Colm Mulcahy

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Education   Ph.D. in Mathematics (1985), M.A. in Mathematics (1982), Cornell University
M.Sc. in Mathematics (1979), B.Sc. in Math. Sciences (1978), University College Dublin

Employment   Spelman College, Atlanta, GA, Professor, 1988 –

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. *Presidential Award in Scholarly Achievement*, Spelman College, May 2013.

2. *Faculty Innovation and Initiative Award* (from Spelman College's Faculty Council), May 2011.

3. *Fannie Lou Hamer Award* (Spelman College Board of Trustees) for community service, April 2001.

4. *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 (380 pages, August 2013)

Selected Book Chapters

1. "Mathemagical Miracles," in *Expeditions in Mathematics–The Second Book of BAMA Talks*, 25–30, Mathematical Association of America, March 2011

2. "Mathematical Idol," in *Mathematical Wizardry for a Gardner*, 155–164, A.K. Peters, April 2009

3. (as Earnest Hammingway) "Horses In the Stream and Other Short Stories," in *Homage to a Pied Puzzler*, 233–247, A.K. Peters, February 2009

4. "Low-Down Triple Dealing," in *A Lifetime of Puzzles*, 29–34, A.K. Peters, November 2008

5. "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

6. (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)

Online Publications

Over 60 bi-monthly *Card Colm*s at MAA Online, exploring mostly original mathemagical principles
Blogger at *Scientific American*, *Huffington Post* and *The Aperiodical.*

Presentations

Over 250 scholarly presentations given since 1994. Notable recent invited talks include:

1. Banquet Address, Northern Virginia Council of Teachers of Mathematics Spring Banquet, Springfield, Virginia, May 8, 2014

2. Time Warner Cable Family Friday, Museum of Mathematics, New York, New York, Apr 11, 2014

3. MAA Distinguished Lecturer, Carriage House, Washington, DC, April 1, 2014

4. Banquet Address, MD-DC-VA Section of the MAA, Hampden-Sydney College, Farmville, Virginia, November 1, 2013

5. Banquet Speaker, 2012 Annual Meeting of the Michigan MAA and MichMATYC, Saginaw Valley State University, Saginaw, Michigan, May 4, 2012

6. 14th Annual George Kitchen Memorial Lecture, Kalamazoo College, Kalamazoo, Michigan, May 3, 2012

7. Sixth Annual Claude B. Dansby Lecture, Morehouse College, Atlanta, Georgia, October 21, 2010

8. Keynote Speaker, Tennessee Mathematics Teachers Association / Mathematics Teachers of Tennessee Northwest Fall Conference, September 24, 2010

9. MAA Lecture for Students, MAA Mathfest 2009, Portland, Oregon, August 6, 2009

10. 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.

Professional Service

Advisory Board, National Museum of Mathematics (2014–); Co-chair, Mathematics Awarness Month 2014 Committee (2013–2014); Chair, Martin Gardner Centennial Committee (2013–); Blogger at *Huffington Post* and *Scientific American*; Bi-monthly columnist (*Card Colm*) at MAA Online (2004–2014); Consultant for Project NExT (1997–2002 and 2008–); MAA's *Math Horizons* Editorial Board (2003–2008, 2014–2018). *MAA Focus* Editorial Board (2003–); MAA Committee on the Participation of Women (2012–2015); Gathering 4 Gardner Outreach Diversity Committee (2012–); Gathering 4 Gardner Organizing Committee (2011–); Celebration of Mind Organizing Committee (2011–); MAA Committee on Minority Participation in Mathematics (2006–2012); MAA Subcommittee on Short Courses (2007–2009); MAA Minicourse Committee (2000–2006)