

Magdalena Czubak — Curriculum Vitae

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Research Interests

Partial Differential Equations, Harmonic Analysis, Gauge Theory;

Education

Ph.D. Mathematics, University of Texas at Austin, May 2008
Advisor: Karen Uhlenbeck

B.S. Mathematics, Binghamton University, 2001

B.S. Computer Science, Binghamton University, 2001

Employment

Postdoctoral Fellow, University of Toronto, Fall 2008-present

Assistant Instructor, UT Austin, Fall 2006-Spring 2008

Graduate Research Assistant, UT Austin, Spring 2007, Summer 2006, Fall 2005, Summer 2005,
Spring 2005, Summer 2004, Summer 2002

Teaching Assistant, UT Austin, Fall 2001-Spring 2006

Awards

Frank Gerth Graduate Excellence Dissertation Award, UT Austin, Spring 2008

Professional Development Award, Office of Graduate Studies, UT Austin, Fall 2007

Frank Gerth III Teaching Excellence Award, UT Austin, 2003

Helen P. Beard Award for Excellence in Undergraduate Mathematics, Binghamton University, 2001

United Federation of Teachers Scholar, Binghamton University, 1996-2000

Publications

Regularity of solutions for the critical N -dimensional Burgers' equation, (with Chi Hin Chan). Submitted.

Local well-posedness for the $2 + 1$ dimensional Monopole Equation. Submitted.

Well-posedness for the Monopole Equation and the Ward Wave Map. Ph.D. Thesis.

On the existence of Coulomb gauges, (with Karen Uhlenbeck). In preparation.

Selected Talks

Original Research

Blowup for Chern-Simons-Schrödinger system—UT Austin, Spring 2009;

Local well-posedness for the $2 + 1$ dimensional Monopole Equation—University of Toronto, Fall 2008;

Local well-posedness for the $2 + 1$ dimensional Monopole Equation—AMS Special Session on Harmonic Analysis Applied to PDE, University of New Mexico, Fall 2007;

On a quest for Monopoles—Junior Analysis Seminar, UT Austin, Spring 2007;

Well-posedness for the Ward Wave Map–Junior PDE Seminar, UT Austin, Fall 2006;
Waves in wood–MAA Seaway Section Meeting, Binghamton University, Spring 2001;

Expository

Restriction Conjecture on a Circle–Fields Analysis Working Group Seminar, Fall 2008;
Introduction to Wave Maps–Junior PDE Seminar, UT Austin, Fall 2005;
Strichartz estimates, Fourier transform restriction and connection to PDE–Junior PDE Seminar, UT Austin, Spring 2005;
Local well-posedness for nonlinear wave equations with a null form–Candidacy Examination, Analysis Seminar, UT Austin, Fall 2004;

Service

Co-started & Co-organized Junior PDE Seminar (now Junior Analysis)-UT Austin, Fall 2004-Spring 2006;

Conferences & Programs Attended

Future Directions in Nonlinear Partial Differential Equations: a meeting in honor of Luis Caffarelli on the occasion of his 60th birthday, Dec 10 - 13, 2008
Conference on Nonlinear Phenomena in Mathematical Physics: Dedicated to Cathleen Synge Morawetz on her 85th birthday, September 18-20, 2008
Clay Mathematics Institute 2008 Summer School Evolution Equations, June 23 - July 18, 2008;
Nonlinear Waves Conference in honor of Walter Strauss on his 70th Birthday, May 8 - 11, 2008;
10th New Mexico Analysis Seminar & AMS Fall Western Section Meeting, University of New Mexico, Fall 2007;
MSRI Summer Microprogram on Nonlinear Partial Differential Equations, Summer 2007;
Nonlinear Dispersive Equations, Japan-U.S. Mathematics Institute-Johns Hopkins University, Spring 2007;
Texas Geometry and Topology Conference in Memory of Prof. S.S. Chern-University of Houston, Spring 2006;
Rivière-Fabes Symposium on Analysis and PDE, University of Minnesota, Spring 2005;
International Conference in Harmonic Analysis and PDE in the honor of Carlos E. Kenig, University of Chicago, Fall 2004;
Program for Women in Mathematics, Analysis and Nonlinear PDEs-Institute for Advanced Study, May 17-28, 2004;
Harmonic Analysis and PDE-Institute for Advanced Study/Park City Mathematics Institute, June 29-July 19, 2003;
Mathematical Association of America Seaway Section Meeting-Binghamton University Spring 2001, SUNY Oswego Spring 2000, Syracuse University Spring 1999;

Teaching Experience

Instructor

M135Y Calculus I, University of Toronto, Fall 2008-present;

M316K Foundations of Arithmetic, UT Austin, Fall 2007;

M305G Precalculus, UT Austin, Fall 2006;

Teaching Assistant

M408M Multivariable Calculus, Supplemental Instruction Leader, UT Austin, Spring 2006;

M340L Matrices and Matrix Calculations, UT Austin, Fall 2004;

M408D Calculus II, UT Austin, Spring 2004;

M408L Integral Calculus, UT Austin, Summer 2003;

M427K Differential Equations, UT Austin, Spring 2003;

M408C Calculus I, UT Austin, Fall 2002 & Fall 2001;

Math 221 Calculus I, Binghamton University, Spring 2001 & Fall 1999;

Phys 131 General Physics I (Calculus Based), Lab Instructor, Binghamton University, Fall 1997;

Grader

M305G Precalculus, UT Austin, Summer 2007;

M346 Applied Linear Algebra, UT Austin, Fall 2004;

M361K Intro to Real Analysis, UT Austin, Fall 2003;

M365C Real Analysis I, UT Austin, Fall 2003;

M333L Structure of Modern Geometry, UT Austin, Spring 2002;

References

Andrea Nahmod, University of Massachusetts at Amherst, (nahmod@math.umass.edu);

Lorenzo Sadun (teaching), University of Texas at Austin, (gradadv@math.utexas.edu);

Nataša Pavlović, University of Texas at Austin, (natasa@math.utexas.edu);

Karen Uhlenbeck, University of Texas at Austin, (uhlen@math.utexas.edu);

Mikhail Vishik, University of Texas at Austin, (vishik@math.utexas.edu);