报告

报告人: **Prof. Chandrajit Bajaj**

(*University of Texas at Austin*)

报告题目:

**Sampling, Kernel Optimization and
Deep Learning**

邀请人: 陈冲 博士

报告时间: **2019 年 7 月 10 日 (周三)**

下午 15:00-16:00

报告地点: 科技综合楼三层

301 报告厅

Abstract:

Generating nearly uniform random samples from Hilbert spaces is fundamental to several applications in the computational and data sciences. One natural measure of uniform sampling quality is discrepancy. Kernels are positive-definite pairwise similarity measures that allow one to design and learn them as mappings between Hilbert spaces. Owing to the reproducing property of kernels, these linear functionals can be learned from data. Deep Learning, convolutional neural networks provide an approach to learning such functional mappings from various input Hilbert spaces to output Hilbert spaces. In this talk I shall show the intimate and intertwined connections between all three of these concepts.

Bio-Blurb:

Chandrajit Bajaj is the director of the Center for Computational Visualization, in the Institute for Computational and Engineering Sciences (ICES) and a Professor of Computer Sciences at the University of Texas at Austin. Bajaj holds the Computational Applied Mathematics Chair in Visualization. He is also an affiliate faculty member of Mathematics, Computational Neuroscience and Electrical Engineering. He is currently on the editorial boards for the International Journal of Computational Geometry and Applications, and the ACM Computing Surveys, and past editorial member of the SIAM Journal on Imaging Sciences. He was awarded a distinguished alumnus award from the Indian Institute of Technology, Delhi, (IIT, Delhi). He is also a Fellow of The American Association for the Advancement of Science (AAAS), Fellow of the Association for Computing Machinery (ACM), Fellow of the Institute of Electrical and Electronic Engineers (IEEE), and Fellow of the Society of Industrial and Applied Mathematics (SIAM). <http://www.cs.utexas.edu/~bajaj>

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