

Curriculum Vitae

Maria Chudnovsky

Contact Information

Department of IEOR
Columbia University
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Date of Birth: January, 6, 1977

Citizenship: Israel; US permanent resident

Present Position

Associate Professor, IEOR Department (with an appointment in the Mathematics Department), Columbia University

Research Interests

Graph Theory and Combinatorial Optimization

Employment history

2003-2005 Veblen Research Instructor, Princeton University and the IAS

2003-2008 Clay Research Fellow, The Clay Mathematics Institute

2005-2006 Assistant Professor, Princeton University

Education

Ph.D Princeton University, Mathematics, 2003

Thesis Title : Berge Trigraphs and Their Applications.

Thesis Advisor: Paul Seymour

M.A Princeton University, 2002

M.SC Technion, Israel Institute of Technology, Mathematics, 1999.

Thesis Title : Systems of Disjoint Representatives.

Thesis Advisor: Ron Aharoni

B.A. *Summa Cum Laude* Technion, Israel Institute of Technology , Mathematics, 1996.

Honors and Awards:

- NSF Grant IIS-1117631 (2011-2014, joint with Tony Jabara)
- NSF Grant DMS-1001091 (2010-2013)
- D.R. Fulkerson Prize (2009, joint with Neil Robertson, Paul Seymour and Robin Thomas)
- NSF Grant DMS-0758364 (2008-2011)
- Ostrowski research stipend (2004)
- Clay Mathematics Institute Research fellowship (2003-2008)

Editorial Boards:

Journal of Graph Theory, SIAM Journal on Discrete Mathematics, Discrete Mathematics and Theoretical Computer Science

Program Committees: SODA 2009, Perspectives in Discrete Mathematics 2012, SODA 2013

Post-doc Supervision:

- Bernard Ries (now at Universite Paris Dauphine)
- Andrew King (now at SFU)

Graduate Student Supervision:

- Yori Zwols (PhD 2010, now at Concorida)
- Alexandra Fradkin (PhD 2011, now at the Center for Communications Research, Princeton)
- Irena Penev (PhD 2012)

- Matthieu Plumettaz (in progress)
- Krzysztof Choromanski (in progress)
- Peter Maceli (in progress)

Undergraduate Theses Supervision:

Varun Jalan (2010), Rohan Kapadia (2005,2006), Alexandra Ovetsky (2005,2006), David Lyn (2005), Max Ehrman (2012)

Other Experience:

1996 - 1999 Service in the Israel Defense Force.

Teaching:

Spring 2010, Spring 2011, Spring 2012 Columbia University, Graph Theory—A Combinatorial View, CSORE4010

Spring 2009 Columbia University, Introduction to OR—Deterministic Models, IEOR4004

Spring 2009, Spring 2011 Columbia University, Advanced Topics in IEOR—Graph Theory, IEOR8100

Fall 2008, Fall 2009, Fall 2010, Fall 2011 Columbia University, Introduction to Mathematical Programming, IEOR 3608

Spring 2007, Fall 2009, Fall 2011 Columbia University, Introduction to OR—Deterministic Models, IEOR4004

Fall 2006 Columbia University, Advanced Topics in IEOR—Graph Theory, IEOR8100

Spring 2005 Princeton University, Introduction to Graph Theory, MAT306/COS342

Fall 2002 Princeton University, MAT 202, Linear Algebra With Applications

Service:

- IEOR department PhD committee
- IEOR department PhD admissions committee

- advisor to MSOR students
- organizer of the Columbia Discrete Mathematics seminar

Invited Talks:

2012

- Paul Erdős Lecture Series, University of Memphis Centennial Celebration, Memphis, TN
- Graph Theory at Georgia Tech, Georgia Tech, Atlanta, GA
- McGill University workshop on graph coloring, Bellairs Research Center, Barbados
- Workshop on χ -bounded graph classes, ENS Lyon, Lyon, France

2011

- Tutte Seminar, University of Waterloo, Ontario, Canada
- University of Connecticut Mathematics Department Colloquium, University of Connecticut, Storrs, CT
- KAIST Graph Theory Day 2011, KAIST, Daejeon, South Korea
- Atlanta Lecture Series in Combinatorics and Graph Theory (featured speaker), Georgia Tech, Atlanta, GA
- Fourth International Conference on Combinatorics, Graph Theory and Applications, Elgersburg, Germany
- One-Day Meeting in Combinatorics, Mathematical Institute, University of Oxford, Oxford, UK
- A conference on Structural Graph Theory, Universite Paris 7, Paris, France
- Oberwolfach Meeting on Combinatorics, Oberwolfach, Germany

2010

- Workshop on Discrete Optimization, IPAM, Los Angeles, CA
- PACM Colloquium, Princeton University, Princeton, NJ

- Conference on Geometric Graph Theory, EPFL, Lausanne, Switzerland
- Second Workshop on Graphs and Matroids, Maastricht, The Netherlands
- Minisymposium on Graph Coloring, SIAM Discrete Math meeting, Austin, TX
- Symposium "Diskrete Mathematik", Vienna, Austria
- Operations Research Center Seminar, MIT, Boston, MA
- Mathematics Colloquium, University of Calgary, Calgary, AB, Canada
- Mathematics Colloquium, University of Central Florida, Orlando, FL
- Oberwolfach Meeting on Graph Theory, Oberwolfach, Germany
- Mathematics Undergraduate Colloquium, University of Pennsylvania, Philadelphia, PA

2009

- Bertinoro Workshop on Algorithms and Graphs, Bertinoro, Italy
- Workshop on Topics in Graphs and Hypergraphs, IPAM, Los Angeles, CA
- Mathematics Colloquium, University of Buenos Aires, Buenos Aires, Argentina
- Mathematics Colloquium, Technion, Haifa, Israel
- 2009 AMS Spring Central Sectional Meeting, Special Session on Graph Theory, UIUC, Champaign, IL
- Everett Pitcher Lecture Series, Lehigh University, Bethlehem, PA
- 13th Combinatorial Optimization Workshop, Aussois, France
- Invited MAA address at the 2009 Joint Mathematics Meetings, Washington, DC

2008

- The Fourth International Conference on Combinatorial Mathematics and Combinatorial Computing, Auckland, New Zealand
- BIRS workshop on Graph Minors, Banff, Canada

- Graph Theory 2008 at Sandbjerg Manor, Denmark
- Netherlands Workshop on Graphs and Matroids, Sittard, The Netherlands
- Princeton/Oxford Meeting, Oxford University, Oxford, England
- Workshop on Combinatorial Optimization and Discrete Algorithms, RIMS, Kyoto, Japan
- New Directions in Algorithms, Combinatorics, and Optimization, Georgia Institute of Technology, Atlanta, GA
- Mathematics Colloquium, Haifa University, Haifa, Israel
- Joint Mathematics and IME Colloquium, WMU, Kalamazoo, MI
- Mathematics Colloquium, Brigham Young University, Provo, Utah
- 3eme cycle romand de Recherche Operationnelle, Zinal, Switzerland
- Oberwolfach Meeting on Combinatorics, Oberwolfach, Germany

2007

- Joint Meeting of the AMS - NZMS 2007, Victoria University, Wellington, New Zealand
- IV Latin-American Graphs Algorithms and Optimization, Puerto Varas, Chile
- The ADONET-CIRM School on Graphs and Algorithms, Levico Terme, Italy
- Combinatorics Seminar, CUNY Graduate Center, New York, NY
- Princeton Discrete Math Seminar, Princeton, NJ
- 21st British Combinatorial Conference, Reading, UK
- *C&O@40*, University of Waterloo, Waterloo, ON, Canada
- 20th Cumberland Conference, Emory University, Atlanta, GA
- Oberwolfach Meeting on Graph Theory, Oberwolfach, Germany
- ACM-SIAM Symposium on Discrete Algorithms (SODA), New Orleans, LA

2006

- Combinatorics Seminar, University of Michigan, Ann Arbor, MI
- Discrete Mathematics and Theoretical Computer Science Seminar, Yale University, New Haven, CT
- CS Colloquium, City University of New York, New York, NY
- 2nd Annual Heilbronn Conference, Bristol, UK
- CS Colloquium, New York University, New York, NY
- 19th International Symposium on Mathematical Programming, Rio de Janeiro, Brazil
- SIAM Conference on Discrete Mathematics, Victoria, BC
- Sixth Haifa Workshop on Interdisciplinary Applications of Graph Theory, Combinatorics and Algorithms, University of Haifa, Haifa, Israel
- Theory of Computing Seminar, The Hebrew University at Jerusalem, Jerusalem, Israel
- Bar Ilan University Discrete Math Seminar, Israel
- Discrete Math Seminar, The Hebrew University at Jerusalem, Jerusalem, Israel
- Discrete Math and Theory of Computing Seminar, Rutgers University, Piscataway, NJ
- Joint SFU/UBC Discrete Mathematics Computing Science Seminar, Vancouver, BC, Canada
- Theory of combinatorial algorithms mittagsseminar, ETH, Zurich, Switzerland
- Oberwolfach Meeting on Combinatorics, Oberwolfach, Germany

2005

- Workshop on Graph Classes, Width Parameters and Optimization, Prague, The Czech Republic
- 7th International Colloquium on Graph Theory ICGT '05, Giens, France
- Combinatorics Seminar, UC Berkeley, Berkeley, CA
- Mathematics Colloquium UC Berkeley, Berkeley, CA
- Combinatorial Mathematics and its Applications, Oxford, England

- Princeton/Oxford Meeting, Oxford University, Oxford, England
- Mathematics Colloquium, The Ohio State University, Columbus, OH
- 49th Graph Theory Day, Shirley, NY
- MAA annual meeting, Metropolitan New York Section, Queens, NY
- Workshop on Combinatorics and Telecommunications, Icapui, Ceara, Brazil
- Computer Science/Discrete Mathematics Seminar, IAS, Princeton, NJ
- 9th Combinatorial Optimization Workshop, Aussois, France
- CAM Colloquium, Cornell University, Ithaca, NY
- Oberwolfach Meeting on Graph Theory, Oberwolfach, Germany
- Algorithms seminar, McGill University, Montreal, Canada

2004

- Joint conference: the 2004 NZIMA Conference in Combinatorics and its Applications and the 29th Australasian Conference in Combinatorial Mathematics and Combinatorial Computing, Lake Taupo, New Zealand
- Combinatorics Seminar, University of Pennsylvania, Philadelphia, PA
- ACCOTA 2004 International Workshop, Combinatorial and Computational Aspects of Optimization, Topology and Algebra, San Cristbal de las Casas, Chiapas, Mexico
- Tenth annual Big Sky Conference on Discrete Mathematics, Missoula, MN
- Latin American Conference on Combinatorics, Graphs and Applications, Santiago, Chile
- Prague Midsummer Combinatorial Workshop XI, Prague, Czech Republic
- Graph Theory 2004 conference in memory of Claude Berge, Paris, France
- SIAM Conference on Discrete Mathematics, Nashville, TN
- Computer Science Colloquium, University of Haifa, Haifa, Israel
- Mathematics Colloquium, The Technion, Haifa, Israel

- Fourth Haifa Workshop on Interdisciplinary Applications of Graph Theory, Combinatorics and Algorithms, University of Haifa, Haifa, Israel
- France-Israel Expert Workshop on Graph Classes and Graph Algorithms, University of Haifa, Haifa, Israel
- Computer Science/ Discrete Math Seminar, IAS, Princeton, NJ
- Combinatorics Seminar, LaPCS, Université Claude Bernard Lyon 1, Lyon, France
- Oberwolfach Meeting on Combinatorics, Oberwolfach, Germany

2003

- Advances in Graph and Matroid Theory, The Ohio State University, Columbus, OH
- DIMACS Mixer Series, Princeton, NJ
- Princeton/Oxford Meeting, Oxford University, Oxford, England
- Combinatorics, Probability and Algorithms, Centre de recherches mathématiques, Université de Montréal, Montréal, Canada
- Combinatorics Seminar, Tel-Aviv University, Tel-Aviv, Israel
- Spring School on Combinatorics, Topology and Convexity at the Institute for Advanced Study, The Hebrew University at Jerusalem, Jerusalem, Israel
- Erdos Lecture, The Hebrew University at Jerusalem, Jerusalem, Israel
- Special Colloquium, Haifa University, Haifa, Israel
- CMI Research Academy, Clay Mathematics Institute, Cambridge, MA
- Combinatorics Seminar, University of Pennsylvania, Philadelphia, PA
- CS Theory Seminar, Department of Computer Science, Princeton, NJ
- ACO Colloquium, Georgia Institute of Technology, Atlanta, GA
- Tenth Workshop on Applied/Advanced Research in Combinatorial Optimization, University of Southern Denmark, Odense, Denmark
- Oberwolfach Meeting on Graph Theory, Oberwolfach, Germany
- Tutte Seminar, University of Waterloo, Ontario, Canada

2002

- ACCOTA 2002 International Workshop, Combinatorial and Computational Aspects of Optimization, Topology and Algebra, San Cristbal de las Casas, Chiapas, Mexico
- 2nd Columbia Optimization Day, Advances in Optimization, Columbia University, New York, NY
- ARCC Workshop on The Perfect Graph Conjecture, American Institute of Mathematics, Palo Alto, CA
- The Joint ALADDIN/Theory/Operations Research Seminar, Carnegie Mellon University, Pittsburgh, PA
- Discrete Math/Theory of Computing Seminar, Rutgers University, Piscataway, NJ
- Combinatorics and Number Theory Seminar, SUNY at Binghamton
- A Conference on Matroid Structure Theory in Honour of W.T. Tutte, The Ohio State University
- CS Theory Seminar, Department of Computer Science, Princeton
- Oberwolfach Meeting on Geometric Convex Combinatorics, Oberwolfach, Germany
- Discrete Mathematics Day at Dartmouth College

2001

- Courant Institute Geometry Seminar, NYU, New York, NY
- Princeton Discrete Math Seminar, Princeton, NJ
- Sectional meeting of AMS, April 28-29, 2001
Session on matchings in graphs and hypergraphs

2000

- Bar Ilan University Discrete Math Seminar, Israel
- The Technion Discrete Math Seminar, Israel