

# Thomas R. Cameron

Davidson College  
Mathematics and Computer Science  
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## Current Position

*Visiting Assistant Professor*, Mathematics and Computer Science, Davidson College

## Areas of Specialization

Linear Algebra and the numerical solution of both the linear and nonlinear eigenvalue problems. Additional interests include: dynamical systems, matrix polynomials, programming, and spectral theory.

## Appointments Held

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|-----------|--|
| current   | Visiting Assistant Professor, Davidson College     |
| 2016-2017 | Visiting Assistant Professor, The College of Idaho |

## Education

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|-----------|--|
| 2013-2016 | Ph.D. in Mathematics, Washington State University    |
| 2012-2013 | M.Sc. in Mathematics, Washington State University    |
| 2009-2012 | B.Sc. in Mathematics, University of Minnesota Duluth |

## Honors & Awards

|      |  |
|------|--|
| 2015 | MSRI Summer Graduate School on Spectral Geometry, University of Montreal   |
| 2015 | Radziemski Fellowship, Washington State University                         |
| 2012 | Sylvan D. Burgstahler Memorial Scholarship, University of Minnesota Duluth |

## Publications & Presentations

### JOURNAL ARTICLES

|      |  |
|------|--|
| 2017 | Thomas R. Cameron and Panayiotis J. Psarrakos, <i>On the generalization of Descartes' rule of signs for matrix polynomials</i> , In Progress.  |
| 2017 | Thomas R. Cameron, <i>The Determinant: from Signed Volume to Laplace's Formula</i> , In Review.  |
| 2017 | Thomas R. Cameron and Nikolas I. Steckley, <i>On the application of Laguerre's method to the polynomial eigenvalue problem</i> , <a href="https://arxiv.org/abs/1703.08767">https://arxiv.org/abs/1703.08767</a> . |

- 2016 Thomas R. Cameron, *On the reduction of matrix polynomials to Hessenberg form*, Electronic Journal of Linear Algebra, 31 (2016), 321-334.
- 2015 Thomas R. Cameron, *Spectral bounds for matrix polynomials with unitary coefficients*, Electronic Journal of Linear Algebra, 30 (2015), 585-591.

## TALKS

- 2017 *Descartes' Rule of Signs for matrix polynomials*, AMS Spring Western Sectional Meeting, Washington State University.
- 2016 *A conjecture on Descartes' Rule of Signs for matrix polynomials*, CLaN Seminar, Washington State University.
- 2016 *Spectral bounds for unitary matrix polynomials*, Analysis Seminar, Washington State University.
- 2015 *Constructive proof of Hessenberg form for matrix polynomials*, CLaN Seminar, Washington State University.
- 2015 *Another approach to Jordan form*, CLaN Seminar, Washington State University.
- 2015 *How do we really find eigenvalues?*, Colloquium, University of Minnesota Duluth.
- 2014 *Hyman's method for matrix polynomials*, CLaN Seminar, Washington State University.
- 2014 *Factorization of matrix polynomials*, CLaN Seminar, Washington State University.
- 2014 *The nonlinear eigenvalue problem*, Colloquium, University of Minnesota Duluth.
- 2013 *The Ehrlich-Aberth method for matrix polynomials*, CLaN Seminar, Washington State University.
- 2013 *When does Newton's method fail?*, CLaN Seminar, Washington State University.

## POSTERS

- 2017 *On Modifications to Laguerre's Method and the Polynomial Eigenvalue Problem*, PNWNAS 17, Corvallis, OR.
- 2015 *Hessenberg form for matrix polynomials*, SIAM LA 15, Atlanta, GA.
- 2014 *Eigenvalue computation for tridiagonal matrix polynomials*, PNWNAS 14, Portland, OR.

## REFeree EXPERIENCE

LAA: Linear Algebra and Applications  
 ELA: Electronic Journal of Linear Algebra  
 MAA: Mathematical Association of America: Mathematics Magazine

## REVIEW EXPERIENCE

Macmillan: J. Holt, Linear Algebra with Applications

# Teaching

## COURSES TAUGHT

- current MAT-150: Linear Algebra, CSC/MAT-220: Discrete Structures, *Davidson College*
- 2016-2017 MAT-101: Survey of Algebra and Probability, MAT-102: Functions, CSC-150: Computer Science 1, MAT-252: Discrete Mathematics, CSC-270: Applied Databases, MAT-498: Upper Division Seminar, MAT-494: Independent Study, *The College of Idaho*
- 2015-2016 Math-273: Calc 3, Math-220: Linear Algebra, Math-103 (online): Algebra Methods, *Washington State University*
- 2014-2015 Math-220: Linear Algebra, Math-105: Exploring Mathematics, *Washington State University*

2013-2014 Math-106: Pre-Calc, Math-202: Business Calc 2, Math-220: Linear Algebra, *Washington State University*

2012-2013 Math-201: Business Calc 1, Math-106: Pre-Calc, *Washington State University*

#### SUPERVISED UNDERGRADUATE RESEARCH

2017 Nick Steckley, *On Modifications to Laguerre's Method and the Polynomial Eigenvalue Problem*, presented at the 2017 PNWNAS.

2017 Leo Trujilo, *The numerical range of a matrix polynomial*, presented at the 2016-2017 College of Idaho Undergraduate Research Conference, The College of Idaho.

2016 Will Callahan, Sam Chandler, Johanna Mori, and Leo Trujilo, *Using Chebyshev polynomials to solve ordinary differential equations*, presented at the 2016 Murdock Undergraduate Research Conference, The College of Idaho.

2016 Nick Steckley, *A personalized grade management system using MySQL and PHP*, Washington State University.

2015-2016 Grant Hutchings, *Numerical algorithms for matrix computations and applications*, Washington State University.

2014-2015 Michael Newsham, *Bernstein polynomials and companion matrices*, Washington State University.

## Community Involvement

2017 The Charlotte Mathematics Club: Assisted in the events and activities planned for the club.

2016 The Bird Stop: Developed website for a local business.