

Ronald D. Taylor, Jr.
rtaylor@berry.edu

7 Battle Farm Road (706) 378-0835 [H]
Rome, GA 30165 (706) 290-2677 [O]

Education

Bowling Green State University	Bowling Green, OH
Doctor of Philosophy in Mathematics	December 2000
Dissertation: <i>Hypercyclicity of the Operator Algebra of a Banach Space</i>	
Advisor: Kit C. Chan	
Winthrop University	Rock Hill, SC
Master of Mathematics	December 1993
Concord College	Athens, WV
Bachelor of Arts in Political Science	May 1994
Bachelor of Science in Mathematics and Computer Science	May 1991
Minor in Philosophy	

Professional Positions

Berry College	Mount Berry, GA
Professor of Mathematics	August 2017 – present
Associate Professor of Mathematics	August 2007 – August 2017
Assistant Professor of Mathematics	August 2000 – August 2007
Iowa State University	Ames, IA
Visiting Scholar	Spring 2013
Bowling Green State University	Bowling Green, OH
Visiting Scholar	Summer 2001
Chapman Learning Community Math Faculty	Spring 1999 – Spring 2000
Doctoral Teaching Fellow	Fall 1995 – Spring 2000
Concord College	Athens, WV
Visiting Instructor of Business Mathematics	Summer 1994 – Summer 1995

Publications

Books and book chapters

- *Symmetry and Group Theory with Plastic Triangles*, Chapter 6.3 of *Tactile Learning Activities in Mathematics: A Recipe Book for the Undergraduate Classroom*, MAA Press, American Mathematical Society, 2018
- *A T_EXas Style Introduction to Proof*, with Patrick X. Rault, MAA Press, American Mathematical Society, 2017.
- *Tangled tangles*, with Erik Demaine, Martin Demaine, Adam Hesterberg, Quanquan Liu and Ryuhei Uehara, Chapter 9 of *The Mathematics of Various Entertaining Subjects: Research in Games, Graphs, Counting, and Complexity (Volume 2)*, Princeton University Press, 2017.

Refereed articles

- *Domination with decay in triangular matchstick arrangement graphs*, with Jill Cochran, Terry Henderson* and Aaron Ostrander*, *Involve: A Journal of Mathematics*, Vol. 10 (2017), No. 5, 749–766.
- *Dead Poets Society*, with Robert Vallin, *MAA FOCUS*, Vol. 36, No. 1, February/March 2016, 33–35.
- *To friend or not to friend, Facebook for professional educators*, with Dana Ernst and Matthew Leingang, *MAA FOCUS*, Vol. 35, No. 3, June/July 2015, 6–7.
- *Bisections and reflections*, with Jorgen Berglund, *Mathematics Magazine*, Vol. 87, No. 4 (October 2014), 284–290.
- *The algebraic case of a conjecture of Nakanishi*, with Matt Leonard* and Ryan Hansen*, *Missouri Journal of Mathematical Sciences*, **21(2)** (2009) 127–135.
- *Optimization of cubic polynomial functions without calculus*, with Ryan Hansen*, *Mathematics Teacher*, **101(6)** (2008) 408–411.
- *Introduction to Proof*, *Journal of Inquiry-Based Learning in Mathematics*, **4** (2008) 1–40.
- *Tearing plastic: A laboratory exercise on fractals and hyperbolic geometry*, with Todd Timberlake, *PRIMUS*, **XVII(4)** (2007) 316–324.
- *Stadium Alcohol Availability and Baseball Attendance: Evidence from a Natural Experiment*, with Andrew Chupp* and Frank Stephenson, *International Journal of Sport Finance*, **2(1)** (2007) 36–44 .
- *Hypercyclic Subspaces of a Banach Space* with Kit C. Chan, *Integral Equations and Operator Theory*, **41** (2001) 381–388.

* – Berry College students

Works in progress

- *Circles in the geometry of SET*, with Nathan Gaby
- *Domination in hexagonal grid graphs*, with Luke Steel
- *Separable equivalence*, with Michael Papazian and Carter Smith*
- *Tanglegram mosaics*, with Tim Chartier
- *Color addition across the spectrum of mathematics*
- *Roots of polynomials with generalized Fibonacci number coefficients*, with Jill Cochran and Eric McDowell
- *Gilbreath knots*, with Matthew Johnson*, Sarah McQueen[†] and Jacqueline Jensen-Vallin
- *Exponential domination in grid graphs*, with Lynette Boos

* Berry College student † Lamar University student

Student Research

Honors Theses

- Alex Crouchman, *Defining the unsplicing number of knots*, 2017.
- Rachel Stewart, *A Novel Idea: Using Fiction to Teach Mathematics*, 2011.
- Melissa Cook, *BRT Polynomials of a Link Family*, 2009.
- Matt Leonard, *The algebraic cases of Nakanishi's (2,2)-move Conjecture and Przytycki's (2,3)-move Conjecture*, 2005.

–All students gave public presentations of their results at Berry College.

Research Presentations by Students

- *Separable equivalence*, Carter Smith and Michael Papazian[◇], 2016.
 - Presented at Berry College Symposium on Student Scholarship (BC-SSS) and MAA Southeastern Section Meeting (MAA-SE)
- *Derived sequences*, Adam Cronan and Sarah Myers, 2015.
 - Presented at BC-SSS and MAA-SE
- *The value of π in different metrics*, Afzal Fazal, 2014.
 - Presented at BC-SSS and MAA-SE
- *Inscribing circles in polygons*, Sarah Myers, 2014.
 - Presented at BC-SSS and MAA-SE
- *The positive triangle game*, Robby Quarles, 2014.
 - Presented at BC-SSS and MAA-SE
- *Exponential domination of triangular grid graphs*, Terry Henderson, Aaron Ostraner and Jill Cochran[◇], 2012.
 - Presented at MAA-SE
- *Investigation of the theoretical limitations of knotted polycarbon molecules via computational mathematics*, Dillon Yost and Ken Martin[◇], 2012.
 - Presented at BC-SSS
- *An investigation of the knotting properties of polypeptides*, Daniel Murhpree and Ken Martin[◇], 2006.
 - Published in The Berry College Journal of Chemistry, Volume 8, Number 1, Spring 2006, 25–34.
- *Bisections and reflections: A geometric investigation*, Carrie Carden and Jessie Penley, 2006.
 - Presented at University of Dayton Undergraduate Math Day
- *The algebraic case of a conjecture of Nakanishi*, Matt Leonard and Ryan Hansen, 2005.
 - Presented at BC-SSS, MAA-SE and Morehouse College Harriett J. Walton Symposium on Undergraduate Mathematics Research (MC-HJWS)
- *Optimization of cubic polynomial functions without calculus*, Ryan Hansen, 2005.
 - Presented at MC-HJWS
- *The limit of a sequence of inscribed polygons*, Matt Marsico, 2003.
 - Presented at University of Dayton Undergraduate Math Day

[◇] Berry College faculty colleague

Professional Presentations

Invited presentations

- *Teaching as an act of paying it forward*, Haimo Teaching Award Address, Joint Mathematics Meetings, San Diego, CA, January 2018.
- *Color addition across the spectrum of mathematics*, Mathematics Colloquium, Winthrop University, Rock Hill, SC, November 2016.

- *Tangled up in red, green and blue (with apologies to Bob Dylan): An introduction to the mathematical theory of knots*, Mathematics Seminar, University of North Alabama, Florence, AL, November 2016.
- *Color addition across the spectrum of mathematics*, MathILy Daily Gather, Bryn Mawr College, Bryn Mawr, PA, July 2016.
- *Color addition across the spectrum of mathematics*, Invited Plenary Address, Francis Marion Undergraduate Mathematics Conference, Francis Marion University, Florence, SC, April 2016.
- *Color addition across the spectrum of mathematics*, Invited Plenary Address, Eagle Undergraduate Mathematics Conference, Georgia Southern University, Statesboro, GA, February 2016.
- *Mid-career faculty: Charting the next half of your career*, MAA Committee on Professional Development Panel Discussion, Joint Math Meetings, Seattle, WA, January 2016.
- *Explorations into preparing a successful tenure portfolio*, MAA Project NExT Panel, MAA MathFest, Washington, DC, August, 2015.
- *An introduction to the mathematical theory of knots*, MathILy Daily Gather, Bryn Mawr College, Bryn Mawr, PA, August 2015.
- *Implementations of active learning in the mathematics classroom*, Faculty Session, Kennesaw Mountain Undergraduate Mathematics Conference, Kennesaw, GA, October 2014.
- *Strategies for improving recruitment and retention of mathematics majors*, MAA Project NExT Workshop, MAA MathFest, Portland, OR, August 2014.
- *Teachers: Beloved and Admired*, Invited Plenary Address, MAA Southeastern Section Meeting, Tennessee Tech, Cookeville, TN, March 2014.
- *Flipped classrooms*, MAA Project NExT Workshop, MAA MathFest, Hartford, CT, August 2013.
- *Implementations of active learning in the mathematics classroom*, Mathematics Colloquium, Iowa State University, Ames, IA, April 2013.
- *Tangled up in red, green and blue (with apologies to Bob Dylan): An introduction to the mathematical theory of knots*, Mathematics Talk, Central College, Pella, IA, April 2013.
- *Tangled up in red, green and blue (with apologies to Bob Dylan): An introduction to the mathematical theory of knots*, Mathematics Colloquium, Kenyon College, Gambier, OH, March 2013.
- *Tangled up in red, green and blue (with apologies to Bob Dylan): An introduction to the mathematical theory of knots*, Mathematics Seminar, Slippery Rock University, Slippery Rock, PA, March 2013.
- *Color addition and binary arithmetic*, University of Nebraska at Omaha Math Teachers Circle, Omaha, NE, March 2013.
- *Tangled up in red, green and blue (with apologies to Bob Dylan): An introduction to the mathematical theory of knots*, Mathematics Seminar, University of Nebraska at Omaha, Omaha, NE, March 2013.
- *Using mathematical games for classroom instruction*, MAA-SE Project NExT Workshop, Winthrop University, Rock Hill, SC, March 2013.
- *The difference between a small infinity and a big zero*, Mathematics Colloquium, State University of New York at Geneseo, Geneseo, NY, October 2012.

- *Tangled up in red, green and blue (with apologies to Bob Dylan): An introduction to the mathematical theory of knots*, Mathematics Seminar, Concord University, Athens, WV, October 2012.
- *Deciding how to teach*, MAA Project NExT Workshop, MAA MathFest, Madison, WI, August 2012.
- *The many faces of Inquiry Based Learning*, Faculty Session, Kennesaw Mountain Undergraduate Mathematics Conference, Kennesaw, GA, November 2011.
- *Creative assessment methods*, with Yuliya Babenko, MAA-SE Project NExT Workshop on Neat Teaching Ideas, MAA Southeastern Section Meeting, University of Alabama, Tuscaloosa, AL, March 2011.
- *The difference between a small infinity and a big zero*, Invited Plenary Address, 2010 Texas Undergraduate Mathematics Conference, Tyler, TX, October 2010.
- *An introduction to Inquiry Based Learning in mathematics*, MAA Texas Section NExT Meeting, Tyler, TX, October 2010.
- *Professors and other students, or students and other teachers*, Berry College Honors Convocation Address, April 2009.
- *Innovative teaching methods in established courses*, MAA Project NExT Workshop, MAA MathFest, Madison, WI, July 2008.
- *Building fractal models in a liberal arts class*, MAA-SE Project NExT Workshop on Neat Teaching Ideas, MAA Southeastern Section Meeting, Charleston, SC March 2008.
- *Tearing plastic: A laboratory exercise on fractals and hyperbolic geometry*, MAA-SE Project NExT Workshop on Neat Teaching Ideas, MAA Southeastern Section Meeting, Statesboro, GA March 2007.
- *Tearing plastic: A laboratory exercise on fractals and hyperbolic geometry*, MAA-SE Project NExT Workshop on Neat Teaching Ideas, MAA Southeastern Section Meeting, Auburn University, Auburn, AL April 2006.
- *Tangled up in red, green and blue (with apologies to Bob Dylan): An introduction to the mathematical theory of knots*, Invited Talk at James Madison University, Harrisonburg, VA March 2006.
- *How big is the Cantor set?*, with Todd Timberlake, Mathematics Colloquium, Lee University, Cleveland, TN March 2006.
- *Tangled up in red, green and blue (with apologies to Bob Dylan): An introduction to the mathematical theory of knots*, Lee University Mathematics Seminar, Cleveland, TN October 2005.
- *Tangled up in red, green and blue (with apologies to Bob Dylan): An introduction to the mathematical theory of knots*, Mu Alpha Theta National Conference, Huntsville, AL, July 2004.
- *The difference between a small infinity and a big zero*, Mu Alpha Theta National Conference, Huntsville, AL, July 2004.
- *The difference between a small infinity and a big zero*, Math Coffee, Davidson College, Davidson, NC, March 2004.
- *Presenting mathematical masterpieces and powerful techniques of effective thinking to non-science students*, Key College Undergraduate Mathematics Education Workshop, Georgia State University, Atlanta GA, February 2004.

- *Using critical thinking skills to improve student learning*, with Alvin H.F. Smith, Berry College Center for Teaching Excellence Workshop, March 2003.

Contributed presentations

- *Mathematics of color addition games*, Gathering 4 Gardner 13, Atlanta, GA, April 2018.
- *Two family oriented color addition games*, MOVES 2017, CUNY Graduate Center, New York, NY, August 2017.
- *Separable equivalence*, with Carter Smith*, Joint Mathematics Meetings, Atlanta, GA, January 2017.
- *Dead Poets Society*, with Robert Vallin, MAA MathFest, Columbus, OH, August 2016.
- *Dead Poets Society*, MAA Southeastern Section Meeting, Birmingham, AL, March 2016.
- *Planar tanglegrams*, MOVES 2015, Baruch College, New York, NY, August 2015.
- *Roots of polynomials with Fibonacci number coefficients*, MAA Southeastern Section Meeting, Wilmington, NC, March 2015.
- *2013 MAA PREP Workshop : Supporting research in mathematics for teachers of post-calculus students* (poster), with Lynette Boos, Joint Mathematics Meetings, Baltimore, MD, January 2014.
- *Sequential mathematical games based on additive and subtractive color mixing arithmetic*, MOVES 2013, Baruch College, New York, NY, August 2013.
- *Transfer of innovative teaching methods between STEM disciplines*, with Ken Martin and Todd Timberlake, AAC&U Next Generation STEM Learning: Investigate, Innovate, Inspire, Kansas City, MO, November 2012.
- *Roots of polynomials with Fibonacci number coefficients*, MAA MathFest, Madison, WI, August 2012.
- *Preliminary results on the exponential graph domination of a rectangular grid graph*, 3rd Research Experience for Undergraduate Faculty, American Institute of Mathematics, Palo Alto, CA, July 2011.
- *Assessment in an IBL classroom*, with Jacqueline Jensen-Vallin, Legacy of R.L. Moore Conference, Washington, DC, June 2011.
- *Inquiry Based Learning across the curriculum*, with Dan Robb, Kevin Hoke, Chuck Lane, Eric McDowell and Michael Papazian, Legacy of R.L. Moore Conference, Austin, TX, July 2009.
- *Active learning at Berry College*, with Chuck Lane and Todd Timberlake, Legacy of R.L. Moore Conference, Austin, TX, July 2008.
- *Update on the Berry College IBL Project*, Legacy of R.L. Moore Conference, Austin, TX, May 2007.
- *Bisections and reflections*, MAA Southeastern Section Meeting, Statesboro, GA March 2007.
- *Using art to teach mathematics*, Association for Integrative Studies Meeting, Atlanta, GA, October 2006.
- *Bisections and Reflections*, MAA MathFest, Knoxville, TN, August 2006.
- *Preliminary report on the Berry College IBL project*, Legacy of R.L. Moore Conference, Austin, TX, May 2006.

- *The algebraic case of a conjecture of Nakanishi*, MAA Southeastern Section Meeting, Auburn University, Auburn, AL April 2006.
- *Unknotting and colorability of knots and links*, Georgia Academy of Science Meeting, Georgia Perimeter College, Lawrenceville, GA, March 2006.
- *Interdisciplinary guided inquiry learning at Berry College: A preliminary report*, with Ken Martin, Legacy of R.L. Moore Conference, Austin, TX, April 2005.
- *Optimization of cubic functions without calculus*, MAA Southeastern Section Meeting, Meredith College, Raleigh, NC, March 2005.
- *The equal length stick number of the 8_{19} knot*, University of Dayton Undergraduate Mathematics Day, March 2004.
- *Reflections on Moore method teaching: A view from a non-Moore perspective*, Legacy of R.L. Moore Conference, Austin, TX, March 2004.
- *Using critical thinking to link mathematics and writing instruction*, with Alvin H.F. Smith, Joint Mathematics Meetings, Baltimore, MD, January 2003.
- *Hypercyclic subspaces of a Banach space*, Bowling Green State University Analysis Seminar, April 2000
- *A Banach space operator with a prescribed orbit*, Bowling Green State University Analysis Seminar, October 1999
- *A Hilbert space of hypercyclic vectors*, Bowling Green State University Analysis Seminar, November 1988

Professional Development

- Gathering 4 Gardner, Atlanta, GA, 2014, 2016, 2018
- Joint Mathematics Meetings, various locations, 2000, 2001, 2003, 2005–2007, 2009–2014, 2016–2018
- MAA MathFest, various locations, 2002, 2003, 2006–2008, 2011–2016, 2018
- MAA Southeastern Section Meeting, various locations, 2005–2018
- Mathematics of Various Entertaining Subjects (MOVES), New York, NY, 2013, 2015, 2017
- IBL Conference (formerly Legacy of R.L. Moore Conference), various locations, 2003–2011, 2014, 2016
- AIM Research SQuaRE, *Exponential Graph Domination*, American Institute of Mathematics, Palo Alto, CA, July 2013.
- MAA PREP Workshop, *Supporting Research in Mathematics for Teachers of post-Calculus Students*, University of Nebraska, Lincoln, NE, July 2013.
- AMS Section Meeting, Iowa State University, Ames, IA, April 2013.
- AAC&U Next Generation STEM Learning: *Investigate, Innovate, Inspire*, Kansas City, MO, November 2012.
- 3rd Research Experience for Undergraduate Faculty, American Institute of Mathematics, Palo Alto, CA, July 2011.
- The Teaching Professor Conference, Atlanta, GA, May 2007.
- Association for Integrative Studies Meeting, Atlanta, GA, October 2006.

- Inquiry Based Learning Workshop, Costa Mesa, CA, July 2006.
- MAA PREP Workshop, *Making Math Visible*, Bellarmine University, Louisville, KY, June 2005.
- MAA Ohio Section Workshop on Knot Theory, Ohio Northern University, Ada, OH, June 2004.
- Georgia Academy of Science Meeting, Berry College, Mount Berry, GA, March 2004.
- MAA PREP Workshop, *Knot Theory*, Wake Forest University, Winston-Salem, NC, May 2003.
- Chautauqua Short Course, *Abandoning Dead Ends: Presenting the Heart of Mathematics to All Students*, The University of Texas at Austin, Austin, TX, May 2002.
- MAA PREP Workshop, *Presenting Mathematical Masterpieces and Powerful Techniques of Effective Thinking to Non-Science Students*, The University of Texas at Austin, Austin, TX, May 2002.
- NSF Workshop, *Workshop PreCalculus*, Dickinson College, Carlisle, PA, June 2002.
- MAA Ohio Section Meeting, Bowling Green State University, Bowling Green, OH, March 2001.

Recognitions

- Berry College Teaching Excellence Award, 2008, 2018
- Mathematical Association of America Deborah and Franklin Tepper Haimo Award, 2018
- MAA Southeastern Section Distinguished Teaching Award, 2013
- Martindale Award of Distinction, Berry College, 2012
- Dave and Lu Garrett Award for Meritorious Teaching, Berry College, 2012
- Berry College First Year Advocate Award, 2011
- Berry College Martin Luther King Jr. Leadership Award, 2005
- MAA Project NExT Fellow, 2002–2003

Funded Grants

- Berry College Faculty Development Grant to attend MAA PREP Workshop and AIM SQuaRE. Funded by Berry College, \$1233. (2013)
- *Berry College Inquiry Based Learning Initiative*, with Andy Bressette, Ken Martin, Eric McDowell, Todd Timberlake and Kristen Diliberto-Macaluso. Funded by the Educational Advancement Foundation, \$27,820. (2007)
- Berry College Summer Course Development Grant to create guided inquiry materials and attend a workshop to learn technology to implement in a college geometry course. Funded by Berry College, \$1000. (2005)
- Grant for textbook purchase for Project SUCCESS. Funded by The Educational Advancement Foundation, \$787.80. (2004)
- Berry College Faculty Development Grant to attend the National Critical Thinking Training Academy (with Alvin H.F. Smith) at Sonoma State University. Funded by Berry College, \$1700. (2002)
- Visiting Scholar at Bowling Green State University, Summer 2001, Research on TA Training with Barbara Moses and Keshav Jaggannathan, Funded by The College of Arts and Sciences, BGSU, \$1000.

Service

Professional

- Member of MAA Textbooks Series Editorial Board, 2018–present
- Academy of Inquiry Based Learning, Teaching Mentor, 2010–present
- Berry College Center for Teaching Excellence Teaching Fellow, 2008–present
- Legacy of R.L. Moore Conference Organizing Committee, 2009–13, Co-chair, 09–12
- MAA Departmental Liaison, 2007–present
- MAA Project NExT Consultant, 2007–08, 2015–16
- MAA Project NExT-SE, Co-director, 2008–13
- MAA Southeastern Section Beginning Faculty Activities Coordinator, 2011– 2017
- MAA-SE Mathematics *Jeopardy!* Competition
 - Organizer, 2009–present
 - Question Writer, 2017
- Reader for College Board AP Calculus Exam, 2010–present
 - Table Leader: 2015–present
 - AP Calculus Math *Jeopardy!* Contest Organizer, 2016–present
- Reviewer for *Rose Hulman Undergraduate Math Journal*, *PRIMUS*, *Notices of the AMS*

Institutional

- Committees:
 - Ad Hoc Committee on Athletic Affiliation, 2007–2008
 - Appeals Committee, Chair 2009–2010
 - Athletic Committee, 2002–2003, 2005–2009 & 2014–2018
 - Berry College First Year Experience Book Selection Committee, 2016–2017
 - Center for Teaching Excellence Advisory Committee, 2004–2009 & 2010–2012
 - Faculty Assembly Executive Committee, Parliamentarian, 2003–2006
 - Honors Committee, 2004–2015, 2018–present
 - Institutional Review Board, 2001–2007, Chair 2003–2004
 - Interdisciplinary Studies Committee, 2004–2009
 - Local Arrangements Committee for the Georgia Academy of Science Meeting, 2003–2004
 - MNS Museum Committee, 2015–present
 - MNS Scheduling Committee, 2014–present
 - Student Work and Experiential Learning Advisory Committee, 2006–2013
 - Student Orientation Advising and Registration Advisory Committee, 2007–2015
 - Writing Across the Curriculum, 2001–2004
 - Various departmental and extra-departmental search committees
- Berry College Athletics Scoring Staff, 2001–present
 - Men’s Football, Scoreboard Operator, 2015–present
 - Men’s and Women’s Basketball, Various positions, 2002–present
 - Men’s Baseball, Official Scorer, 2001–2002
- Berry College Putnam Exam Administrator, 2007–present

- Berry College Virginia Tech Regional Mathematics Exam Supervisor, 2009–present
- Facilitator for Math Science Partnership Summer workshops for Floyd County teachers, Berry College, Summer 2011 & 2012
- Facilitator for Summer Mathematics Camp, Berry College, July 2008
- Faculty Advisor for Berry College Origami Club, 2003–2005, 2017–present
- Faculty Supervisor for Mathematics Department Tutoring Lab, 2004–2016
- Faculty Advisor for Berry College Junior Class, 2003–2004
- Phi Kappa Phi, Secretary/Treasurer, 2015–2017

Community

- Berry College First Year Service Day, 2007, 2008, 2010–2016, 2018
- Rome Braves Professional Baseball Club, Official Scorer, 2003–2009
- Seo's Martial Arts Staff, 2010–2017
 - Instructor, 2015–2017
 - Assistant Instructor, 2010–2015

Memberships

- Fellow of the Academy of Inquiry Based Learning
- Member of the Georgia Academy of Science
- Member of the Mathematical Association of America
- Member of Phi Kappa Phi
- Member of Sigma Xi: The Scientific Research Society