

# Curriculum Vitae

Andrew Misseldine

Department of Mathematics  
Boise State University, 1910 University Drive, Boise, ID 83725-1555  
e-mail: [andrewmisseldine@u.boisestate.edu](mailto:andrewmisseldine@u.boisestate.edu)  
website: <http://math.boisestate.edu/~misseldine>  
phone: 208-426-5381

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## Education

2010 – Boise State University, Mathematics MS (anticipated)

2008 – Boise State University, Mathematics BS, Applied Mathematics Minor

## Employment History

May 2009-Aug 2009 – Summer Graduate Research Fellowship, Boise State University

Mar 2009-May 2010 – Private Mathematics Tutor, Boise Idaho

Aug 2008-May 2010 – Graduate Teaching Assistant, Boise State University

Aug 2007-May 2008 – Drop-in Mathematics Tutor, Boise State University

## Teaching: Courses, Seminars, Supervision

Boise State University:

Spr 2010 – Math 143 College Algebra  
– Math 108 Intermediate Algebra

Fall 2009 – Math 143 College Algebra

Spr 2009 – Math 108 Intermediate Algebra

Fall 2008 – Math 108 Intermediate Algebra

## Research Interests and Projects

My mathematical research interest is anything algebraic: Group theory, Ring theory, Modules and Vector spaces, etc. I like to study anything with that algebraic flavor. My most current research has

been in Algebraic K-theory, particularly about non-free, stably free modules. Also, I enjoy working in topology and number theory. I find topology and number theory to be nice playgrounds to play with my algebraic toys. Low-dimensional homotopy and homology are my current interests in topology, specifically how stably free modules can be used in connection with Homotopy Classification of  $(G,2)$ -complexes.

May 2010 – Master's Thesis, “*Stably Free Modules over the Klein Bottle*” (in progress)

Fall 2009 – Group-Based Cryptology Seminar, BSU

Spr 2009 – Group-Based Cryptology Seminar, BSU

Fall 2008 – Graduate Seminar, BSU

### **Conferences, Visits, Talks, Colloquia**

2010 – “*Stably Free Modules over the Klein Bottle.*” Boise State University in Boise, Idaho. 25 Mar 2010.

2010 – Attended “*Security: What Works, What Doesn't, and Why*” by Bruce Schneier. Boise State University in Boise, Idaho. 4 Feb 2010.

2009 – Attended “*Groups as Geometric Objects*” by Jens Harlander. Boise State University in Boise, Idaho. 11 Sept 2009.

2009 – International Seminar on Low-Dimensional Homotopy Theory and Combinatorial Group Theory. Wallowa Lake Lodge in Joseph, Oregon. 12-21 July 2009.  
Talk Given: “*Stafford's Stably Free Module.*”

2009 – Boise Graduate Cryptology Conference. Boise State University in Boise, Idaho. 14 May 2009.  
Talk Given: “*The Exponent  $\lambda(R)$  and Its Consequences on RSA.*”

### **Papers, Journals, Publications**

2010 – Master's Thesis, “*Stably Free Modules over the Klein Bottle*” (in progress)

2009 – “*The Exponent  $\lambda(R)$  and Its Consequences on RSA.*” (unpublished)

### **Grants, Fellowships and Nominations**

2009 – Summer Graduate Research Fellowship, Boise State University

– Graduate Teaching Assistantship, Boise State University

– “Hersh” Cummins Jr. Memorial Scholarship

2008 – Graduate Teaching Assistantship, Boise State University

2007 – Mathematics Endowment Scholarship, Boise State University

– National SMART Grant, USA

– Robert E. Lee Idaho Promise Scholarship, Idaho

2003 – Robert E. Lee Idaho Promise Scholarship, Idaho

### **Courses Taken (beyond basic Calculus)**

Boise State University

Spr 2010 – Advanced Linear Algebra, Math 503

– An Introduction to Homological Algebra (independent study)

Fall 2009 – Logic and Set Theory, Math 502

Spr 2009 – Functional Analysis, Math 515

– Algebraic Topology, Math 512

– Group Theoretic Cryptology, Compsci 568

Fall 2008 – Advanced Number Theory, Math 507

– Advanced Topics in Abstract Algebra (independent study)

– Special Topics in Topology: Introduction to Algebraic Topology (audit)

Spr 2008 – Abstract Algebra II, Math 506

– Linear Programming, Math 456

– Set Theoretic Topology, Math 411

– Complex Analysis, Math 326

– Foundations of Geometry, Math 311

Fall 2007 – Real Analysis, Math 414

– Abstract Algebra I, Math 405

– Differential Equations with Matrix Theory, Math 333

– Number Theory, Math 306

– Cryptology I, Math 307

Spr 2007 – Linear Algebra, Math 301

– Discrete and Foundational Math II, Math 387

– Probability and Statistics, Math 361

– Multivariable and Vector Calculus, Math 275

Fall 2006 – Discrete and Foundational Math I, Math 187

– Introduction to Logic, Phil 201

– Physics I with Calculus, Phys 211

## **Further Honors and Skills**

- Member of American Mathematical Society
- Member of Golden Key International Honour Society
- Computer Skills in Latex, Beamer, Maple, MyMathLab, Blackboard, HTML, Java, C++, MS-Excel, MS-Word
- Eagle Scout Rank in Boy Scouts of America
- Conversant and literate in Korean