



香港中文大學
The Chinese University of Hong Kong

Institute of Theoretical Computer Science and Communications

CSE - ITCSC Joint Seminar

Property Testing Lower Bounds via Communication Complexity

By

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September 1, 2011, Thursday

2:30pm – 3:30pm

Room 121, Ho Sin Hang Engineering Building, CUHK

Abstract: We develop a new technique for proving lower bounds in property testing, by showing a strong connection between testing and communication complexity. We give a simple scheme for reducing communication problems to testing problems, thus allowing us to use known lower bounds in communication complexity to prove lower bounds in testing. This scheme is general and implies a number of new testing bounds, as well as simpler proofs of several known bounds. In this talk we will illustrate our technique by proving lower bounds for testing juntas, k -linearity, monotonicity, and more.

Based on joint work with Eric Blais and Joshua Brody

Biography: Kevin is currently at ITCS, part of the IIIS at Tsinghua University. Before that, he was in the Department of Mathematics at MIT, and a member of the Theory of Computation group in CSAIL. He also frequently visited the Columbia University CS department. Before attending MIT, he obtained a Certificate of Advanced Study in Mathematics from Cambridge University, and a Bachelor of Science from Brown University.

***** ALL ARE WELCOME *****

Hosted By: Prof. Andrej Bogdanov

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