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Education

University of South Carolina

PhD Mathematics

Columbia, SC

December 2006

- Advisors: Michael Filaseta & Andrew R. Kustin
- Dissertation: Topics from the irreducibility of polynomials and coverings of the integers
- Awarded USC Educational Foundation Outstanding Graduate Assistant Teaching Award

Shippensburg University

MS Mathematics

Shippensburg, PA

December 1999

- Advisor: Lenny K. Jones
- Thesis: Finite abelian groups with perfect order subsets
- Awarded Student Research Achievement Award

Georgetown University

MS Linguistics

Washington, DC

May 1998

- Advisor: Elizabeth C. Zsiga
- Thesis: Constraint reranking in Plains Cree

Messiah College

BA French

Grantham, PA

May 1995

- Graduated Cum Laude
- Studied at the Institut International d'Etudes Françaises in Strasbourg, France

Awards & Honors

Selfridge Prize for Excellence in Mathematics Presentation	2006
USC Educational Foundation Outstanding Graduate Teaching Assistant Award	2005
USC Graduate Assistantship	2001-2006
USC Dean's Fellowship	2001-2005
Graduate Assistantship in Areas of National Need	2002-2004
Pi Mu Epsilon Award	2001
Shippensburg University Student Research Achievement Award	1999
Shippensburg University Graduate Student Assistantship	1998-1999
Georgetown University Research Fellowship	1996-1998

Work Experience

Washington and Lee University

Assistant Professor

Lexington, VA

2007-present

Columbia College

Visiting Assistant Professor

Columbia, SC

Spring 2007

University of South Carolina

Graduate Assistant

Columbia, SC

2001-2006

Shippensburg University

Full-time Adjunct Instructor

Lab Assistant

Shippensburg, PA

2000-2001

1998-2000

Georgetown University

Research Assistant

Washington, DC

1996-1998

R. E. Lee Summer Scholar Students

Olaolu Fasoranti '12

Project: Special Sierpiński Numbers

Summer 2010

Sarah Merritt '11

Project: Applications of coverings of the integers

Summer 2009

Clifford Gaddy '10

Project: Applications of coverings of the integers

Summer 2009

Courses Taught at Washington and Lee University

Math 101A/Z: Calculus I

Math 101E: Calculus & Sailing

Math 101E: Calculus and Environmental Issues

Math 102: Calculus II

Math 221: Multivariable Calculus

Math 301: Fundamental Concepts of Mathematics

Math 365: Number Theory

Math 383: Seminar (Representations of the Symmetric Group)

Math 403: Directed Individual Study (Combinatorics and Graph Theory)

Publications (available at home.wlu.edu/~finchc/Research)

- 1) G. Dresden, C. Finch, C. Gaddy, J. Harrington, L. Jones, and M. Kozek, “Binomial Sierpiński numbers,” (*in preparation*).
- 2) D. Baczkowski, O. Fasoranti, and C. Finch, “Generalized Sierpiński numbers in generalized Fibonacci sequences,” (*in preparation*).
- 3) C. Finch and L. Jones, “Perfect power Riesel numbers,” (*in preparation*).
- 4) D. Baczkowski, O. Fasoranti, and C. Finch, “Lucas-Riesel and Lucas-Sierpiński numbers,” (*submitted*).
- 5) C. Finch, “On the irreducibility of polynomials with exponents in arithmetic progression,” *Mathematica Scandinavica*, (*to appear*).
- 6) C. Finch and N. Saradha, “On the irreducibility of certain polynomials with coefficients in arithmetic progression,” *Acta Arithmetica* **143** (2010), no. 3, 211-226.
- 7) C. Finch and L. Jones, “On the irreducibility of weighted sums of polynomials whose irreducible factors are cyclotomic,” *Journal of Combinatorics and Number Theory* **1** (2009), no. 3, 225-236.
- 8) M. Filaseta, C. Finch, and J. Leidy, “T. N. Shorey’s Influence in the Theory of Irreducible Polynomials,” *Diophantine Equations* (N. Saradha, ed.), Tata Institute for Fundamental Research, Narosa Publishing House, 77-102.
- 9) M. Filaseta, C. Finch, and M. Kozek, “On powers associated with Sierpinski numbers, Riesel numbers and Polignac’s conjecture,” *Journal of Number Theory* **128** (2008), no. 7, 1916-1940.
- 10) M. Filaseta, C. Finch, and C. Nicol, “On Two Questions Concerning $\{0, 1\}$ -polynomials,” *Journal de théorie des nombres de Bordeaux* **18** (2006), no. 2, 357-370.
- 11) C. Finch and L. Jones, “On the irreducibility of $\{-1, 0, 1\}$ -quadrinomials,” *Integers: Electronic Journal of Combinatorial Number Theory* **6** (2006), no. A16.
- 12) C. Finch and L. Jones, “Nonabelian groups with perfect order subsets,” *JP Journal of Algebra, Number Theory and Applications* **3** (2003), no. 1, 13-26 and **4** (2004), no. 2, 413-416.
- 13) C. Finch, R. Foote, L. Jones, and D. Spickler, “Finite groups that have exactly n elements of order n ,” *Mathematics Magazine* **75** (2002), 215-219.
- 14) C. Finch and L. Jones, “A curious connection between Fermat numbers and finite groups.” *American Mathematical Monthly* **109** (2002), no. 6, 517-524.

Invited Talks

- 1) *Quantum physics and number theory: soul mates or friends with benefits?* Invited colloquium talk, North Park University, Chicago, IL. 5 May 2011. Plenary speaker, Mathematical Sciences banquet and awards dinner, Manchester College, North Manchester, IN. 9 May 2011.
- 2) *Great Theorem: The Chinese Remainder Theorem.* Invited colloquium talk, Shippensburg University, Shippensburg, PA. 21 April 2011.
- 3) *Arithmetic Tips, Tricks & Shortcuts.* Invited colloquium talk, Lander University, Lander, SC. 14 April 2010.
- 4) *The irreducibility of weighted sums of polynomials with cyclotomic irreducible factors.* Invited seminar talk, Dartmouth College, Hanover, NH. 26 May 2009. (joint work with L. Jones)
- 5) *Polynomial Party Tricks.* Invited colloquium talk, Shippensburg University of Pennsylvania, Shippensburg, PA. 10 April 2008.
- 6) *Reducible $0, 1$ -polynomials.* Invited colloquium talk, Endicott College, Beverly, MA. 16 December 2006. Muhlenberg College, Muhlenberg, PA. 22 January 2007. Davidson College, Davidson, NC. 23 January 2007. Washington & Lee University, Lexington, VA. 29 January 2007.
- 7) *The differential in the minimal free resolution of the universal ring for resolutions of length two.* Invited talk, American Mathematical Society Special Session on Homological Aspects of Commutative Algebra, Northeast Regional AMS Meeting, Annandale-on-Hudson, NY. 8 October 2005. Joint Commutative Algebra seminar with Georgia State University, Atlanta, GA. 19 October 2006. (joint work with A. Kustin and J. Weyman)
- 8) *Sequences of reducible $\{0, 1\}$ -polynomials.* Invited plenary talk, Algebra Mini Conference, University of New South Wales, Sydney, Australia. 10 January 2003. Invited seminar talk, Algebra and Number Theory Seminar, University of Western Sydney, Sydney, Australia. 7 January 2003.
- 9) *Constraint Ranking in Plains Cree.* Invited talk, Workshop on American Indigineous Languages, UC - Santa Barbara. 8-10 May 1998.

Participation in Workshops and Conferences

Mathematical Association of America MiniCourse <i>Educating about the state of the planet while enhancing calculus</i>	Washington, DC 5-8 January 2009
Mathematical Association of America MiniCourse <i>Teaching themed calculus classes to motivated honors students</i>	San Diego, CA 7-9 January 2008
Summer School in Commutative Algebra <i>Local Cohomology and its Applications</i>	Snowbird, UT 20-30 June 2005
Mathematical Sciences Research Institute Summer Graduate Program <i>Excursions in Computational Number Theory - Polynomials with Integer Coefficients</i>	Burnaby, BC 17-28 June 2002
Mathematical Association of America Short Course <i>Number Theory: The Legacy of Ramanujan</i>	Madison, WI 31 July - 5 August 2001

Service Activities

Committee memberships at Washington and Lee University:

- Departmental Search Committee (2009)
- Student Financial Aid Committee (2008-present)

Mathematics Department activities:

- Founded and advised W&L Mathematics Club (2009-2010)
- Organized practice sessions for Virginia Tech and William Lowell Putnam Mathematics Competitions (2010)
- Helped host Open House for accepted students (2008, 2010)
- Represented Mathematics Department at Majors Fair (2010)

Johnson Scholarship Competition

- Helped host Mathematics Department Open House for candidates (2008-2009)
- Participated on interview panel (2010-2011)

Other Washington and Lee University activities:

- Interviewed candidates for the University Scholars Program (2009)
- Served students during Midnight Breakfast (2009)
- Participated in French conversation group luncheons with students and faculty

Chair of American Mathematical Society Special Sessions:

- Number Theory, Joint Mathematics Meetings, San Francisco, CA. 16 January 2010
- Number Theory, Joint Mathematics Meetings, New Orleans, LA. January 2007
- Group Theory, Joint Mathematics Meetings, San Diego, CA. 7 January 2002

Judge for Undergraduate Poster Session at the Joint Mathematics Meetings (2008-2010)

Referee for the following journals:

- *Asian-European Journal of Mathematics*
- *Journal of Number Theory*
- *Integers: Electronic Journal of Combinatorial Number Theory*

Textbook reviewing for Pearson Publishing

- *A Passage to Mathematics* (2008-2009)
- *Vector Calculus* (2010)
- *Abstract Algebra* (2011)

Conference Presentations

- 1) *Sierpiński-Lucas and Riesel-Lucas Numbers*. Palmetto Number Theory Series XIV, University of South Carolina, Columbia, SC. 5 December 2010. (joint work with D. Baczkowski and O. Fasoranti)
- 2) *Sierpiński numbers of the form $k^r + 1$ and $k^r + 2$* . SouthEast Regional Meeting on Numbers, Davidson College, Davidson, NC. 18 April 2010. (joint work with L. Jones and J. Harrington)
- 3) *Special Sierpiński Numbers*. INTEGERS 2009, University of West Georgia, New Carrollton, GA. 17 October 2008. Joint Mathematics Meetings, San Francisco, CA. 16 January 2009. (joint work with C. Gaddy, J. Harrington, L. Jones, M. Kozek and S. Merritt)
- 4) *On the irreducibility of a combination of polynomials which are products of distinct cyclotomic polynomials*. Palmetto Number Theory Series, University of South Carolina, Columbia, SC. 8 December 2007. West Coast Number Theory Conference, Asilomar Conference Center, Pacific Grove, CA. 17 December 2007. Joint Mathematics Meetings, San Diego, CA. 7 January 2008. (joint work with L. Jones)
- 5) *The irreducibility of a certain class of polynomials*. INTEGERS conference, University of West Georgia, Carrollton, GA. 27 October 2007. (joint work with N. Saradha)
- 6) *Sequences of polynomials with exponents in arithmetic progression*. Joint Mathematics Meetings, New Orleans, LA. 5 January 2007. Illinois Number Theory Fest, University of Illinois, Urbana-Champaign, IL. 19 May 2007.
- 7) *Finite abelian groups with exactly n elements of order n* . Number Theory Seminar, University of South Carolina. 7 March 2007. (joint work with R. Foote, L. Jones, and D. Spickler)
- 8) *Irreducibility of $\{0, 1\}$ -polynomials with exponents in arithmetic progression*. SouthEast Regional Meeting on Numbers, Furman University, Greenville, SC. 19 March 2006. MathFest 2006, Knoxville Convention Center, Knoxville, TN. 12 August 2006. Number Theory Seminar, University of South Carolina. 17 October 2006.
- 9) *Perfect Power Sierpinski Numbers*. West Coast Number Theory Conference, Asilomar Conference Center, Pacific Grove, CA. 17 December 2005. American Mathematical Society Session on Number Theory, Joint Mathematics Meetings, San Antonio, TX. 5 January 2006. (joint work with M. Filaseta and M. Kozek)
- 10) *Two questions concerning $\{0, 1\}$ -polynomials*. American Mathematical Society Session on Number Theory, Joint Mathematics Meetings, Atlanta, GA. 5 January 2005. (joint work with M. Filaseta and C. Nicol)
- 11) *Two problems on $\{0, 1\}$ -polynomials*. West Coast Number Theory Conference, University of Nevada - Las Vegas, Las Vegas, NV. 17 December 2004. Number Theory Seminar, University of South Carolina. 5, 12 & 19 October 2004. (joint work with M. Filaseta and C. Nicol)
- 12) *Classification of Tor-algebras Associated with Gorenstein Resolutions of Length Four*. American Mathematical Society Session on Algebra, Joint Mathematics Meetings, Phoenix, AZ. 7 January 2004. (joint work with S. Gabrielli, A. R. Kustin, M. E. Kustin, F. Sanacory, W. H. Streyer, A. Vraciu, B. Willet and J. Work)
- 13) *Nonabelian Groups with Perfect Order Subsets*. American Mathematical Society Session on Group Theory, Joint Mathematics Meetings, San Diego, CA. 7 January 2002. (joint work with L. Jones)

- 14) *Abelian Groups with Perfect Order Subsets*. Graduate Student Seminar, George Washington University. 14 April 2000. Number Theory Seminar, University of South Carolina. September 2001. (joint work with L. Jones)
- 15) *Iteration of Quadratic Functions in \mathbb{Z}_n* . American Mathematical Society Session on Field Theory and Commutative Rings, Joint Mathematics Meetings, New Orleans, LA. 11 January 2001. (joint work with L. Jones and M. D. Seyfried)
- 16) *Perfect Order Subsets in Finite Abelian Groups*. American Mathematical Society Session on Group Theory, Joint Mathematics Meetings, Washington, DC. January 2000. (joint work with L. Jones)
- 17) *Perfect Order Subsets*. Joint Mathematics Meetings, San Antonio, TX. January 1999. (joint work with L. Jones)

Professional Organizations

- American Mathematical Society
- Mathematical Association of America
- Association for Women in Mathematics
- Pi Mu Epsilon, South Carolina Alpha chapter (mathematical honor society)
- Kappa Mu Epsilon, Pennsylvania Iota chapter (mathematical honor society)

Conferences Attended

- Joint Mathematics Meetings, 5-9 January 2011, New Orleans, LA
- Palmetto Number Theory Series, 4-5 December 2010, University of South Carolina, Columbia, SC
- SouthEast Regional Meeting on Numbers, 16-18 April 2010, Davidson College, Davidson, NC
- Joint Mathematics Meetings, 13-16 January 2010, San Francisco, CA
- Palmetto Number Theory Series, 8-9 December 2009, University of South Carolina, Columbia, SC
- INTEGERS 2009, 14-17 October 2009, University of West Georgia, Carrollton, GA
- Palmetto Number Theory Seminar, 7-8 February 2009, Clemson University, Clemson, SC
- Joint Mathematics Meetings, 5-8 January 2009, Washington, DC
- Palmetto Number Theory Series, 13-14 December 2008, University of South Carolina, Columbia, SC
- Joint Mathematics Meetings, 7-9 January 2008, San Diego, CA
- West Coast Number Theory Conference, Asilomar Conference Center, 16-20 December 2007, Pacific Grove, CA
- Palmetto Number Theory Seminar, 8-9 December 2007, University of South Carolina, Columbia, SC
- INTEGERS 2007, 24-27 October 2007, University of West Georgia, Carrollton, GA
- Illinois Number Theory Fest - a conference in honor of Heini Halberstam and John Selfridge, May 2007, University of Illinois, Champaign, IL
- Southeast Regional American Mathematical Society Meeting, 3-4 March, 2007, Davidson College, Davidson, NC
- Palmetto Number Theory Series, February 2007, Clemson University, Clemson, SC
- Joint Mathematics Meetings, 5-8 January 2007, New Orleans, LA

- Palmetto Number Theory Seminar, December 2006, University of South Carolina, Columbia, SC
- MathFest 2006, 10-12 August 2006, Knoxville Convention Center, Knoxville, TN
- Southeast Regional Meeting on Numbers, 18-19 March 2006, Furman University, Greenville, SC
- Joint Mathematics Meetings, January 2006, San Antonio, TX
- West Coast Number Theory Conference, Asilomar Conference Center, 16-20 December 2005, Pacific Grove, CA
- INTEGERS - conference in honor of the 70th birthday of Ron Graham, 26-30 October 2005, University of West Georgia, Carrollton, GA
- Northeast Regional American Mathematical Society Meeting, 8-9 October 2005, Bard College, Annandale-On-Hudson, NY
- Conference in honor of retirement of Phillip Griffith, 14-16 September 2005, University of Illinois, Urbana-Champaign, IL
- Southeast Regional Meeting on Numbers, 15-17 April 2005, USC, Columbia, SC
- Joint Mathematics Meetings, January 2005, Atlanta, GA
- West Coast Number Theory Conference, University of Nevada - Las Vegas, 16-20 December 2004, Las Vegas, NV
- Southeast Regional Meeting on Numbers, 17-18 April 2004, College of Charleston, Charleston, SC
- Joint Mathematics Meetings, 7-10 January 2004, Phoenix, AZ
- Conference on Groups, Representations and Galois Theory in Honor of Walter Feit, 30 October - 2 November 2003, Yale University, New Haven, CT
- Southeast Regional Meeting on Numbers, 29-30 March 2003, UNC-Greensboro, Greensboro, NC
- Joint Mathematics Meetings, 15-18 January 2003, Baltimore, MD
- University of New South Wales Algebra Mini Conference, University of New South Wales, 10 January 2003, Sydney, Australia
- West Coast Number Theory Conference, San Francisco State University, 15-19 December 2002, San Francisco, CA
- Southeast Regional Meeting on Numbers, 16-17 March 2002, Clemson University, Clemson, SC
- Joint Mathematics Meetings, 6-9 January 2002, San Diego, CA
- MathFest, Summer 2001, Madison, WI
- Joint Mathematics Meetings, 10-13 January 2001, New Orleans, LA
- Joint Mathematics Meetings, 19-22 January 2000, Washington, DC
- MathFest, Summer 1999, Providence, RI
- Joint Mathematics Meetings, 13-16 January 1999, San Antonio, TX

Community Volunteer Service

Organizer and team leader for summer camp program at Camp Alexander Mack:

- Sailing Camp (Summers 2007-2011)
- Biking Camp (Summers 2007-2011)

Goalkeeper Coach for Stuart Hall School varsity and middle school soccer teams (2010-2011)