

Emilie Wiesner

CONTACT INFORMATION Department of Mathematics *Voice:* (607) 274-1220
Ithaca College *Fax:* (607) 274-1588
953 Danby Rd *E-mail:* ewiesner@ithaca.edu
Ithaca, NY 14850 *Web:* faculty.ithaca.edu/ewiesner/

EDUCATION **PhD**, University of Wisconsin-Madison, August 2005
Dissertation title: *Translation Functors and the Shapovalov Determinant*
Advisor: Arun Ram
Minor: Mathematics Education

BS, BA, Washington and Lee University, June 2000
Mathematics and Spanish, summa cum laude

EMPLOYMENT *Assistant Professor* Ithaca College
Dept of Mathematics Fall 2007-Present

Franklin Fellow (Temp. Asst. Professor) University of Georgia
Dept of Mathematics AY 2005- 2007

Research Assistant University of Wisconsin
Dept of Mathematics Spring 2005

Teaching Assistant/Instructor University of Wisconsin
Dept of Mathematics 2001-2002, Spring 2003
Spring 2004-Fall 2004

VIGRE Research Fellow University of Wisconsin
Dept of Mathematics AY 2000- 2001
Fall 2002, Fall 2003

RESEARCH AREA Algebra, Representation theory, Lie algebras; Math Education

PAPERS

I. Bagci, K. Christodouloupoulou, & E. Wiesner. Whittaker categories and strongly typical Whittaker modules for Lie superalgebras. (Submitted).

M. Ondrus & E. Wiesner. Whittaker categories for the Virasoro algebra. (Submitted).

A. Weinberg, E. Wiesner, B. Benesh, & T. Boester. Undergraduate students' self-reported use of mathematics textbooks. *PRIMUS* (To Appear).

A. Weinberg & E. Wiesner. Understanding mathematics textbooks through reader-oriented theory. *Educational Studies in Mathematics* 76(1) (2011).

A. Weinberg, E. Wiesner, & T. Pfaff. Using informal inferential reasoning to develop formal concepts. *Journal of Statistics Education* 18(2) (2010).

B. Boe, D. Nakano, & E. Wiesner. Ext^1 -quivers for the Witt algebra $W(1,1)$. *Journal of Algebra* 322 (2009), 1548-1564.

M. Ondrus & E. Wiesner. Whittaker modules for the Virasoro algebra, *Journal of Algebra and its Applications* 8 (2009), 363-377.

UGA VIGRE Algebra Group. On Kostant's theorem for Lie algebra cohomology, *Contemporary Mathematics* 478 (2009), 39-60.

B. Boe, D. Nakano, and E. Wiesner. Category \mathcal{O} for the Virasoro algebra: Cohomology and Koszulity, *Pacific Journal of Mathematics* 234 (2008), 1-22 .

E. Wiesner. The Shapovalov determinant and translation functors for the Virasoro algebra. *Journal of Algebra* 307 (2007), 899-916.

B. Benesh, T. Boester, A. Weinberg, and E. Wiesner. Undergraduates use of mathematics textbooks, In Alatorre, S., Cortina, J.L., Siz, M., and Mndez, A.(Eds) (2006). *Proceedings of the 28th Annual Meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education* (2006).

E. Wiesner. Backward minimal points for bounded linear operators on finite-dimensional vector spaces. *Linear Algebra and its Applications* 338 (2001), 251-259.

PROFESSIONAL
PRESENTATIONS

Whittaker categories for Lie superalgebras. AMS Central Sectional Meeting, Special Session on Quantum Groups and Representation Theory. Omaha, NE: October 2011.

Whittaker Categories and the Virasoro Algebra.

Lie Theory Seminar (University of California-Riverside). Riverside, NY: May, 2011.

Algebra Seminar (Binghamton University). Binghamton, NY: March, 2011.

Category \mathcal{O} and Filtrations. UGA Summer School on Homological Methods in Representa-

tion Theory. Athens, GA: May 2010.

Using Reader-oriented Theory to Understand Students' Textbook Use. MAA Seaway Section Meeting. Oswego, NY: April 2010.

Whittaker Modules for the Virasoro Algebra.

Binghamton University Graduate Conference in Algebra and Topology. Binghamton, NY: November, 2009.

How Undergraduates Use their Textbooks. MAA Seaway Section Meeting. Syracuse, NY: April 2008.

Poster. Connections for Women Conference. Mathematical Sciences Research Institute, Berkeley, CA: January 2008.

AMS Southeastern Sectional Meeting, Special Session on Lie and Representation Theory. Murphreesboro, TN: November 2007.

Ext Groups for the Lie Algebra $W(1,1)$.

Workshop on Lie Groups, Lie Algebras and their Representations (University of California, Riverside). Riverside, CA: January, 2009.

Binghamton Graduate Conference in Algebra and Topology. Binghamton, NY: November, 2008.

Cohomology of Category \mathcal{O} for the Virasoro algebra.

AMS SouthEastern Sectional Meeting, Special Session on Geometric and Combinatorial Methods in Representation Theory. Davidson, NC; March 2007.

Joint Meetings of the AMS and MAA, Special Session on Cohomology and Representation Theory. New Orleans, LA; January 2007.

Translation Functors for the Virasoro Algebra.

University of Freiburg, June 2005.

University of Wuppertal, June 2005.

Conference on Algebraic Groups and Finite Reductive Groups. Lausanne, Switzerland, June 2005.

Blocks and Translation Functors for the Virasoro Algebra, Poster. Conference on Formal Power Series and Algebraic Combinatorics. Taormina, Sicily, June 2005.

Implementing Lesson Study at the Undergraduate Level. Joint Meetings of the AMS and MAA. Atlanta, GA, January 2005.

Talks for Undergraduates

Two-faced: The Cantor set and notions of size

Colloquium. Hobart and William Smith Colleges: September, 2011.

Sophomore Seminar. Ithaca College: March, 2011.

Partitions: What does it mean to count? Sophomore Seminar. Ithaca College: March, 2010.

Clever Counting in Sudoku.

Colloquium. SUNY Geneseo: November, 2009.

Colloquium. Vassar College: February, 2009.

TEACHING
EXPERIENCE

Ithaca College

Math 108: Calculus for Decision Making

Math 112: Calculus II

Math 144: Business Statistics

Math 145: Statistics for Life Sciences

Math 185: Math Experimentation

Math 211: Multivariable Calculus

Math 231: Linear Algebra

Math 303: Abstract Algebra

Math 397: Junior Seminar

Independent Study

- Jennifer Parker: *Algebraic Coding Theory*
- Katharina Carella: *Group Theory of the Rubik's Cube*

University of Georgia

Math 2200: Differential Calculus

Math 3200: Introduction to Higher Mathematics

Math 5001: Arithmetic and Problem Solving*

Math 5002: Geometry and Problem Solving*

University of Wisconsin

Math 130: Arithmetical Problem Solving*

Math 222: Calculus II

Math 221, 222, 234: Calculus I-III (teaching assistant)

*Math content courses for elementary education majors

DEPARTMENTAL
SERVICE

Colloquium Committee: AY 2009-2010, Fall 2011-Present

Curriculum Committee: Fall 2010-Present

Math Club advisor: Fall 2011-Present

Pi Mu Epsilon advisor: Fall 2010-Present

Teacher Education Program Committee: AY 2008-2010

Service Course Committee: AY 2007-2009

Faculty mentor for student teachers: Ithaca College-Frederick Douglas Academy Partnership, Fall 2008

Masters in Childhood Education Program Committee: AY 2007-2008

COLLEGE
SERVICE

H & S General Education Committee, Fall 2011-Present

- Gen Ed Designation Subcommittee, Fall 2011-Present

Poster Committee, National Conference on Undergraduate Research. Ithaca College: 2011.

First Year Reading Initiative Facilitator: 2009-2011

Academic Policies Committee: Fall 2009

Community Service Committee: AY 2008-2009

PROFESSIONAL
SERVICE

Facilitator, Ithaca College Mathematics Professional Development Day. Ithaca, NY: January 2012.

Reviewer, Mathematical Reviews

Journal Referee

Communications in Algebra,

Journal of Algebra and its Applications,

Journal of Pure and Applied Algebra

Transactions of the American Mathematical Society

Special Session Organizer: *Lie Algebras and Representation Theory*. Eastern AMS Section Meeting. Syracuse, NY: October 2010.

Session Leader, UGA Summer School on Homological Methods in Representation Theory. Athens, GA: May 2010.

Mathematicians' Representative, Barrow Elementary School Career Day, 2005 & 2006

Mentor, UW-Madison Mentorship Program for Women in Mathematics, AY 2004-2005

GRANTS &
AWARDS

Ithaca College H&S Educational Grant: *Pi Mu Epsilon Induction Colloquium*, Fall 2011.

Ithaca College Faculty Development Award: *Research on the Insertion-Deletion Algebra* (3 credit course release), Fall 2010.

Ithaca College H&S Educational Grant: *Mathematics Colloquium*, Fall 2009.

Ithaca College Faculty Development Award: *Using GAP to Explore Symmetric Groups* (3 credit course release), Fall 2009.

Ithaca College Faculty Development Award: *Mathematics for Elementary Teachers Materials* (3 credit course release), Fall 2008.

Ithaca College Academic Project Grant: *Investigating Mathematics Students' Use of Textbooks* (joint with Aaron Weinberg), 2007.

PROFESSIONAL
DEVELOPMENT

Participant: Consortium for the Advancement of Undergraduate Statistics Education Workshop *Teaching Modeling-Based Calculus*. Boston, MA: January 2012.

Participant: *Conference on Non-Associative Algebras in Action: Past, Present and Future*. Charlottesville, VA: September 2011.

Participant: MAA PREP Workshop *Mathematical Biology: Beyond Calculus*. Sweet Briar, VA: June 2010.