Department of Applied Mathematics and Statistics

The Distinguished Alan J. Goldman Lecture Series

Maria Chudnovsky
Princeton University

Time: 1:30pm Thursday, October 28, 2021
Place: 101 Remsen Hall
Zoom: https://wse.zoom.us/j/91467375713 passcode: 272254

Title: Induced subgraphs and tree decompositions

Abstract: Tree decompositions are a powerful tool in both structural graph theory and graph algorithms. Many hard problems become tractable if the input graph is known to have a tree decomposition of bounded "width". Exhibiting a particular kind of a tree decomposition is also a useful way to describe the structure of a graph.

Tree decompositions have traditionally been used in the context of forbidden graph minors; bringing them into the realm of forbidden induced subgraphs has until recently remained out of reach. Over the last couple of years, we have made significant progress in this direction, exploring both the classical notion of bounded tree-width, and concepts of more structural flavor. This talk will survey some of these ideas and results.

Bio: Maria Chudnovsky is Professor in the Mathematics Department at Princeton University. She received her PhD degree from Princeton University in 2003. Her research interests are in graph theory and combinatorics. She was a recipient of the Fulkerson Prize in 2009 and was named a MacArthur Fellow in 2012.