Distinguished Colloquium Series in Interdisciplinary & Applied Mathematics
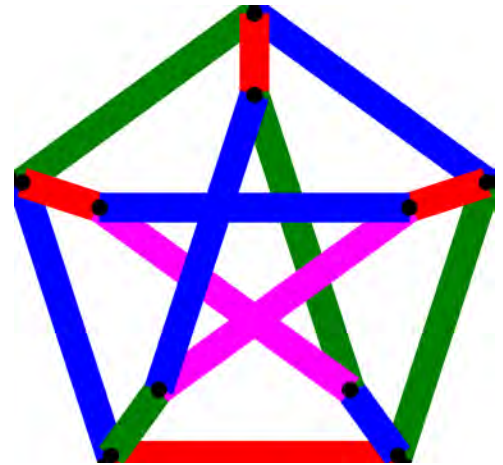
Maria Chudnovsky

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"Perfection and Beyond"

A graph is a mathematical construct that represents information about connections between pairs of objects. As a result, graphs are widely used as a modeling tool in engineering, social sciences, and other fields.

About 10 years ago one of the central open problems in graph theory at the time, the Strong Perfect Graph Conjecture, was solved. The proof used structural graph theory methods, and spanned 155 journal pages. The speaker was part of the team of authors of this mathematical beast. In this talk we will explain the problem, describe some of the ideas of the proof (that has since been shortened somewhat), and discuss related problems that have been a subject of more recent research.

Maria Chudnovsky received her B.A. and M.Sc. form the Technion, and a PhD from Princeton University in 2003. Her research interests are in graph theory and combinatorics. She is an editorial board member of the Journal of Graph Theory, SIAM Journal on Discrete Mathematics, and Discrete Mathematics. Dr. Chudnovsky was a part of a team of four researchers that proved the strong perfect graph theorem, a 40-year-old conjecture that had been a well-known open problem in both graph theory and combinatorial optimization. For this work, she was awarded the Ostrowski foundation research stipend in 2003, and the prestigious Fulkerson prize in 2009. She was also named one of the "brilliant ten" young scientists by the *Popular Science* magazine. In 2012, Dr. Chudnovsky received the MacArthur Foundation Fellowship, a five-year $500,000 "genius" grant to individuals who show exceptional creativity in their work and the prospect for still more in the future. In 2014, she was an invited speaker at the International Congress of Mathematicians

Wednesday, February 25, 2015 – 5:00 PM
750 CEPSR (Shapiro Center), Costa Engineering
Refreshments served at 4:30pm in 200 SW Mudd

Organizing Committee:
Don Goldfarb (IEOR)
Eitan Grinspun (Computer Science / APAM)
Ioannis Karatzas (Mathematics)
Michael I. Weinstein (APAM / Mathematics)