

# CARMELIZA LUNA NAVASCA

Assistant Professor  
University of Alabama at Birmingham  
Department of Mathematics  
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1 205 934 8621 (office)

## EDUCATION

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### University of California at Davis

PhD in Mathematics, 2002

Advisor: Arthur J. Krener

Thesis: Local Solutions of the Dynamic Programming Equations and the Hamilton-Jacobi-Bellman PDE

### University of California at Berkeley

BA in Mathematics, 1997

## EMPLOYMENT

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### University of Alabama at Birmingham, Department of Mathematics, Birmingham, AL

*Assistant Professor* 2012 - present

### Clarkson University, Department of Mathematics, Potsdam, NY

*Assistant Professor* 2008 - 2012

### Rochester Institute of Technology, Department of Mathematics, Rochester, NY

*Assistant Professor* 2007 - 2008

### Centre National de la Recherche Scientifique (CNRS), Signal and Image Processing Laboratory (ETIS), Cergy-Pontoise, FRANCE

*Postdoctoral Fellow* 2006 - 2007

Mentor: Lieven De Lathauwer

### University of California at Los Angeles, Department of Mathematics, Los Angeles, CA

*NSF-VIGRE Assistant Professor* 2003 - 2006

Mentor: Stanley J. Osher

### University of Waterloo, Department of Applied Mathematics, Waterloo, Ontario, CANADA

*Postdoctoral Fellow* 2002 - 2003

Mentor: Kirsten A. Morris

### University of California at Davis, Department of Mathematics, Davis, CA

*Research and Teaching Assistant* 1997 - 2002

### NASA Ames Research Center, Mountain View, CA

*Summer Research Assistant* 1992 - 1996

## GRANTS

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### Funded:

- **NSF DMS 0915100, Computational Mathematics, PI**, *Numerical Multilinear Algebra in Signal Processing and Environmetrics*, 2009-2013, \$182,142
- **Institute for a Sustainable Environment, PI**, *Fast Tensor Decomposition Algorithms*, 2010-2011, \$2500

**In Review:**

- **NSA Mathematical Science, PI**, *Multilinear Algebraic Methods for Signal Processing and Environmetrics*, Jan 2016-Dec 2017, \$59,152
- **NSF DMS Computational Mathematics, PI**, *Multilinear Algebraic Methods for Signal Processing, Environmental Science and Machine Learning*, July 2015-June 2018, \$171,971

**PUBLICATIONS**available at <http://people.cas.uab.edu/~cnavasca>**In Preparation:**

1. *Analysis and Computation of Optimal Control of Hybrid Systems*, (with Kirsten Morris), in preparation.
2. *Symmetric Outer Product Decomposition for Blind Source Separation*, (Christina Glenn), in preparation.
3. *Approximation of Tensor Rank via Sparse Optimization*, (Xiaofei Wang), in preparation.

**Refereed Publications:**

1. *Higher Order Orthogonal Iteration with Random Projections for Low Multilinear Rank Tensor Approximation*, (with Nichole Pompey), to appear in T. Schultz (Ed.), *Visualization and Processing of Higher Order Descriptors for Multi-Valued Data*, Springer.
2. *Iterative Methods for Symmetric Outer Product Tensor Decompositions* (with Na Li and Christina Glenn), to appear in *Electronic Transactions on Numerical Analysis*.
3. *Tensor Restricted Isometry Property for Multilinear Sparse System for Gene Interactions*, (with Alexandra Fry), Proceedings of the IEEE Asilomar Conference on Signals, Systems, and Computers, Pacific Grove, November 2014.
4. *New Algorithms for Tensor Decomposition based on a Reduced Functional* (with Stefan Kindermann), *Numerical Linear Algebra and Applications*, 21 (3) (2014), pp. 340-374.
5. *Source Apportionment of Time and Size Resolved Ambient Particulate Matter* (with Philip Hopke, Na Li, Kumar Pramod, Steven Smith and Yongjing Zhao), *J. Chemometrics and Intelligent Laboratory Systems*, 129 (2013), pp. 15-20.
6. *Some Convergent Results of the Regularized Alternating Least-Squares for Tensor Decomposition* (with Na Li and Stefan Kindermann), *Linear Algebra and Applications*, 438 (2) (2013), pp. 796-812.
7. *Solving Multilinear Systems via Tensor Inversion*<sup>1</sup> (with Michael Brazell, Na Li and Christino Tamon), *SIAM Matrix Analysis*, 34-2 (2013), pp. 542-570.
8. *Video Detection Anomaly via Low Rank and Sparse Decompositions* (with Jiebo Luo and Lam Tran), Proceedings of the IEEE New York Image Processing Workshop, Rochester, November 2012.
9. *Randomized Tensor Algorithms for Facial Recognition* (with Ryan Sigurdson), Proceedings of the IEEE Asilomar Conference on Signals, Systems, and Computers, Pacific Grove, November 2012.
10. *Sparseness Constraints on Nonnegative Tensor Decomposition* (with Na Li), Proceedings of the IEEE Asilomar Conference on Signals, Systems, and Computers, November 2010.
11. *Approximation of Low Rank Solutions for Linear Quadratic Feedback for Partial Differential Equations* (with Kirsten Morris), *Computational Optimization and Applications*, 46 (1) (2010), pp. 93-111.
12. *Recovery of Tensor Data from Incomplete Measurement via Compressed Sampling* (with Jason Holloway), Proceedings of the IEEE Asilomar Conference on Signals, Systems, and Computers, Pacific Grove, November 2009.

<sup>1</sup>Among the 20 most-read articles for SIAM Journal on Matrix Analysis and Applications

13. *Low Multilinear Rank Tensor Decomposition via Semidefinite Programming*<sup>2</sup> (with Lieven De Lathauwer), Proceedings of the European Signal Processing Conference, Glasgow, Scotland, August 2009.
14. *Patchy Cost and Feedback for the HJB PDE* (with Arthur J. Krener), Proceedings of the Mathematical Theory of Networks and Systems, Blacksburg, Virginia, July 2008.
15. *Swamp Reducing Technique for Tensor Decomposition*<sup>1</sup> (with Lieven De Lathauwer and Stefan Kindermann), Proceedings of the European Signal Processing Conference, Lausanne, Switzerland, Aug 2008.
16. *Patchy Solution of the Hamilton-Jacobi-Bellman PDE* (with Arthur J. Krener), in Chiuso, Ferrante and Pinzoni, eds, Modeling, Estimation and Control, Lecture Notes in Control and Information Sciences, 364, Springer, Berlin, pp. 251-270, 2007.
17. *Implementations of Control Laws of Motion Camouflage in a Pursuit-Evasion System* (with Ani Asatryan, Vatche Attarian, Yuan F. Huang, Kevin K. Leung, Abhijeet Joshi, Vlad Voroninski, Meghdi Aboulian and Krystle McBride), Proceedings of the IFIP Conference on System Modeling and Optimization, Krakow, Poland 2007.
18. *Iterative Solution of Algebraic Riccati Equations for Damped System*<sup>3</sup> (with Kirsten Morris), Proceedings of the IEEE Conference on Decision and Control, San Diego 2006.
19. *Optimal Control as a Regularization Method for Ill-posed Problems* (with Stefan Kindermann), J. Inverse and Ill-posed Problems, 14 (7), pp. 685-703, 2006.
20. *The Lax-Friedrichs Sweeping Method for Optimal Control Problem in Continuous and Hybrid Dynamics* (with Chiu-Yen Kao and Stanley J. Osher), J. Nonlinear Analysis, 63 (5-7), pp. 1561-1572, 2005.
21. *Iterative Solution of Algebraic Riccati Equations Using a Modified Newton-Kleinman Method* (with Kirsten Morris), Proceedings of Mathematical Theory of Networks and Systems, Brussels, Belgium 2004.
22. *Solution of Algebraic Riccati Equations Arising in Control of Partial Differential Equations* (with Kirsten Morris), in P. Zolesio and J. Cagnol, eds, Control of Distributed Parameter System, Lecture Notes in Pure and Appl. Math., vol . 240, CRC Press, Boca Raton, 259-281, 2004.
23. *Solution of Hamilton-Jacobi-Bellman equations*<sup>2</sup> (with Arthur J. Krener), Proceedings of the IEEE Conference on Decision and Control, Sydney, 570-574, 2000.

#### **Thesis:**

24. *Local Solutions of the Dynamic Programming Equations and the Hamilton-Jacobi-Bellman PDE*, Ph.D. Thesis, University of California, Davis, 2002.

#### **Other Manuscripts:**

25. *Tensors as Module Homomorphisms over Group Rings* (with Michael Opperman, Timothy Penderghest and Christino Tamon), (<http://arxiv.org/abs/1005.1894>)
26. *Parameter Identification in Radio-Frequency Ablation* (with Hanne Tiesler and Christof Büskens), International Association of Applied Mathematics and Mechanics (Gesellschaft für Angewandte Mathematik und Mechanik), March 2008.
27. *Local Stable Manifold for the Bidirectional Discrete-Time Dynamics*, (<http://arxiv.org/abs/math/0309026>)
28. *Web Hosting Service Level Agreements* (with Alan King et al.), IBM Research Report, RC22301, (2002), Also in Proceedings of the 5th Pacific Institute for Mathematical Sciences 2001 Industrial Problem Solving Workshop, University of Washington, Seattle, 2001.

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<sup>2</sup>EUSIPCO Acceptance Rate is less than 50%.

<sup>3</sup>IEEE CDC Acceptance Rate is around 30%.

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**PRESENTATIONS**

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**Invited Seminars and Colloquia**

1. Physics Colloquium, University of Alberta at Edmonton, Canada, July 2014.
2. Computer Science Seminar, Institute of Computer Science, Universität Bonn, Germany, July 2013.
3. Seminar, Fraunhofer Medical Image Processing and Visualization (MeVis) Laboratory, Bremen, Germany, July 2013.
4. Math Colloquium, Università di Firenze, Italy, June 2013.
5. Mechanical Engineering Seminar, University of Alabama at Birmingham, March 2013.
6. Computer and Information Sciences Seminar, University of Alabama at Birmingham, October 2012.
7. Applied Math Colloquium, Naval Postgraduate School, Monterey, California, July 2012.
8. Math Colloquium, University of Alabama at Birmingham, February 2012.
9. Scientific Computing and Numerics Seminar, Cornell University, Ithaca, October 2011.
10. Research Seminar, School of Mathematics, Institute for Advanced Study, Princeton, New Jersey, May 2011.
11. Center for Research Computing, University of Rochester, March 2011.
12. Optimization Seminar, Department of Mathematics, University of California at Davis, June 2010.
13. Applied Math Colloquium, Radon Institute for Computational and Applied Math, Kepler Universität, Linz, Austria, August 2009.
14. Applied Math Colloquium, University of Waterloo, Canada, February 2009.
15. Math Colloquium, Memorial University of Newfoundland, St. John's, Canada, November 2008.
16. Applied Math Colloquium, Naval Postgraduate School, Monterey, California, July 2008.
17. Mathematics, Informatics, and Decision Sciences Department, Sandia National Lab, Livermore, California, June 2008.
18. Math Colloquium, San José State University, California, March 2008.
19. Math Colloquium, Clarkson University, Potsdam, New York, February 2008.
20. Math Colloquium, Georgetown University, Washington DC, January 2008.
21. Center of Complex Systems and Visualization, Department of Mathematics and Computer Science, Universität Bremen, Germany, August 2007.
22. Math Colloquium, Rochester Institute of Technology, New York, June 2007.
23. Applied Math Colloquium, University of Waterloo, Canada, June 2007.
24. Institute of Industrial Technology and Management, Control Systems and Engineering, Rijksuniversiteit Groningen, The Netherlands, June 2007.
25. Signal and Image Processing Lab (ETIS), CNRS, Ecole National Supérieure de l'Electronique et de ses Applications, Cergy-Pontoise, France, September 2006.
26. Applied Math Colloquium, University of Maryland Baltimore County, February 2006.
27. Math Colloquium, Western Washington University, Bellingham, January 2006.

28. Center for Systems, Dynamics, and Control, School of Engineering and Applied Sciences, University of California, Los Angeles, November 2003.
29. Applied Math Colloquium, University of Southern California, Los Angeles, November 2003.
30. Applied Math Colloquium, University of California, Los Angeles, October 2003.
31. Computational and Applied Math Colloquium, Rice University, Houston, February 2003.
32. Applied Math Colloquium, University of Waterloo, Ontario, Canada, March 2002.
33. Center for Control Engineering and Computation, University of California, Santa Barbara, November 2001.

#### Conferences, Workshops, etc.

1. 2014 SIAM Annual Meeting, Chicago, Illinois, July 2014.
2. 2014 SIAM Conference on Optimization, San Diego, California, May 2014.
3. Joint Program Meeting, University of Alabama at Huntsville, November 2012.
4. RTG Workshop on Tensors and their Geometry in High Dimensions, University of California, Berkeley, October 2012.
5. International Conference on Spectral Theory of Tensor, Chern Institute, Nankai University, Tianjin, China, May 2012.
6. 5th Biennial Regional Meeting on Nonlinear Control and its Applications Meeting, University of Toronto, Canada, May 2012.
7. AFOSR-NSF Workshop on Computational Issues in Nonlinear Control, Monterey, California, November 2011.
8. 9th SIAM Conference on Control and Its Applications, Baltimore, Maryland, July 2011.
9. Workshop on Tensor Decompositions and Applications (TDA 2010), Monopoli, Bari, Italy, Sept 2010.
10. 2010 SIAM Annual Meeting, Minisymposium on Tensor Computations and Applications, Pittsburgh, Pennsylvania, July 2010.
11. AFOSR Workshop on Computational Issues in Nonlinear Control, Monterey, California, November 2009.
12. 17th European Signal Processing Conference, Glasgow, Scotland, August 2009.
13. Conference on Applied Inverse Problems, Vienna, Austria, July 2009.
14. 8th SIAM Conference on Control and Its Applications, Minisymposium on Model Development and Control Design for Hysteretic Systems, Denver, Colorado, July 2009.
15. 8th SIAM Conference on Control and Its Applications, Minisymposium on Numerical Solution of Riccati Equations, Denver, Colorado, July 2009.
16. AFOSR Conference on Sensing, Surveillance and Navigation, Arlington, Virginia, June 2009.
17. 16th European Signal Processing Conference, Lausanne, Switzerland, Aug 2008.
18. Mathematical Theory of Networks and Systems, Blacksburg, Virginia, July 2008.
19. Applied and Computational Harmonic Analysis, 5th World Congress of Nonlinear Analysts, Orlando, Florida, July 2008.
20. 3rd Biennial Regional Meeting on Nonlinear Control and its Applications Meeting, Waterloo, Canada, May 2008.

21. International Conference of Modeling, Estimation and Control, *in honor of Giorgio Picci's 65th Birthday*, Venice, Italy, October 2007.
22. 23rd IFIP Conference on System Modeling and Optimization, Krakow, Poland, July 2007.
23. 7th SIAM Conference on Control and Its Applications, San Francisco, California, June 2007.
24. 45th IEEE Conference on Decision and Control, San Diego, California, December 2006.
25. 22nd IFIP Conference on System Modeling and Optimization, Turin, Italy, July 2005.
26. 6th SIAM Conference on Control and Its Applications, New Orleans, Louisiana, July 2005.
27. 4th Annual Systems and Control Symposium, School of Engineering and Applied Sciences, University of California, Los Angeles, May 2005.
28. 10th Southern California Nonlinear Control Workshop, University of California, San Diego, May 2005.
29. Coupled Problems, Processes, and Phenomena: Modelling, Control, and Analysis, 4th World Congress of Nonlinear Analysts, Orlando, Florida, June 2004
30. 21st IFIP Conference on System Modelling and Optimization, INRIA, Sophia Antipolis, France, July 2003.
31. GO++ Winter School on Numerical Methods for HJ/HJB Problems, INRIA, Rocquencourt, France, December 2002.
32. Symposium on New Trends in Nonlinear Dynamics and Control and Their Application, *in celebration of Arthur J. Krener's 60th Birthday*, Monterey, California, October 2002.
33. Richard Tapia Symposium, Houston, Texas, October 2001.
34. 5th PIMS Industrial Problem Solving Workshop, University of Washington, Seattle, June 2001.
35. 2001 SIAM Annual Meeting, San Diego, California, July 2001.

### Outreach Talks

1. The Theodore Haddin Arts and Sciences Forum, College of Arts and Sciences, University of Alabama at Birmingham, January 2014.
2. Science Cafe, Clarkson University, October 2010.
3. NSF-REU Seminar, Department of Mathematics, SUNY Potsdam, June 2009.
4. Graduate Student Outreach Seminar, University of California, Los Angeles, May 2005.
5. Women in Mathematics, University of Waterloo, March 2003.

### Schools and Workshops Participation:

1. Women and Mathematics Program: Sparsity and Computation, Institute of Advanced Study, Princeton, May 16-27, 2011.
2. NSF-FRG Workshop on Quantum Spin Systems and Quantum Information Theory, University of Rochester, May 21-25, 2010.
3. 4th Biennial Regional Meeting on Nonlinear Control and its Applications, Queen's University, Kingston, Ontario, May 13-15, 2010.
4. 2010 Computational Optimization for Tensor Decompositions, American Institute of Mathematics, Palo Alto, California, March 29-April 2, 2010.

5. IPAM, Numerical Tools and Fast Algorithms for Massive Data Mining, Search Engines and Applications, University of California, Los Angeles, October 22-25, 2007.
6. IMA, Compressive Sampling and Frontiers of Signal Processing, University of Minnesota, Minneapolis, June 4-15, 2007

## ACADEMIC HONORS and FELLOWSHIPS

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2006 – 2007	CNRS Postdoctoral Fellowship, France
2003 – 2006	NSF-VIGRE Postdoctoral Fellowship, UCLA
2002	Alice Leung Mathematical Prize, UC Davis Math Department
2001	Best Poster Prize, Richard Tapia Symposium 2001
2000 – 2001	Research Mentorship Fellowship, UC Davis
1999 & 2002	Graduate Assistance in Areas of National Need Fellowship, UC Davis Math Department
1992 – 1996	NASA Junior Fellowship, NASA Ames Research Center, Mountain View, California
1992	Robert Moretti Scholarship, UC Berkeley
1991 – 1992	NASA SHARP Apprenticeship, NASA Ames Research Center, Mountain View, California

## TECHNICAL and LANGUAGE SKILLS

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- Computer Languages: C/C++, Fortran, Matlab, Maple, Mathematica
- Platforms: Mac OS, Linux, Windows
- Languages: English, French, Spanish, Tagalog

## PROFESSIONAL SERVICES

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- Organizer: (co-organizing with Mauricio Sacchi (University of Alberta), Martin Mohlenkamp (Ohio University), Luke Oeding (Auburn University) and Thomas Schultz (Universität Bonn)), BIRS: 5-Day Workshop on New Advances in Multilinear Algebra and Applications to Natural and Physical Sciences, Banff, Canada, 2016.
- Organizer: (co-organizing with Yanni Zheng, UAB) Hosting the SIAM Southeastern Atlantic Section Conference, Birmingham, March 20-22, 2015.
- Organizer: Minisymposia on Tensor Analysis, Computation and Application, 2014 SIAM Annual Meeting, Chicago, July 7-11, 2014.
- Organizer: (co-organized with Christino Tamon, Clarkson University) Minisymposia on Tensor Computation and Applications, 2010 SIAM Annual Meeting, Pittsburg, July 12-16, 2010.
- Organizer: (co-organized with Stefan Kindermann, Kepler Universität) Minisymposium on Inverse and Ill-Posed Problems in Tensor Decomposition, 2009 Applied Inverse Problem, Vienna, July 20-24, 2009.
- Organizer: (co-organized with Tobias Presseur, Universität Bremen) Minisymposia on "Optimization in Biomedical Applications," SIAM Conference on Optimization, Boston, May 10 - 13 2008.
- Organizer: (co-organized with Wei Kang, Naval Postgraduate School) Minisymposium on "Partial Differential Equations in Control Theory," SIAM Conference on Control and Its Application, San Francisco, June 29 - July 1st 2007.

- Referee Work: IEEE Transactions on Automatic Control, SIAM Journal of Matrix Analysis, SIAM Journal on Control and Optimization, Linear Algebra and its Applications, Journal of Signal Processing, Robotics and Autonomous System, Chemometrics and Intelligent Laboratory Systems, Electronic Journal Linear Algebra, Proceedings of the European Signal Processing Conference, Proceedings of the American Control Conference, Proceedings IEEE Conference of Control and Decision, Proceedings of European Control Conference, IEEE Transactions on Control Systems Technology, Quarterly Journal of Mechanics and Applied Mathematics, International Journal of Computer Mathematics, American Mathematical Monthly
- AWM Mentor: Mentoring women graduate students, February 2001-present.
- NSF Panel Reviewer, March 2010
- CAS Interdisciplinary Team Proposal Reviewer, Dec 2012
- UAB STEM Scholarship Committee: review internal Goldwater applicants (as well as other national fellowships), Jan 2013-Dec 2014
- UAB CIA-JFR Member: attend meetings for potential partner institution/funding agency (IBM, Alabama Power, Fidelity, UAB Bio and Medical Communities) and workshops (Big Data Workshop), Sept 2012-
- UAB Math Job Candidate Search Committee, 2013-2014, 2014-2015
- UAB Math Colloquium Organizer, 2014-2015
- PhD Thesis Committee Member: Brendan Mascarenhas (Mech Eng, Clarkson, 2009), Ahmad Almomani (Math, Clarkson, 2012), Song Gao (CIS, UAB, 2014)
- External Dissertation Reviewer: Arizona State (2010)
- Annual K-8 Mohawk Science Judge, 2009
- Moody's Mega Math Challenge Judge, 2010, 2011

## TEACHING ACTIVITIES

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### Teaching Activities at UAB.

- Spring 2015
  - Numerical Linear Algebra
  - Mathematical Modeling
  - Seminar Course in Mathematical Information Theory II
- Fall 2014
  - Calculus I
  - Scientific Programming
  - Seminar Course in Mathematical Information Theory I
- Spring 2014
  - Calculus II
  - Mathematical Modeling
  - Seminar Course in Control Theory and Optimization
- Fall 2013
  - Calculus I



- Scientific Programming
- Spring 2013
  - Calculus I
- Fall 2012
  - Calculus I

**Teaching Courses.**

- Seminar Course in Mathematical Information Theory (Graduate Level). UAB (Fall 2014, Spring 2015)
- Seminar Course in Control and Optimization (Graduate Level). UAB (Spring 2014)
- Seminar Courses in Numerical Analysis: Matrix and Tensor Decomposition, Sparse Factorization, Numerical Analysis in High Dimension, and Optimization (Graduate Level). Clarkson (Fall 2009, Spring 2010, Fall 2010, Fall 2011, Spring 2012)
- Seminar: Mathematical Writing (Graduate Level). Clarkson (Spring 2012)
- Numerical Linear Algebra (Graduate Level). Clarkson (Fall 2011) and UAB (Spring 2015)
- Numerical Analysis (Graduate level). Clarkson (Fall 2010)
- Fundamentals of Scientific Computing (Graduate level). Clarkson (Fall 2009)
- Finite Element Method (Graduate level). Clarkson (Fall 2008)
- Mathematical Control Theory (Graduate level). UCLA (Spring 2005)
- Numerical Differential Equations (Graduate level). UCLA (Fall 2004)
- Scientific Programming. UAB (Fall 2013, Fall 2014)
- Applied Linear Algebra. Clarkson (Spring 2010)
- Boundary Value Problems. Clarkson (Spring 2009, Spring 2012)
- Optimization. UCLA (Spring 2006)
- Numerical Methods. UCLA (Fall 2003, Winter 2004, Winter 2005) and Clarkson (Fall 2009, Fall 2010)
- Mathematical Modeling. UCLA (Spring 2004, Winter 2006), Clarkson (Spring 2010) and UAB (Spring 2014, Spring 2015)
- Differential Equations. UC Davis (Spring 1999), UCLA (Fall 2005) and Clarkson (Fall 2011, Spring 2012)
- Vector Calculus (Calculus III). RIT (Winter 2008) and Clarkson (Spring 2009)
- Matrices and Boundary Value Problems. RIT (Spring 2008)
- Calculus II. RIT (Fall 2007) and UAB (Spring 2014)
- Calculus I. UC Davis (Summer 1999), University of Waterloo (Fall 2002) and UAB (Fall 2012, Spring 2013, Fall 2013, Fall 2014)

## RESEARCH SUPERVISING

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### Postdoctoral Scholars

- Xiaofei Wang, PhD (2010) in Mathematics, Northeast Normal University, China. Visiting UAB 2014-2015.

### PhD Students

- Na Li, PhD (2013) in Mathematics, Clarkson University  
PhD Thesis: Variants of the ALS Method for Tensor Decomposition with Applications (published five papers)  
Current Position: Mathematician at MathWorks, Boston.  
Supported by NSF DMS 0915100 (PI: Navasca)

### MS Students

- Christina Glenn  
Project: Canonical Polyadic Decompositions with Applications  
Current Position: MS Graduate student in Mathematics, University of Alabama at Birmingham, expected 2015
- Nichole Pompey, MS (2014) in Mathematics, University of Alabama at Birmingham  
Project: Randomized Numerical Linear Algebra  
Current Position: Lecturer at Samford University, Homewood, AL
- Abdoulaye Bagayoko, MS (2007) and PhD (2010) in Electrical Engineering, Université de Cergy-Pontoise and Ecole Nationale Supérieure de l'Électronique et de ses Applications (ENSEA), France  
Master's Thesis: Tensor Decomposition in the Presence of Non-Gaussian Noise  
Current Position: Communications System Engineer at NEC Technologies, United Kingdom

### Other Graduate Students

- Lam Tran, MS (2008) in Mathematics/Statistics/Computer Science, University of Rochester  
Project: Applications of Compressed Sensing in Image/Video Analysis (published one paper)  
Current Position: Engineer at Samsung, San Jose, California
- Michael Brazell, MS (2009) and PhD (2012) in Mechanical Engineering, Clarkson University (Advisor: Brian Helenbrook)  
Project: Numerical Multilinear Algebra Methods (published one paper)  
Current Position: Postdoctoral Fellow in Mechanical Engineering, University of Wyoming.

### Undergraduate Students

- Tandin Dorji  
Project: Tensor SVD for Time Series Analysis  
Current Position: Undergraduate in Mathematics at University of Alabama at Birmingham, expected 2015.
- Alexandra Fry  
Project: Solving Sparse Multilinear Systems for Gene Interactions Analysis (published one paper)  
Current Position: Fast Track Undergraduate in Mathematics at University of Alabama at Birmingham, expected 2016.
- Zachariah Ingram (met with me to learn Numerical Analysis, advised by Aaron Lucius, Chemistry, UAB)  
Project: Numerical Analysis in Chemical Kinetics  
Current Position: Fast Track Undergraduate in Mathematics at University of Alabama at Birmingham, expected 2015.
- Jarrod Hicks (read with me, June-July 2013)  
Project: Tensors and the Human Brain Connectome  
Current Position: Fast Track Undergraduate in Mathematics/Neuroscience at University of Alabama at Birmingham, expected 2016.

- Andrew Doyle, BS in Physics/Chemical Engineering, Clarkson University, 2012  
Project: Tensor Computation in Controlling Nanostructures  
Current Position: Graduate student in Chemical Engineering, Stanford University
- Alexander Thomas  
Project: Tensor Symmetries  
Current Position: High school senior/Undergraduate student in Mathematics and Computer Science, The Clarkson School, Clarkson University, expected 2014
- Ryan Sigurdson, BS in Mathematics and Economics, University of Rochester, 2012  
Project: Randomized Tensor Algorithms for Data Mining (published one paper)  
Current Position: Graduate student in Operations Research, Cornell University  
Supported by NSF DMS 0915100 (PI: Navasca)
- Melissa Shepard, BS in Mathematics, Clarkson University, 2012  
Project: Higher-Order Tensor Visualization and Representation  
Supported by NSF DMS 0915100 (PI: Navasca)
- Maggie Leung, BS in Chemical Engineering, Clarkson University, 2012  
Project: Tensor Computation in Environmetrics  
Current Position: Graduate student in Bioengineering, University of Virginia  
Supported by NSF DMS 0915100 (PI: Navasca)
- Jason Holloway, BS in Physics/Electrical Engineering with Math minor, Clarkson University, 2010  
Project: Recovery of Tensor Data via Compressed Sensing (published one paper)  
Current Position: Graduate student in Electrical Engineering, Rice University  
Supported by NSF DMS 0915100 (PI: Navasca)
- Meghdi Aboulian, BS in Mathematics, UCLA, 2007, M.S. in Mathematics, USC, 2009  
Topic: Mathematical modeling of motion camouflage (NSF-REU Project, published one paper)  
Current Position: Engineer at Raytheon, Los Angeles, California  
Supported by NSF RTG DMS 0601395 (PI: Bertozzi)
- Ani Asatryan, BS in Mathematics, UCLA, 2007  
Topic: Analysis of pursuit-evasion system (NSF-REU Project, published one paper)  
Current Position: Graduate student in Mathematics, University of California, Irvine  
Supported by NSF RTG DMS 0601395 (PI: Bertozzi)
- Vatche Attarian, BS in Engineering, Harvey Mudd, 2007, PhD in Mechanical Engineering, Imperial College London, 2014  
Topic: Numerical methods for solving pursuit-evasion system (NSF-REU Project, published one paper)  
Current Position: Engineer at Samsung, San Jose, California  
Supported by NSF RTG DMS 0601395 (PI: Bertozzi)
- Krystle McBride, BS in Mathematics, Harvey Mudd College, 2007  
Topic: Dynamic coordinated control laws in multiple agent models (NSF-REU Project, published one paper)  
Current Position: Engineer at AECOM, Oakland, California  
Supported by NSF RTG DMS 0601395 (PI: Bertozzi)
- Hai Nguyen, BS in Mathematics, UCLA, 2005, PhD in Statistics, UCLA, 2010  
Topic: Level set methods  
Current Position: Postdoctoral Scholar at Caltech/ NASA Jet Propulsion Laboratory
- Celeste Velasquez, BS in Mathematics, UCLA, 2005  
Topic: Artificial fish modeling  
Current Position: Engineer at Boeing Company, Los Angeles