

CURRICULUM VITAE

EZRA A. BROWN

Education

- Ph. D. Mathematics, Louisiana State University, August 1969
- M. S. Mathematics, Louisiana State University, August 1967
- B. A. Mathematics, Rice University, June 1965

Professional Experience

- Alumni Distinguished Professor, Mathematics Department, Virginia Tech, 2005-2017; Professor, 1981-2005; Associate Professor, 1973-81; Assistant Professor, 1969-73
- Retired since June 1, 2017
- Project NExT (New Experiences in Teaching) Consultant, 1998, 2001, 2003 to present
- Consulting Mathematician, Washington DC, 1993-2018 (summers)
- Sabbatical Year, Washington DC, 1991-92
- Consulting Mathematician, Princeton NJ, 1989-90, 2009 (summers)
- Reader, Advanced Placement Examinations in Mathematics, 1981-86
- Sabbatical Year, Munich, Germany, 1978-79

National/Regional Honors and Awards

- Mathematical Association of America (MAA) 2020 Award for Meritorious Service to the MAA.
- MAA MD-DC-VA Section 2014 Sister Helen Christensen Award for exemplary service to the section.
- MAA Carl B. Allendoerfer Awards (in 2003, 2010, and 2013) for Excellence in Expository Writing for papers appearing in *Mathematics Magazine*.
- MAA 2006 George Polya Awards (in 2000, 2001, and 2006) for Excellence in Expository Writing for papers appearing in the *College Math Journal*.
- MAA MD-DC-VA Section 1999 John M. Smith Award for Outstanding College or University Teaching

Virginia Tech Honors and Awards

- Alumni Distinguished Professorship, 2005; reappointed, 2015; emeritus since 2017
- Commencement Address, University Commencement Exercises, Fall 2003
- ODK G. Burke Johnston Award for Teaching Excellence, 2000
- William E. Wine Award for Excellence in Teaching, 1998
- MAA Student Chapter Outstanding Professor Award, 1998, 2000, 2002, 2016
- Edward S. Diggs Teaching Scholar Award, 1997

Ph. D Students

- Robert Johnson, Graphical sequences. Ph. D. in Mathematics, 1974.
- Bruce Landman, Generalized van der Waerden numbers. Ph. D. in Mathematics, 1983.

Master of Science Students: boldface indicates students who later earned PhDs in mathematics

- Lawrence Gosnell, Quadratic forms over fields of characteristic 2. M. S., 1973.
- Kenneth Hawkes, Perfect numbers and other numbers defined by the sum of their divisors. M. S., 1975.
- **Robert Ellis, Cubical complexes. M. S., 1996.**
- Matthew Briggs, The General Number Field Sieve. M. S., 1998.
- **Karen Potanka, Symmetry and automorphism groups of graphs. M. S., 1998.**
- John McGee, Schoof's Algorithm for counting points on elliptic curves. M. S., 2006.
- Courtney Baber, List colorings of graphs. M. S., 2009.

- Maria Beane, The $S(5,8,24)$ Steiner System. M. S., 2011.
- James Dickson, An introduction to Ramsey theory on graphs. M. S., 2011.
- **Andrew Wills, The Inverse Galois Problem. M. S., 2011.**
- **Ryan Shifler, Computational Algebraic Geometry Applied to Invariant Theory. M. S., 2013.**
- Sohail Farhangi, The 2-Large Is Large Conjecture. M. S., 2015.

Publications in refereed journals

My seventy-six or so papers are either in print or will soon appear. The first three-dozen papers contained research on topics in number theory, graph theory, and combinatorics, and appeared between 1969 and 1990. The other forty papers are a mix of research and expository writing, are, IMO, much more interesting. A link to the latter is on my home page. I have had about twenty coauthors, and my Erdos number is two.

Books

- *Regiomontanus: His Life and Work*, a translation of Ernst Zinner's "Leben und Werken des Johann Muller von Koenigsberg, genannt Regiomontanus." North-Holland, Amsterdam-New York, 1990. x+402 pp.
- *Biscuits of Number Theory*, a collection of expository articles on number theory, co-editor with Arthur Benjamin. Dolciani Mathematical Expositions #34, Mathematical Association of America, Washington DC, 2009. xiii+311 pp.
- *The Unity of Combinatorics* (with Richard K. Guy), *MAA Carus Monograph Series #36*, 2020, xiii+353 pp,

Book Chapters

- "What I Wish They'd Told Me: Notes from the Trenches of Academe", in *Teaching Excellence at a Research University* (E. Scott Geller and Philip K. Lehman, editors), Chapter 8 (pp.49-54), Pearson Custom Publishing, Boston, 2007.
- "Getting involved with the MAA: A Path Less Traveled," in *A Century of Advancing Mathematics* (Stephen Kennedy, ed.), MAA Press Washington DC, 2016

Invited Talks

- Over 100 invited presentations and colloquia on research topics, including a Carriage House Distinguished Lecture, MAA Headquarters, Washington DC (2011); invited hour addresses to the MD-DC-VA (1999, 2007, 2011), Northeastern (2001, 2004 – the Christy Lecture, and 2007), EPaDel (2015) and Louisiana-Mississippi (2010 – the inaugural R. D. Anderson Lecture) Sections of the MAA; banquet keynote address at MathFest 2001; a two-hour workshop for Project NExT Fellows at MathFests 2007 and 2008; the Student Activities Lecture at MathFest 2008; and the 46th SE International Conference on Combinatorics, Graph Theory and Computing (2015, two one-hour talks)
- Numerous lectures on number theory, cryptography and network security both at Virginia Tech and at other universities, colleges, high schools, and professional organizations; keynote speeches for the Virginia Computer Users Conference (1994), the All-School Colloquium on Mathematics at Woodberry Forest School (1996), and Math Awareness Month at Virginia Tech (1997, 2002) and at Worcester Polytechnic Institute (2002); the Norman W. Johnson Lecture at Wheaton (MA) College (2004); Appeared on "Math: No Problem," a segment of the Virginia Foundation for Humanities radio show *With Good Reason*, broadcast state-wide the week of January 26-30, 2004

Presentations to Alumni and other University Groups

More than two dozen since 2005, including alumni chapters, class reunions, new faculty orientations, and the Old Guard.

Teacher Development

- Workshop leader, NSF Workshop for High School Teachers on Mathematical Studies in Modeling,

Mount St. Mary's College, 1993-96

- Mentor to sixteen graduate teaching assistants, 1992-2004
- Mentor/Trainer of Student Helpers at the Math Emporium, 1999-2002
- Led dossier preparation workshop for the Academy of Teaching Excellence, 1997-2011
- GTA Training Workshop (with other Diggs Scholars), 1997-2012
- Developed (with Lorraine Holub) the Calculus Emerging Scholars Program (ESP), 1996-2001, with grants totaling \$339,540 (for pilot and full-scale projects) from Provost and Dean of Arts & Sciences
- ESP Project Director, 1996-2002
- Developed or revitalized four courses in Mathematics at the senior and graduate level: Graph Theory, History of Mathematics, Advanced Discrete Mathematics, and Cryptography I and II

Unusual Teaching Contributions

- Taught Vector Geometry via email to a Freshman who was out of school for a semester due to illness, 1994
- Taught Number Theory via email to two high school students at Woodberry Forest School, 1996-97
- Taught 4 Freshman Honors Seminars (1971-73), 4 University Colloquia on Fantasy and Science Fiction (1974, 1975-76, 1978), 5 University Colloquia on Duke Ellington (1981-85), two University Colloquia on Problem Solving (2001, 2003)
- Teacher of Record, University Jazz Ensemble, 1973-74
- Mentor to Ashley White, University Honors Scholar, 2002; Marshall Scholar, 2005
- Mentor to David Gagnon, Horton Honors Scholar, 2004
- Mentor to Brad Shapiro, Class of 1954 University Honors Scholar, 2006

Student Research Projects

- Directed sixteen Masters presentations between 1995 and 2010. Five of these went on to earn doctorates in mathematics.
- Directed seventeen undergraduate research projects in mathematics between 1990 and 2011.
- Mentored more than fifty students in the Director's Summer Program and other summer research programs, Department of Defense, 1994 to 2018.

Mathematical Association of America Service (highlights)

- Music Director and accompanist, "MAA: The Musical," MathFest 2011, Lexington KY, August 3, 2011; "MAA: The Musical₂," MathFest 2012, Madison WI, August 1, 2012; "MAA: The Musical₃," EPaDel Section Meeting, Lancaster PA, March 14, 2015; and "MAA: The Musical₅," MathFest 2015 Meeting, Washington DC, August 8, 2015
- MAA Committees to select recipients of national exemplary writing or exemplary teaching awards
- MAA Search Committee for the Editor of Math Horizons (Chair), 2011-2012
- MAA Task Force on the Daniel Solow Author's Award (Chair), 2015-2017
- MAA Task Force on Senior Members and Memberships (Chair), 2017-2018
- Consultant to MAA Project NExT (New Experiences in Teaching) Fellows, 1999-2010
- MAA MD-DC-VA Section Teaching Award Committee, 1999-2005; Chair, 2000-2005
- Math Jeopardy Moderator, MD-DC-VA Spring Section meetings, 2007- 2019
- Section Program Chair, 2004-2006
- Section Governor (representative to the MAA Board of Governors), 2007-2010
- Project NExT Course "Starting and Maintaining Your Mathematical Research Program," given at MathFests 2007 and 2008 and JMM's 2008 and 2009

Professional Organizations and Activities

- American Mathematical Society, 1969-1975; Mathematical Association of America, 1975-present;

Community

- Over forty performances with the Virginia Tech Jazz Ensemble, including a year as director
- Fifty-nine performances with the Blacksburg Master Chorale
- Six performances with Opera Roanoke