

# EPSTEIN INSTITUTE SEMINAR ▪ ISE 651

## Nonparametric Convex Regression

**ABSTRACT** – We consider nonparametric least squares estimation of a convex regression function. We will discuss the characterization, computation and consistency of the estimator. A computational framework for multivariate convex regression and some of its variants--- non-decreasing/non-increasing convex regression and Lipschitz convex regression --- will also be presented.

An approach to obtaining smooth convex approximations to the fitted (piecewise affine) convex least squares estimator, which provide formal bounds on the quality of approximation, will also be discussed. If time permits, dimension reduction techniques in this setup will also be presented.



**Dr. Bodhisattva Sen**

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Department of Statistics  
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**SPEAKER BIO** – Bodhisattva Sen is an (tenured) Associate Professor of Statistics at Columbia University, New York. His core statistical research centers around nonparametrics and large sample theory --- nonparametric function estimation (with special emphasis on shape constrained estimation), likelihood and bootstrap based inference in (non-standard) parametric and nonparametric models. He is also involved in interdisciplinary research, especially in astro-statistics. He was awarded the National Science Foundation (NSF) CAREER award in 2012. He has held a Lectureship position at the University of Cambridge (UK) between 2011-2012, was a visiting scholar at the University of California at Berkeley between 2016-2017 and was a visiting Associate Professor of Statistics at Stanford University during Spring 2017.

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**MONDAY, MARCH 5, 2018**

1:00PM – 2:00PM

USC ANDRUS GERONTOLOGY CENTER (GER), Room 206