

Mark R. Budden

CURRICULUM VITAE - APRIL 2008

DEPARTMENT OF MATHEMATICS, ARMSTRONG ATLANTIC STATE UNIVERSITY
11935 ABERCORN ST., SAVANNAH, GA 31419 (912)927-5288

Mark.Budden@armstrong.edu

Academic Appointments

- July 2007 Interim Mathematics Department Head at Armstrong Atlantic State University for month of July
- 2003-present Assistant Professor of Mathematics at Armstrong Atlantic State University
- 1997-2003 Graduate Teaching Assistant at University of Missouri-Columbia

Education

- 1999-2003 Ph.D. in Mathematics from University of Missouri-Columbia
Title: "On the Local Coefficients of Principal Series Representations of Metaplectic Groups"
Advisor: William Banks
- 1997-1999 M.A. in Mathematics from University of Missouri-Columbia
Title: "Fourier Coefficients of Certain $GL(2)$ Eisenstein Series"
Advisor: Daniel Lieman
- 1994-1997 B.S. in Mathematics from Louisiana State University

Research Interests

Automorphic Forms, Representation Theory, Algebraic Number Theory

Memberships

American Mathematical Society
Mathematical Association of America
Société Mathématique de France

Publications

Local Coefficient Matrices of Metaplectic Groups, J. Lie Theory **16** (2006), 239-249.

Generating Valid 4×4 Correlation Matrices, with P. Hadavas, L. Hoffman, and C. Pretz, Appl. Math. E-Notes **7** (2007), 53-59.

A Generalization of Scholz's Reciprocity Law, with R.J. Eisenmenger and J. Kish, J. Théor. Nombres Bordeaux **19** (2007), 583-594.

On the Generation of Correlation Matrices, with P. Hadavas and L. Hoffman, to appear in Appl. Math. E-Notes (2008).

Local Coefficient Matrices and the Metaplectic Correspondence, with S. Eastman, preprint.

Rational Residuacity of Primes, in preparation.

Awards and Grants

2001-2002 Mathematics Distinguished Teaching Award, University of Missouri-Columbia.

2002-2003 Superior Graduate Student Achievement Award, University of Missouri-Columbia.

2005 Research and Scholarship Grant for \$2500 from Armstrong Atlantic State University in support of research on metaplectic groups.

2006 Student-Faculty Summer Research Grant for \$3800 from Armstrong Atlantic State University in support of work with R. Jeremiah Eisenmenger on cyclotomic fields and reciprocity.

2007 Gignilliat Research Fellowship for \$5000 from Armstrong Atlantic State University in support of research on rational reciprocity laws.

2008 Research and Scholarship Grant for \$2000 from Armstrong Atlantic State University in support of research on rational reciprocity laws.

2008-2009 Grant from CURM (Center for Undergraduate Research in Mathematics at BYU) for \$13,150 in support of research on rational reciprocity laws with students Kristin Ellis and Stephen Savioli.

Teaching Experience

University of Missouri-Columbia (1997-2003)

College Algebra

College Algebra (for non-Calculus-bound students)

Finite Mathematics

Analytic Geometry and Calculus I

Calculus for Social and Natural Sciences I
 Trigonometry
 Geometric Concepts

Armstrong Atlantic State University (2003-present)

College Algebra
 Calculus I
 Calculus II
 Calculus III
 Foundations of Numbers and Operations (upcoming Summer 2008)
 Spirit and Structure of Mathematics
 Linear Algebra
 Abstract Algebra
 Functions of Complex Variables (upcoming Fall 2008)
 Theory of Numbers
 An Introduction to Galois Theory (Special Topics in Mathematics)
 Cyclotomic Field Extensions and Reciprocity (Special Topics in Mathematics)
 Algebraic Extensions of Fields (Special Topics in Mathematics)
 An Introduction to Algebraic Number Theory (Special Topics in Mathematics)

Presentations

Introduction to Ramsey Theory, University of Missouri-Columbia, Graduate Seminar, Spring 1998.

Fourier Coefficients of Certain $GL(2)$ Eisenstein Series, 13th Annual Workshop on Automorphic Forms and Related Topics, University of California-Santa Barbara, Spring 1999.

Introduction to Metaplectic Groups and Their Representations, University of Missouri-Columbia, Graduate Seminar, Spring 2002.

Special Values of the Riemann Zeta-Function, University of Missouri-Columbia, Number Theory Seminar, Fall 2002.

The Fundamental Theorem of Galois Theory, University of Missouri-Columbia, Seminar on Valuation Theory, Spring 2003.

Integrally Closed Rings, University of Missouri-Columbia, Seminar on Valuation Theory, Spring 2003.

Structure of Nonarchimedean Local Fields, University of Missouri-Columbia, Langlands Program Seminar, Spring 2003.

Norms in Algebraic Number Theory and the Hilbert Symbol, Armstrong Atlantic State University, Spring 2003 (invited presentation).

p-adic Fields and Their Rise in Number Theory, Armstrong Atlantic State University, Hudson Luncheon Colloquium, Spring 2004.

A Brief History of Reciprocity, Armstrong Atlantic State University, Hudson Luncheon Colloquium, Fall 2004.

Automorphic Forms and Metaplectic Groups, Armstrong Atlantic State University, Mathematics Research Seminar, Spring 2005.

Rational Reciprocity Laws, Armstrong Atlantic State University, Mathematics Research Seminar, Fall 2005.

Local Coefficient Matrices and Shimura's Correspondence, AMS/MAA Joint Mathematics Meeting in San Antonio, Spring 2006.

Representations of Metaplectic Groups, Minnesota State University, Mathematics Colloquium, Spring 2006 (invited presentation).

Generalizing Scholz's Reciprocity Law, MAA Southeastern Section Meeting, Georgia Southern University, Spring 2007.

The Search for Unique Factorization, Armstrong Atlantic State University, Hudson Luncheon Colloquium, Fall 2007.

Rational Residuacity of Prime Numbers, MAA Southeastern Section Meeting, Citadel, Spring 2008.

Conferences and Workshops

12th Annual Workshop on Automorphic Forms and Related Topics, University of Missouri-Columbia, 1998.

Algorithmic Number Theory Symposium III, Reed College, Portland, Oregon, 1998.

13th Annual Workshop on Automorphic Forms and Related Topics, University of California-Santa Barbara, 1999.

Illinois Number Theory Conference, University of Illinois-Urbana, 1999.

Midwest Arithmetical Geometry in Cryptography Workshop, University of Illinois-Urbana, 1999.

14th Annual Workshop on Automorphic Forms and Related Topics, University of Colorado-Boulder, 2000.

Millennial Conference on Number Theory, University of Illinois-Urbana, 2000.

Combinatorial Game Theory Workshop, MSRI, Berkeley, California, 2000.

Workshop on Zeta Functions and Associated Riemann Hypothesis, New York University, New York City, 2002.

Illinois Number Theory Conference, University of Illinois-Urbana, 2002.

AMS/MAA Joint Mathematics Meeting, Atlanta, Georgia, 2005.

AMS/MAA Joint Mathematics Meeting, San Antonio, Texas, 2006.

AMS/MAA Joint Mathematics Meeting, New Orleans, Louisiana, 2007.

MAA Southeastern Section Meeting, Georgia Southern University, Statesboro, GA, 2007.

MAA Southeastern Section Meeting, Citadel, Charleston, SC, 2008.

Service

Departmental (Armstrong Atlantic State University)

Chair of Advisement, Placement, and Internship Committee (2003-present).

Student Affairs Committee (2003-present).

Mathematics Tournament Exam Committee (2003-2005).

Curriculum Committee (2004-present).

Grader for 2004 AASU High School Mathematics Tournament.

Proctor and Grader for 2006 High School Mathematics Tournament.

Proctor and Grader for 2007 High School Mathematics Tournament.

Proctor for 2008 AASU High School Mathematics Tournament.

Organizer for AASU Mathematics Research Seminar (2005-present).

Hiring Committee for Statistics Assistant Professor position in 2004.

Hiring Committee for Mathematics Assistant Professor position in 2005.

Chair of Hiring Committee for Mathematics Assistant Professor position in 2007.

Coach (joint with S. Eastman) for AASU Undergraduate Math Jeopardy Team in 2008.

University (Armstrong Atlantic State University)

Advisor for undeclared majors and Mathematics majors (2003-present).

University Research and Scholarship Committee (2005-2006).

Judge for AASU 2005 Moot Court Competition.

Judge for AASU 2006 Moot Court Competition.

Judge for AASU 2005 Student Scholarship Symposium.

Judge for AASU 2007 Student Scholarship Symposium.

Judge for AASU 2008 Student Scholarship Symposium (upcoming).

Mentoring (Armstrong Atlantic State University)

Jonathan Kish (2004-2005) - current Ph.D. student at University of Colorado at Boulder.

R. Jeremiah Eisenmenger (2006) - current Ph.D. student at University of Florida.

Professional

Chair of AMS Number Theory II Session at 2006 Joint Mathematics Meeting.

Reviewer for Mathematical Reviews (2006-present).

Judge for Undergraduate Math Jeopardy Tournament at 2008 MAA-SE Section Meeting.