

Colin Bryan Powell McKinney

Curriculum Vitae

Education and Employment

- 2011-** **Wabash College**, Crawfordsville, Indiana
Byron K. Trippet Assistant Professor of Mathematics and Computer Science
- 2010-2011** **Bradley University**, Peoria, Illinois
Visiting Assistant Professor of Mathematics
- 2004-2010** **The University of Iowa**, Iowa City, Iowa
Philosophiae Doctor, July 2010. **Thesis:** μ
 μ (Conjugate Diameters: Apollonius
of Perga and Eutocius of Ascalon)
Advisors: Daniel D. Anderson (Mathematics), Craig A. Gibson (Classics)
Master of Science, December 2006
Qualifying exams in topology, ODE/PDE, algebra, and analysis
- 2002-2004** **University of Texas at Dallas**, Richardson, Texas
Bachelor of Science, Mathematics, Magna Cum Laude and Collegium V Honors
- 2001-2002** **St. John's College**, Santa Fe, New Mexico
Liberal Arts (Great Books)
- 1999-2001** **Texas Academy of Mathematics and Science**, Denton, Texas
High School Diploma and 67 College credits, Cum Laude

Research and Teaching Interests

- History of Mathematics, specifically ancient Greek mathematics
- Papyri, Codices, and the manuscript tradition of Greek mathematical works
- Digitization and preservation of mathematical texts and their diagrams
- The role of mathematical history and philosophy in mathematics education
- Technology as a tool for teaching and visualizing mathematics, particularly in multivariable calculus
- Mathematical grammar and its role in teaching

Current Research Projects and Scholarly Activity

- Continual editing of my translation of Book I of Eutocius' commentary on the *Conics*.
- Continuing translation of Books II-IV of Eutocius' commentary.
- Developing interactive versions together with analysis of ancient solutions to the Delian cube duplication problem. A few of the solutions (and source code of animated versions) were part of my Ph.D. thesis.
- Sole organizer of the special session on the History of Mathematics at the AMS Central sectional meeting in Iowa City, Iowa, 18-20 March 2011.

Teaching Experience

As an Assistant Professor: At Bradley. Currently teaching two sections of business calculus and one section of a "liberal arts math" course. Complete responsibility for all aspects of the course except textbook selection; though I have assigned extra readings from historical sources (Plato, Euclid, Russell, et al.) to my liberal arts class.

As a Graduate Student: At Iowa. Responsibilities ranged from being a Lecturer/Instructor (Engineering multivariable calculus, precalculus, and trigonometry) to being a teaching assistant (various flavors of precalculus and calculus). Lecturer/Instructor responsibilities included preparing lectures, assigning homework, writing and grading quizzes and exams, and assigning overall course grades. Teaching assistant responsibilities were limited to grading homework and quizzes, assisting with exam grading, and assisting with final grade assignments.

For Upward Bound: At Iowa. For several summers, I was an instructor with Iowa's Upward Bound program. My responsibilities included designing two week intensive preparatory courses in precalculus/trigonometry and also a "fun" course (such as knot theory, fractals, matrices and chaotic dynamical systems). I developed course content, notes, activities, projects, and pre/post unit tests; planned field trips to showcase math and its use in the world; coordinated with residential staff on matters of health and discipline; and assisted with extra-curricular activities.

Awards and Recognition

- University of Iowa VIGRE Fellow, National Science Foundation, Fall 2009
- Graduate College Summer Fellowship, Summer 2009 (\$3000 stipend for summer research)
- The University of Iowa Outstanding Teaching Award, Spring 2007 (25 awards for the entire university, \$1000 award)
- \$550 Travel Funding from the Mathematical Association of America to attend and present at MathFest 2009
- Sandra H. Barkan Graduate Student Mentor Award, Spring 2008 (8 awards for the entire university, \$300 award)
- Catherine Wegner Outstanding Mathematics Teaching Assistant Award, Fall 2005 (10 awards within the math department, \$150 award)

Written works and Publications

- In preparation: **Compound Ratio, Revisited**. This is based on part of my thesis.
- **Eutocius' Commentary on Apollonius' Conics**, Proceedings of the 2008 Midwest History of Mathematics Conference, 25 pages, to appear. (Preprint available)
- (with Darcy, I. K., Bhutra, A., Chang, J., Druivenga, N., Medikonduri, R. K., Mills, S., Navarra Madsen, J., Ponnusamy, A., Sweet, J., Thompson, T.): **Coloring the Mu Transposome**, BMC Bioinformatics, 7:435 (05 Oct 2006). My contribution to this work stemmed from an REU with Professor Darcy during the Summer of 2003, at UT Dallas.

Selected Presentations

- **Counting Cows, a Plague, and Indigestion: Classic Problems from the Classical Era**. Wabash College Mathematics Colloquium, 15 February 2011.

- **Isaac Barrow's Proof of the Fundamental Theorem of Calculus.** Part of the *Treasures of the Past* MAA session at the Joint Meetings, New Orleans, Louisiana, 8 January 2011.
- **Adelphea: Archytas' Kindred Subjects and Echoes in Plato and Eutocius.** Fall meeting of the History and Pedagogy of Mathematics (Americas section), California Institute of Technology, Pasadena, California, 22-23 October 2010.
- **Two Solutions of the Delian Problem.** 50 minutes, Bradley University, Peoria, Illinois, 16 April 2010.
- **Conjugate Diameters: Apollonius of Perga and Eutocius of Ascalon.** 15 minutes, MAA Session on Mathematical Texts: Famous, Infamous, and Influential, Joint Mathematics Meetings, San Francisco, California, 13 January 2010.
- **μ (Through a Parabola, Darkly).** Kelvin Lecture, \$200 honorarium, at the invitation of the Coe College Math Department, Cedar Rapids, Iowa, 28 October 2009.
- **Classical Mathematics Meets Classical Philology.** Invited talk to the Mathematics and Classics departments, Grinnell College, Grinnell, Iowa, 7 October 2009.
- **Much Ado about Multiplying Fractions: Mathematical Exegesis in Eutocius and Apollonius.** 20 minutes, Special Session of Expository Talks by Graduate Students for Undergraduate Students, MathFest 2009, Portland, Oregon, 8 August 2009.
- **Compound Ratio, Revisited.** 15 minutes, Special Session for the History and Philosophy of Mathematics, and Their Uses in the Classroom, MathFest 2009, Portland, Oregon, 7 August 2009.
- **μ (On the Duplication of the Cube).** Invited talk at Truman State University; Kirksville, Missouri, 14 April 2009.
- **μ (Archytas of Tarentum: Savior to the Delians).** Invited talk at the American Mathematical Society Central Sectional Spring Meeting, held at the University of Illinois Urbana-Champaign, Urbana, Illinois, 28 March 2009.
- **μ (Eutocius' Commentary on Apollonius' *Conics*).** One hour, Midwest History of Mathematics Conference, Viterbo University; La Crosse, Wisconsin, 4 October 2008.

Service

- At Bradley: Part of the colloquium committee. Also maintaining ties between Bradley and the Iowa math department.
- At Iowa: Many activities over the years, including: graduate student recruitment, assisting with high school and college math competitions (including modeling competitions), Sonja Kovalevsky Day, general graduate/undergraduate seminar, history of math seminar, etc.

Professional Memberships

- American Mathematical Society
- Mathematical Association of America
- HOM-SIGMAA: The History of Mathematics Special Interest Group of the MAA
- Iowa and Illinois Sections of the MAA
- Project NeXT Fellow (Iowa Section)

Workshops Attended

- Short course: *Great Books in the History of Mathematics*, AMS/MAA Joint Meetings, San Francisco, CA. January 2010.
- Saturday workshop on assessment in college mathematics, hosted by the University of Iowa Math Department. Run by faculty from Coe College and Wartburg College. October 2009.
- Short course: *Teaching the History of Mathematics*, AMS/MAA Joint Meetings, Washington, DC. January 2009.

References

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