abstract

Computer Science/Discrete Mathematics Seminar II
Topic:

Speaker:

Affiliation:

Date:

Time/Room:

One of the major insights of the ``fixed-parameter tractability□□ (FPT) approach to algorithm design is that, for many NP-hard problems, it is possible to efficiently *shrink* instances which have some underlying simplicity. This preprocessing can be a powerful first step toward solving such instances.

At the same time, many other NP-hard problems have resisted efficient preprocessing. The ``AND-□□ and ``OR-conjectures□□ of Bodlaender, Downey, Fellows, and Hermelin (JCSS 2009) gave a unified explanation of the hardness of many such problems. Since their work, one goal has been to provide more standard complexity-theoretic evidence for these conjectures. After introducing the relevant background, I will describe recent progress in this area.

Based on the paper ``New Limits to Classical and Quantum Instance Compression.□□