

William R. Green

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Education

- 2010 (expected) **Ph.D., Mathematics**, University of Illinois at Urbana-Champaign, *Urbana, IL*.
2006 **MS, Mathematics**, University of Illinois at Urbana-Champaign, *Urbana, IL*.
2002–2005 **BA, Mathematics and Physics, minor in Chemistry**, Albion College, *Albion, MI*.

Teaching Experience

- 2005–present **Graduate Teaching Assistant**, University of Illinois at Urbana-Champaign, Department of Mathematics. Eight semesters of teaching experience.
- Calculus I, taught a large lecture of 150 students and supervised the four teaching assistants assigned to the discussion sections, (Spring 2009).
 - Calculus II, taught 20 students in a Merit section. The Merit style of teaching has students work in a small group setting on worksheets under the guidance of the instructor, (Spring 2008, Fall 2009).
 - A Mathematical World, taught 20 students an introduction to discrete mathematics, (Summer 2008).
 - Finite Mathematics for the Social Sciences, taught 30 students, (Spring 2007, Fall 2008).
 - Business Calculus, taught 60 students in discussion sections, (Fall 2006).
 - Calculus II, taught 60 students in discussion sections, (Fall 2005).
- 2003–2005 **Tutor**, Quantitative Skills Center, Albion College.
- tutored mathematics, physics and chemistry.

Research Interests and Experience

Interests: My research interests lie in harmonic analysis and its application to mathematical physics and partial differential equations. I am particularly interested in oscillatory and singular integrals and their applications to the analysis of PDEs.

- 2010 (expected) **Ph.D. Thesis**, “Dispersive estimates for the Schrödinger Equation” (in progress), supervised by M. Burak Erdoğan.
- 2006 **Research Experience for Graduates**, University of Illinois at Urbana-Champaign.
-background research in harmonic analysis.
- 2004 **Undergraduate Research Intern**, Argonne National Laboratory, Mathematics and Computer Science Department.
-Worked on simulation of earthquakes and data acquisition for the National Earthquake Engineering and Simulation Grid.
- 2003 **Undergraduate Research Intern**, Albion College, Physics Department.
-Modelled ion interactions for a particle beam from a 60kV accelerator through a dodecapole charge separator apparatus.

Publications

- 2009 **Dispersive Estimates for the Schrödinger Equation for $C^{\frac{n-3}{2}}$ Potentials in Odd Dimensions**, joint with M. Burak Erdoğan, Preprint 2009, accepted by IMRN. Available at <http://www.math.uiuc.edu/~wgreen4/research.html>.

- 2009 **Exponential decay of dispersion managed solitons for positive average dispersion**, in preparation.

Conferences and Talks Given

- 2010 **AMS Spring Southeastern Sectional Meeting**, Special Session on Analysis and Control of Dispersive Partial Differential Equations. "Dispersive estimates for the Schrödinger equation in odd dimensions $n > 3$ ".
- 2010 **UIUC Graduate Analysis Seminar**, "Exponential decay of dispersion management solitons".
- 2009 **UIUC Harmonic Analysis Mathematical Physics Seminar**, "Dispersive estimates for the Schrödinger equation in dimensions five and seven".
- 2009 **UIUC Graduate Analysis Seminar**, "Dispersive estimates for the Schrödinger equation in dimensions five and seven".
- 2009 **AMS Sectional Meeting**, Urbana, IL. Attendee.
- 2009 **Illinois/Missouri Applied Harmonic Analysis Seminar**, Urbana, IL. Attendee.
- 2007 **Illinois/Missouri Applied Harmonic Analysis Seminar**, St. Louis, MO. Attendee.
- 2007 **Albion College Mathematics Colloquium**, "An introduction to harmonic analysis and Schrödinger operators".
- 2007 **UIUC Graduate Analysis Seminar**, "Dispersive estimates for the Schrödinger equation in dimensions one and three".
- 2006 **Illinois/Missouri Applied Harmonic Analysis Seminar**, Urbana, IL. Attendee.
- 2005 **Third Annual MSU Student Mathematics Conference**, Michigan State University. "M men, a monkey and some coconuts".
- 2004 **Miami University Undergraduate Mathematics Conference**, "M men, a monkey and some coconuts".
- 2004 **Michigan Undergraduate Mathematics Conference**, "M men, a monkey and some coconuts".
- 2003 **Michigan Undergraduate Mathematics Conference**, "Fermat's Last Theorem: Advances in the 19th Century".

Awards and Honors

2005-present **University of Illinois at Urbana-Champaign.**

- Recipient of the Department of Mathematics' Brahana TA Instructional Award (2009).
- Graduate Teaching Certificate (to be awarded Spring 2010).
- Named to the List of Teachers Ranked Excellent by their Students (Fall 2008).
- NSF VIGRE fellowship (Spring 2006).
- Named to the List of Teachers Ranked Excellent by their Students (Fall 2006).
- Named to the List of Teachers Ranked Excellent by their Students (Fall 2005).

2002-2005 **Albion College.**

- Graduated Summa Cum Laude.
- 2005 NCAA Honorable Mention Academic All-American.
- Class of 2005 Graduation Speaker.
- E.R. Sleight Prize winner for outstanding senior in mathematics.
- E.T.S. Walton Award winner for outstanding senior in physics.
- Member of Phi Beta Kappa, Kappa Mu Epsilon and Sigma Xi honor societies.
- Honorable Mention Outstanding Presentation Award, Third Annual MSU Student Mathematics Conference Michigan State University (2005).
- J.R. Lancaster Award winner for outstanding junior in mathematics.

- Bragg Award winner for outstanding sophomore in mathematics.

Departmental Service

- 2009-current **Chair**, Graduate Teaching Awards Committee.
- 2008-current **Graduate Student Representative**, Graduate Affairs Committee.
- 2009-current **Organizer**, UIUC Graduate Analysis Seminar.
- 2008-current **Mentor**, for first time Teaching Assistants in the Mathematics Department.
 - helped plan and implement a series of teaching workshops.
 - helped run a session on preparing for teaching in graduate student orientation.
 - helped to implement a new system to evaluate first time TAs.
- 2007-current **Buddy**, graduate student orientation.
 - 2009 **Mentor**, for novice Teaching Assistants for the Mathematics Merit Program.
- 2009-2010 **Member**, Math Teaching Awards Committee.
- 2009 **Judge**, Illinois Council of Teachers of Mathematics State Finals Math Competition.