

# Colm Mulcahy

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**Education** Ph.D. (1985), Cornell University; M.Sc. (1979) & B.Sc. (1978), University College Dublin

**Employment** Spelman College, Atlanta, GA, 1988 – (rank : Professor)

## Professional memberships

Mathematical Association of America / Association for Women in Mathematics / Irish Mathematical Society

**Over 25 different courses taught since 1985:** Mathematics for Liberal Arts, Honors Quantitative Reasoning, Precalculus sequence, Applied and regular Calculus sequences, Multivariable Calculus, General Statistics, Introduction to Mathematics Seminar, Foundations of Mathematics, Linear Algebra I & II, Discrete Mathematics, Mathematical Magic with Cards, Number Theory, Geometry, Numerical Analysis, Probability & Statistics I & II, Abstract Algebra I & II, Real Variables I & II, Senior Seminar

## Awards & Recognitions

1. Writing has been translated into Korean, Japanese, Mandarin, Cantonese, Polish, French and Spanish.
2. *The Best Writing on Mathematics 2015* (Princeton University Press, 2016) book includes article originally published in *Scientific American*.
3. *Presidential Award in Scholarly Achievement*, Spelman College, May 2013.
4. *Faculty Innovation and Initiative Award* (from Spelman College's Faculty Council), May 2011.
5. *Fannie Lou Hamer Award* (Spelman College Board of Trustees) for community service, April 2001.
6. *Carl B. Allendoerfer Award* (Mathematical Association of America prize for excellence in exposition), for "Plotting and Scheming with Wavelets," *Mathematics Magazine* (December 1996), August 1997.

## Book

*Mathematical Card Magic: Fifty-Two New Effects*, AK Peters/CRC Press (380 pages, August 2013)

## Selected Book Chapters

1. (with Neil Calkin) "Gallia est omnis divisa in partes quattuor," in *The Mathematics of Various Entertaining Subjects: Research in Recreational Math*, Princeton University Press, December 2015
2. "Mathemagical Miracles," in *Expeditions in Mathematics—The Second Book of BAMA Talks*, 25–30, Mathematical Association of America, March 2011
3. "Mathematical Idol," in *Mathematical Wizardry for a Gardner*, 155–164, A.K. Peters, April 2009
4. (as Earnest Hammingway) "Horses In the Stream and Other Short Stories," in *Homage to a Pied Puzzler*, 233–247, A.K. Peters, February 2009
5. "Low-Down Triple Dealing," in *A Lifetime of Puzzles*, 29–34, A.K. Peters, November 2008
6. "Fitch Cheney's Five Card Trick and Generalizations," in *The Edge of the Universe—Celebrating Ten Years of Math Horizons*, 273–276, Mathematical Association of America, August 2006
7. (as Brain Epstein) "All You Need Is Cards," in *Puzzlers' Tribute: A Feast for the Mind*, 179–190, A.K. Peters, January 2002

## Selected Refereed Articles

1. “Three Cards Suffice,” *Math Horizons*, 22–25, Mathematical Association of America (November 2014)
2. (with Dana Richards) “Let the Games Continue,” *Scientific American*, Vol 311, No 4, 90–95 (October 2014)
3. (with Albert Goetz) “The Best Friend Mathematics Ever Had,” *Mathematics Teacher*, 194–199, National Council of Teachers of Mathematics (October 2014)
4. “Fitch Cheney’s Five Card Trick and Generalizations,” *Math Horizons*, 10–13, Mathematical Association of America (February 2003)
5. (with John Rossi) “A fresh approach to the Singular Value Decomposition,” *College Mathematics Journal*, **29**, 3, 199–207 (May 1998)
6. “Image Compression Using The Haar Wavelet Transform,” *Spelman Science & Mathematics Journal*, **1**, 1, 22–31 (Spring 1997)
7. “Plotting and Scheming with Wavelets,” *Mathematics Magazine*, **69**, 5, 323–343 (December 1996)
8. “The Curves and Surfaces of Computer Aided Geometric Design,” *Maple Tech*, **3**, 1, Birkhäuser/ Springer, 65–73 (April 1996)
9. (with Murray Marshall) “The Witt ring of a Space of Signatures,” *Journal of Pure and Applied Algebra*, **67**, 179–188 (1990)
10. “A representation theorem for higher level reduced Witt rings,” *Journal of Algebra* **119**, 105–122 (1988)
11. “An abstract approach to higher level forms and rigidity,” *Communications in Algebra*, **16(3)**, 577–612 (1988)

## Presentations

Over 300 scholarly presentations given since 1994. Notable recent invited talks include:

1. AP Calculus Reading, Professional Night Speaker, Kansas City, Missouri, June 4, 2015
2. Smithsonian, Washington, DC, April 18, 2015
3. Liverpool Mathematical Society, Liverpool, UK, March 2, 2015
4. Northern Virginia Council of Teachers of Mathematics Spring Banquet, Springfield, Virginia, May 8, 2014
5. Time Warner Cable Family Friday, Museum of Mathematics, New York, New York, April 11, 2014
6. MAA Distinguished Lecturer, Carriage House, Washington, DC, April 1, 2014
7. Banquet Address, MD-DC-VA Section of the MAA, Hampden-Sydney College, Farmville, Virginia, November 1, 2013
8. Banquet Speaker, 2012 Annual Meeting of the Michigan MAA and MichMATYC, Saginaw Valley State University, Saginaw, Michigan, May 4, 2012
9. 14th Annual George Kitchen Memorial Lecture, Kalamazoo College, Kalamazoo, Michigan, May 3, 2012
10. MAA Lecture for Students, MAA Mathfest 2009, Portland, Oregon, August 6, 2009
11. BAMA (Bay Area Mathematical Adventures) Lecturer, November 19, 2005

## Workshops/ Minicourses/ Short Courses

Presented over 40 minicourses or workshops at local, regional and national MAA meetings, as well as at Project NExT sessions, summer REUs, overseas, etc.

## Videos

Notable recent videos include:

1. “Richard Guy 100th birthday tribute song” (*Gathering 4 Gardner*, on YouTube), September 2016
2. “Little Fibs” (*Numberphile*, on YouTube, with 165,000+ views), June 2016
3. “Quick Mathematical Card Trick” (*StandUpMaths* by Matt Parker, on YouTube, with 86,000+ views), May 2016
4. “The Bould Georgie Boole” (*Maths Week Ireland*, on Vimeo), November 2015
5. “Martin Gardner 101” (*Google Tech Talk*, on YouTube), July 2015
6. “Martin Gardner 1914-2010 ” (*Gathering 4 Gardner*, on YouTube), October 2014

## Professional Service

1. Vice President of Gathering 4 Gardner, Inc., 2016–
2. MAA/AWM Committee on Falconer Lecture, 2016–
3. Creator and curator of the Annals of Irish Mathematics and Mathematicians, 2014–
4. Advisory Board, National Museum of Mathematics, 2014–
5. Co-chair, Mathematics Awareness Month 2014 Committee, 2013–2014
6. Chair, Martin Gardner Centennial Committee, 2013–2014
7. Guest blogger at *Scientific American*, 2013–
8. Blogger at *Huffington Post*, 2012–
9. Bi-monthly columnist (*Card Colm*) at MAA.org, 2004–2014
10. MAA’s *Math Horizons* Editorial Board, 2003–2008, 2014–
11. Consultant and Mentor for Project NExT, 2008–
12. MAA Committee on the Participation of Women, 2012–2015
13. MAA Subcommittee on Short Courses, 2007–2013
14. MAA Committee on Minority Participation in Mathematics, 2006–2012
15. *MAA Focus* Editorial Board, 2003–2014
16. Gathering 4 Gardner Outreach Diversity Committee, 2012–
17. Gathering 4 Gardner Celebration of Mind Committee, 2010–2016
18. *MAA Online* Editorial Board, 2003–2007
19. MAA Mathfest 2004 (Providence, RI) Program Committee (proposed 2 of the 3 plenary speakers)
20. MAA Minicourse Committee, 2000–2006 (Local organizer Atlanta meeting, January 2005)
21. Consultant for Project NExT, 1997–2002