

Curriculum Vitae

Daniel Baczkowski

baz@sc.edu
www.math.sc.edu/~baz

Education

- **Ph.D in Mathematics.** University of South Carolina, (2009).
Advisors: Michael Filaseta and Ognian Trifonov.
- **M.A. in Mathematics.** Miami University (in Oxford, OH), July 2004.
Thesis: *Diophantine equations involving arithmetic functions of factorials.*
Advisor: Reza Akhtar
- **B.S. in Mathematics.** Kent State University, May 2002.

Work Experience

- Graduate Assistant, Department of Mathematics – University of South Carolina; August 2007 - present, August 2004 - May 2006.
- GK-12 Fellow, University of South Carolina; July 2006 - July 2007.
- Graduate Assistant, Department of Mathematics and Statistics – Miami University; August 2002 - May 2004.

Research Interests

- Number Theory and Approximation Theory; Diophantine equations involving factorials, almost-perfect and quasi-perfect numbers, amicable numbers, abundancy outlaws, lattice points close to smooth curves and applications to problems involving gaps in number theory, and exponential sum estimates

Papers

1. (with O. Trifonov) “Maximum number of \mathbb{F}_q -rational points on curves of small genus over the finite field \mathbb{F}_q ” – in preparation.
2. (with M. Filaseta, F. Luca, and O. Trifonov) “On values of $d(n!)/m!$, $\phi(n!)/m!$, and $\sigma(n!)/m!$ ” – submitted to the *International Journal Number Theory*.
3. Master’s Thesis at Miami University, *Diophantine equations involving arithmetic functions and factorials.*

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Courses Taught

For two years as a master's student at Miami University and for four years as a doctoral student at USC, I have taught my own courses in

- PreCalculus
- Calculus I
- Eighth grade science class (assisted).
- Finite Mathematics
- Calculus II

Awards and Honors

- PFF (Preparing Future Faculty) accreditation
- Outstanding Graduate Teaching Assistant award (USC), April 2008.
- GK-12 Fellowship, July, 2006 – July 2007.
- NSF/NSA Summer I support (from Michael Filaseta), June 2006.
- NSF/NSA Summer support (from Michael Filaseta), June 2005.
- Outstanding Graduate Student award (Miami University), May 2004.

Invited Talks

- Clemson University Colloquium, Sept. 11, 2008.
- SERMON (Southeast Regional Meeting on Numbers), April 19, 2008.
- PANTS (Palmetto Number Theory Series) Conference, Feb. 16, 2008.
- USC Number Theory Seminar, Feb. 7, 2008.
- SERMON 2005 Saturday, April 16, 2005.
- USC Number Theory Seminar, March 21, 2005.

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Other Talks and Presentations

- USC Number Theory Seminar, November 6, 2008.
- CNTA X (Canadian Number Theory Association), July, 2008.
- Ohio Section of the MAA Meeting, April 11-12, 2008.
- GK-12 lessons (for eighth grade science class at Blythewood Middle School)
 - *The Three Parts of the Ear*, May 14, 2007.
 - *Skittles' Half Life*, Mar. 19 and 21, 2007.
 - *What are prime numbers?*, Feb., 7, 2007.
 - *Life Cycle of a Star*, Nov. 15, 2006.
 - *Waves and how to do the wave*, Oct. 9, 2006.
- MAA-Joint Meeting–Mathfest 2005, Boulder, CO.
- Annual Conference at Miami University, Oxford, OH, September 2002.

Other Conferences and Short Courses Attended

- CNTA X at the University of Waterloo, July 13-July 18, 2008.
- Fields Institute Summer School in Analytic Number Theory and Diophantine Approximation, June 30-July 11, 2008.
- MAA Ohio Section Meeting, April 11-12, 2008.
- PANTS (Palmetto Number Theory Series) I, IV, and V 2006-2008.
- SERMON (South East Regional Meeting On Numbers) 2005, 2006, 2008.
- MAA-Joint Meeting–Mathfest 2005, Boulder, CO.
- MAA Ohio Section Short Course in Cryptology at Capital University, July 16-18, 2003.
- Annual Conferences at Miami University 2002, 2003, 2004.

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Services

- Panel member for *USC Question and Answer Session with Veteran TA's* (for all incoming graduate students)
- Panel member for graduate school discussion (at Ohio Section–MAA Meeting), April 2008.
- Helped coordinate the USC Integration Bee, April 8, 2008.
- Student judge for USC Graduate School's Poster and Oral Presentation Competition, 2008.
- Graduate student representative for Graduate Advisory Committee, 2006.
- Helped coordinate the USC Integration Bee, 2006.

Memberships

- American Mathematical Society.
- Association of Christians in the Mathematical Sciences
- Pi Mu Epsilon
- Society for Industrial and Applied Mathematics