

Curriculum Vitae

Misha Elena Kilmer

Department of Mathematics

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Current Status

William Walker Professor of Mathematics

Chair of Mathematics, Tufts University

Adjunct Professor of Computer Science, Tufts University

Education

Dec. 1997 Ph.D. in Applied Mathematics, University of Maryland, College Park

May 1994 M.A. in Mathematics, Wake Forest University

May 1992 B.S. in Mathematics, Magna Cum Laude, Computer Sci. Minor, Wake Forest University

Research Interests

Numerical Linear Algebra, Scientific Computing, Inverse Problems, Multilinear Algebra

Employment Background

09/16 – current William Walker Professor of Mathematics, Tufts University

09/05 – 08/16 Professor, Mathematics, Tufts University (**promoted directly to Full**)

09/99-08/05 Assistant Professor, Mathematics, Tufts University

01/98-08/99 Visiting Scientist, ECE Dept., Northeastern University, Boston, MA

09/95-12/97 Research Assistant, University of Maryland, College Park, MD

09/93-05/94 Graduate Assistant, Radiology Department, Engineering Group, Bowman Gray School of Medicine, Winston-Salem, NC

Publications

I. Journal or Refereed Conference Publications: Published/Accepted/In-Review

1. Elizabeth Newman, Misha E. Kilmer, Lior Horesh, “Image classification using local tensor singular value decompositions,” submitted to CAMSAP, 2017. See also <https://arxiv.org/abs/1706.09693>.
2. Meghan O’Connell, Misha E. Kilmer, Eric de Sturler, Serkan Gugercin, “Computing Reduced Order Models via Inner-Outer Krylov Recycling in Diffuse Optical Tomography,” SIAM J. Sci. Comput., April 2017. See also <http://arxiv.org/abs/1602.00138>.
3. Jiani Zhang, Arvind Saibaba, Misha Kilmer, Shuchin Aeron, “A Randomized Tensor Singular Value Decomposition Based on the t-Product,” submitted, 2017. See also <https://arxiv.org/abs/1609.07086>.
4. Selin Aslan, Eric de Sturler, Misha Kilmer, “Randomized Approach to Nonlinear Inversion Combining Simultaneous Random and Optimized Sources and Detectors,” Submitted, 2017. See also <https://arxiv.org/abs/1706.05586>.
5. E. Kernfeld, N. Majumder, S. Aeron, M. Kilmer “Multilinear Subspace Clustering”, IEEE Statistical Signal Processing, Aug. 2016. See also <http://arxiv.org/abs/1512.06730> for an earlier version.
6. Sara Soltani, Misha E. Kilmer, Per Christian Hansen, “A Tensor-Based Dictionary Learning Approach to Tomographic Image Reconstruction,” BIT Numer Math, published online Feb. 2016, in print Dec. 2016. DOI 10.1007/s10543-016-0607-z.

7. Julianne Chung, Misha E. Kilmer, and Dianne P. O’Leary, “A Framework for Regularization via Operator Approximation,” *SIAM J. Sci. Comput.*, Vol. 37, No. 2, B332-B359, 2015.
8. Serkan Gugercin, Eric de Sturler, Misha E. Kilmer, Saifon Chaturantabut, Christopher Beattie and Meghan O’Connell, “Nonlinear Parametric Inversion Using Interpolatory Model Reduction”, *SIAM J. Sci. Comput.*, Vol 37, No. 3, A1139-C438, 2015.
9. Arvind Saibaba, Misha E. Kilmer, Eric L. Miller and Sergio Fantini, “Fast algorithms for hyperspectral Diffuse Optical Tomography,” *SIAM J. Sci. Comput.*, 37(5), B712–B743, 2015.
10. Gregory Ely, Shuchin Aeron, Ning Hao, Misha Kilmer, “5D seismic data completion and de-noising using a novel class of tensor decompositions,” *Geophysics*, vol 80, issue 4, V83-V95, 2015.
11. Eric Kernfeld, Misha E. Kilmer, Shuchin Aeron, “Tensor-Tensor Products with Invertible Linear Transforms,” *Linear Algebra and its Applications*, Vol 485, 545-570, Nov 2015.
12. Masoud Sanayei, Christopher J. DiCarlo, Peeyush Rohela, Eric L. Miller, Misha E. Kilmer, “Sensor Placement using Fisher Information Matrix for Robust Finite Element Model Updating,” *SRESA Journal of Life Cycle Reliability and Safety Engineering*, Vo. 4, Issue 2, 2015.
13. Malena I. Espanol and Misha E. Kilmer, “A Wavelet-Based Multilevel Approach for Blind Deconvolution Problems,” *SIAM J. on Scientific Computing*, Vol. 36, A1432–A1450, 2014.
14. Z. Zhang, G. Ely, S. Aeron, N. Hao, M. Kilmer, “Novel methods for multilinear data completion and de-noising based on tensor-SVD,” *Computer Vision and Pattern Recognition (CVPR)*, (also accepted for oral presentation **5.45% acceptance rate**), July 2014.
15. Oguz Semerci, Ning Hao, Misha E. Kilmer, Eric L. Miller, “Tensor Based Formulation and Nuclear Norm Regularization for Multienergy Computed Tomography,” *IEEE Transactions on Image Processing*, Vol. 23, No. 4, Apr. 2014.
16. Donghui Chen, Misha E. Kilmer, Per Christian Hansen, “‘Plug-and-Play’ Edge-Preserving Regularization,” *Electronic Transactions on Numerical Analysis*, Vol 41, 465 -- 477, 2014.
17. G. Ely, S. Aeron, N. Hao and M. E. Kilmer, “5D and 4D pre-stack seismic data completion using tensor nuclear norm (TNN)”, *SEG 2013*, Houston, TX, USA.
18. Fridrik Larusson, Pamela G. Anderson, Elizabeth Rosenberg, Misha E. Kilmer, Angelo Sassaroli, Sergio Fantini, Eric L. Miller, “Parametric Estimation of 3D tubular Structures for Diffuse Optical Tomography,” *Biomedical Optics Express*, Vol 4, 271-- 286, 2013.
19. Alexander Nectow, Misha E. Kilmer and David Kaplan, “Quantitative Assessment of Nerve Cell Alignment,” *Tissue Engineering Part C: Methods*, 2013.
20. Ning Hao, Misha E. Kilmer, Karen Braman and Randy C. Hoover, “Facial Recognition using Tensor-Tensor Decomposition,” *SIAM Journal on Imaging Science*, 6(1), 437-463, 2013.
21. Misha E. Kilmer, Karen Braman, Ning Hao and Randy C. Hoover, “Third Order Tensors as Operators on Matrices: A Theoretical and Computational Framework with Applications in Imaging,” *SIAM J. on Matrix Analysis and Applications*, 34(1), pages 148-172, 2013.
22. Alexander Nectow, Eun Seok, David Kaplan and Misha E. Kilmer, “A Statistical Algorithm for Assessing Cellular Alignment,” *Journal of Biomedical Materials Research: Part A*, 101 (3), pages 884-91, 2012.
23. Donghui Chen, Scott MacLachlan, and Misha E. Kilmer, “Iterative Parameter Choice & Algebraic Multigrid for Anisotropic Diffusion Denoising,” *Copper Mountain 2010 special issue*, *SIAM J. Sci. Comput.* 33, 2011, pp. 2972-2994.
24. Alireza Aghasi, Misha E. Kilmer, Eric Miller, “Parametric Level Set Methods for Inverse Problems,” *SIAM J. Imaging Sci.* 4, 2011, pp. 618-650.
25. Eric de Sturler and Misha E. Kilmer, “A Regularized Gauss-Newton Trust Region Approach to Imaging in Diffuse Optical Tomography,” *Copper Mountain 2010 Special Issue*, *SIAM J. Sci. Comput.* 33, 2011, pp. 3057-3086.
26. Misha E. Kilmer and Carla D. Martin, “Factorization Strategies for Third-Order Tensors,” *Linear Algebra and its Applications* (special issue in honor of G.W. Stewart), Vol. 435, Aug. 2011, pp 641-658.

27. Malena I. Espanol and Misha E. Kilmer, "A Multilevel Approach for Signal Restoration Problems with Toeplitz Matrices," *SIAM J. Sci. Comput.*, Copper Mountain Conference on Iterative Methods Special Issue, vol. 32, 2010, pp. 299-310.
28. Per Christian Hansen and Misha E. Kilmer, "A Parameter Choice Method that Exploits Residual Information," *PAMM*, Special Issue: Sixth International Congress on Industrial and Applied Mathematics (ICIAM07) and GAMM Annual Meeting, Zurich, 2007, Vol. 7, Issue 1, Dec. 2007.
29. Damon Hyde, Misha E. Kilmer, Eric Miller, Dana Brooks, "Analysis and Exploitation of Matrix Structure Arising in Linearized Inverse Scattering," *SIAM J. Matrix Anal. Appl.*, Vol. 29, pp. 1065-1082, 2007.
30. Misha E. Kilmer and James Nagy, "Kronecker Product Approximations for Dense Block Toeplitz-plus-Hankel matrices," *Numerical Linear Algebra with Applications*, Vol. 14, 2007, pp. 581-602.
31. W. S. Hoge, M. E. Kilmer, C. Zacarias-Almarcha, D. H. Brooks, "Fast Regularized Reconstruction of Non-uniformly Subsampled Partial-Fourier Parallel MRI Data," *International Symposium on Biomedical Imaging*, 2007 Proceedings (peer-reviewed).
32. Misha E. Kilmer, Per Christian Hansen and Malena Espanol, "A Projection-based Approach to General Form Tikhonov Regularization," *SIAM J. Sci. Comput.*, Vol. 29, p 315-330, 2007.
33. W. S. Hoge, M. E. Kilmer, S. J. Haker, D. H. Brooks, W. E. Kyriakos, "Fast Regularized Reconstruction of Non-Uniformly Subsampled Parallel MRI Data," *International Symposium on Biomedical Imaging*, 2006 Proceedings (peer-reviewed).
34. Per Christian Hansen, Misha E. Kilmer and Rikke Kjellden, "Exploiting Residual Information in the Parameter Choice for Discrete Ill-Posed Problems," *BIT*, Vol 46, pp. 41-59, 2006.
35. Misha E. Kilmer and Eric de Sturler, "Recycling Subspace Information for Diffuse Optical Tomography," *SIAM J. Sci. Comput.*, Vol. 27, No. 6, pp. 2140-2166, 2006.
36. James Nagy and Misha E. Kilmer, "Kronecker Product Approximation for Three-Dimensional Imaging Applications," *IEEE Trans. Image Proc.*, Vol. 15, No. 3, Mar. 2006.
37. Ang Li, Greg Boverman, Yiheng Zhang, Dana Brooks, Quan Zhang, Elizabeth Hillman, Misha Kilmer, Eric Miller, David Boas, "An Optimal Linear Inverse Solution Given Multiple Priors in Diffuse Optical Tomography," *Applied Optics*, accepted for publication, Nov. 2004.
38. Misha E. Kilmer and Carla Martin, "Decomposing a Tensor," *SIAM News*, Vol. 37, No. 9, Nov. 2004.
39. Misha Kilmer, Eric Miller, Marco Enriquez, David Boas, "Cortical Constraint Method for Diffuse Optical Brain Imaging," *SPIE Proceedings of the Annual Meeting*, Vol. 5559, 2004, pp. 381-391.
40. M. Horn, C. Cao, M. Kilmer, L. Baise, S. Hassoun, D. Souvaine, "Model for Mentoring and Retaining Engineering Students from Underrepresented Groups," *Proceedings of the ASEE New England Section 2004 Annual Conference*, 2004.
41. Carey M. Rappaport, Qiuzhao Dong, Emmett Bishop, A. Morgenthaler, Misha E. Kilmer, "Finite Difference Frequency Domain (FDFD) Modeling of Two Dimensional TE Wave Propagation," *URSI Symposium Conference Proceedings*, Pisa, Italy, May 2004.
42. Misha E. Kilmer, Eric Miller, Alethea Barbaro, David Boas, "3D Shape-Based Imaging for Diffuse Optical Tomography," *Applied Optics*, Vol. 42, pp. 3129-3144, 2003.
43. Ang Li, E. Miller, M. Kilmer, T. Brukilacchio, T. Chaves, J. Stott, Q. Zhang, T. Wu, M. Chorlton, R. Moore, D. Kopans, D. Boas, "Tomographic Optical Breast Imaging Guided by 3-D Mammography," *Applied Optics*, 2003.
44. Eric Miller, Margaret Cheney, Misha E. Kilmer, Gregory Boverman, Ang Li, David Boas, "Feature-Enhancing Inverse Methods for Limited-View Tomographic Imaging Problems," *Subsurface Sensing Technologies and Applications*, Vol. 4, No. 4, pp. 327-353, 2003.
45. Murat Belge, Misha E. Kilmer, Eric L. Miller, "Efficient Selection of Multiple Regularization Parameters in a Generalized L-curve Framework," *Inverse Problems*, Vol. 28, pp. 1161-1183, 2002.
46. D. Boas, D. Brooks, E. Miller, C. DiMarzio, M. Kilmer, R. Gaudette, Q. Zhang, "Imaging the Body with Diffuse Optical Tomography," *IEEE Signal Processing Magazine*, Vol. 18, No. 6, pp. 57-75, 2001.

47. Misha E. Kilmer and Dianne P. O’Leary, “Choosing Regularization Parameters in Iterative Methods for Ill-Posed Problems,” *SIAM Journal on Matrix Analysis and Applications*, Vol. 22, No. 4, pp. 1204-1221, 2001.
48. Misha E. Kilmer, Eric Miller, Carey Rappaport, “A QMR-based Projection Technique for the Solution of Non-Hermitian Systems with Multiple Right Hand Sides,” *SIAM Journal on Scientific Computing*, Vol. 23, No. 3, pp. 761-780, 2001.
49. Murat Belge, Misha E. Kilmer, Eric Miller, “Wavelet Domain Image Restoration with Adaptive Edge-Preserving Regularization,” *IEEE Transactions on Image Processing*, Vol. 9, No. 4, p 598-608, 2000.
50. Misha E. Kilmer, Eric L. Miller, David Boas, Dana Brooks, “A Shape-Based Reconstruction Technique for DPDW Data,” *Optics Express (focused issue)*, Vol. 7, No. 13, pp. 461, 2000.
51. Eric L. Miller, Misha E. Kilmer, Carey Rappaport, “A New Shape-Based Method for Object Localization and Characterization from Scattered Field Data,” *IEEE Transactions on Geoscience and Remote Sensing*, Vol. 38, No. 4, pp. 1682-1696, 2000.
52. Carey Rappaport, Misha E. Kilmer, Eric Miller, “Accuracy Considerations in Using the PML ABC with FDFD Helmholtz Equation Computation,” *Focused Issue of the International Journal of Numerical Modelin*, Vol. 13, No. 471, pp. 471-482, 2000.
53. Rick Gaudette, Dana Brooks, Charles DiMarzio, Misha Kilmer, Eric Miller, Tom Gaudette, David Boas, “A Comparison Study of Linear Reconstruction Techniques for Diffuse Optical Tomographic Imaging of the Absorption Coefficient,” *Physics in Medicine and Biology*, Vol. 45, No. 4, pp. 1051-1070, 2000.
54. Misha E. Kilmer, “Cauchy-like Preconditioners for 2-Dimensional Ill-posed Problems,” *SIAM Journal on Matrix Analysis and Applications*, Vol 20, No. 3, 1999. Awarded 1997 SIAM Student Paper Prize.
55. Misha E. Kilmer and Dianne P. O’Leary, “Pivoted Cauchy-like Preconditioners for the Regularized Solution of Ill-Posed Problems,” *SIAM Journal on Scientific Computing*, Vol. 21, No. 1, 1999.
56. Misha E. Kilmer and G. W. Stewart, “Iterative Regularization and MINRES,” *SIAM Journal on Matrix Analysis and Applications*, Vol 21, No. 2, pp. 613-628, 1999.
57. C. Rappaport, S. Wu, M. Kilmer, E. Miller, “Distinguishing Shape Details of Buried Non-metallic Mine-like objects with GPR,” *SPIE Aerosense Conference*, Orlando, FL, pp. 1419-1428, April 1999.
58. Misha E. Kilmer, Eric L. Miller, David A. Boas, Dana H. Brooks, Charles A. DiMarzio, and Richard J. Gaudette, “Direct Object Localization and Characterization from Diffuse Photon Density Wave Data,” *Jan. 1999 Proceedings of the SPIE Photonics West Conference*, 1999.
59. Misha E. Kilmer, “Regularization of Ill-Posed Problems Using (Symmetric) Cauchy-like Preconditioners,” *Proceedings of the Annual SPIE meeting, Advanced Signal Processing Algorithms, Architectures, and Implementations VIII*, 1998.
60. Murat Belge, Misha E. Kilmer, Eric Miller, “Simultaneous Selection of Multiple Regularization Parameters by Means of the L-hypersurface Method,” *Proceedings of the SPIE Annual Meeting, Bayesian Inference for Inverse Problems*, 1998.
61. Misha E. Kilmer, “Regularization of Ill-Posed Problems,” *Ph.D. dissertation*, University of Maryland, College Park, Dec. 1997.
62. Misha Clark, “An Iterative Reconstruction Technique for Positron Emission Tomography,” *Master’s thesis*, Mathematics and Computer Science Department, Wake Forest University, April 1994.

II. Books

Selected Works of G. W. Stewart, with Commentaries, Misha E. Kilmer and Dianne P. O’Leary, Editors. Birkhauser. July, 2010.

III. Book Chapters (Invited)

Ning Hao, Lior Horesh, and Misha E. Kilmer, *Nonnegative Tensor Decomposition*, in *Compressed*

Sensing and Sparse Filtering, Springer Series on Signals and Communication Technology, Avisha Y. Carmi, Lyudmila Mihaylova, Simon J. Godsill, Eds., 2014.

<http://www.springer.com/engineering/signals/book/978-3-642-38397-7>

Ning Hao, Lior Horesh, and Misha E. Kilmer, *Nuclear norm optimization and its application to observation model specification*, in Compressed Sensing and Sparse Filtering, Springer Series on Signals and Communication Technology, Avisha Y. Carmi, Lyudmila Mihaylova, Simon J. Godsill, Eds., 2014. <http://www.springer.com/engineering/signals/book/978-3-642-38397-7>

IV. In Preparation (selected)

63. Misha E. Kilmer, Eric L. Miller, James Nagy, Oguz Semerci, “An Inner-outer Iterative Methods for Edge Preservation in Image Restoration and Reconstruction”
64. Scott MacLachlan, Matthias Bolten, Misha E. Kilmer, “AMG Preconditioning for Regularized Least Squares”.
65. Jiani Zhang, Lior Horesh, Haim Avron, Misha E. Kilmer, “Tensor-based Proper Orthogonal Decomposition.”
66. Meghan O’Connell, Misha E. Kilmer, Eric de Sturler “Krylov Recycling for Sequences of Shifted Systems with Multiple Right-Hand Sides.”

IV. Unpublished Manuscripts Available Upon Request

Misha E. Kilmer, Eric Miller, Carey Rappaport, “Preconditioners for Structured Matrices Arising in Subsurface Object Detection,” 1999.

V. Selected ArXiv or Technical Reports

1. Z. Zhang, G. Ely, S. Aeron, N. Hao, M. E. Kilmer “Novel Factorization Strategies for Higher Order Tensors: Implications for Compression and Recovery of Multi-linear Data,” arXiv:1307.0805.
2. Per Christian Hansen, Misha E. Kilmer, Rikke Kjellden, “Exploiting Residual Information in the Regularization of Discrete Ill-Posed Problems,” IMM-Technical Report Number 2002-18, Technical University of Denmark, Lyngby, Denmark, 2002.
3. Misha E. Kilmer, “Symmetric Cauchy-like Preconditioners for the Regularized Solution of 1-D Ill-Posed Problems,” Technical Report CS-TR-3851, Computer Science, UMCP, Dec. 1997.

Editorial Work

- Section Editor, SIAM Review, Research Spotlights, Jan. 2018 --
- SIAM Journal for Matrix Analysis and Applications, Assoc. Editor, Jan. 2012 – current
- SIAM Journal for Scientific Computing, Associate Editor, Jan. 2009 – current
- SIAM Journal for Scientific Computing, Special Issue Editor (Copper Mountain Conference on Iterative Methods), current
- SIAM Undergraduate Research On-line, Jan. 2008 – Jan 2014
- Linear Algebra and its Applications, Special Issue Editor (Issue in Honor of G. W. (Pete) Stewart’s 70th birthday), Jan. 2009 – Fall 2010

Seminars, Conferences and Workshops

Plenary/Keynote Talks:

- PCH 60: Computational Inverse Problems, Denmark, Aug. 2017.
- Manitoba Workshop on Mathematical Imaging Science, May 2017.
- SIAM Computational Science and Engineering, Atlanta, Feb. 2017.
- Keynote speaker, Mid-Atlantic Numerical Analysis Day, Temple University, Nov. 2015.

- Householder Symposium, XIX, Spa, Belgium, June 2014.
- SIAM Applied Linear Algebra Meeting, Valencia, Spain, June 2012.
- Householder Symposium XVIII, June 2011.
- Householder Symposium XVII, Zuethen, Germany, June 2008.
- Preconditioning 2005, Emory University, Atlanta, May 2005.
- Householder Symposium XVI, PA, May 2005.
- SIAG-LA speaker, ILAS Annual Meeting, Auburn University, June 2002.

Invited Colloquia/Distinguished Lecture Series/ Seminar Talks:

- ICERM: Recent Advances in Seismic Modeling and Inversion: From Analysis to Applications, Fall 2017.
- Distinguished Lecture Series in Computational Science and Engineering, MIT, April 2017.
- Algorithm and Theory Distinguished Lecture Series, IBM Watson, Dec. 2016.
- Mathematics Department Colloquium, VA Tech, Nov. 2014.
- Tufts University OGSM, Apr. 2013.
- Colloquium speaker, VA Tech, Nov. 2012.
- Inverse Problems Seminar, Distinguished Lecture Series, VA Tech, Nov. 2011.
- Thematic Year on Mathematics on Medical Imaging, Workshop invited speaker, Vancouver, BC, Oct. 2011.
- Mathematics Colloquium speaker, Clarkson University, April 2011.
- New England Numerical Analysis Day, April 2011.
- CS Dept. Seminar Speaker, University of Maryland, College Park, Dec. 2010.
- Numerical Analysis Seminar speaker, University of Maryland, College Park, Nov. 2010.
- MIT Imaging Seminar, Feb. 18, 2010.
- SIAM Student Chapter Speaker, UMASS Dartmouth, Nov. 2009.
- SIAM Student Chapter Speaker, Tufts University, Oct. 2009.
- ECE Distinguished Lecture Series, Northeastern University, Sept. 2008.
- Seminar speaker, Institute for Mathematical Modelling, Technical Univ. of Denmark, May 2006.
- Mathematics Colloquium speaker, West Point, West Point, NY, April 2006.
- Invited Numerical Analysis seminar speaker, Virginia Tech, Blacksburg, VA, Feb. 2006.
- Joint Mathematics and Computer Science colloquium speaker, Wake Forest University, Winston-Salem, NC, Mar. 2006.
- Invited seminar speaker, Computer Science Dept., Univ. of IL at Urbana-Champaign, May 2004.
- Invited PIMS workshop speaker, Workshop on Linear Algebra and Related Applications, CS Dept., UBC, Aug. 2003.
- Colloquium speaker, Computer Science Dept., Tufts University, Nov. 2003.
- Colloquium speaker, Mathematics Dept., UMASS Dartmouth, Oct. 2003.
- Invited guest speaker, All Girls All Math Workshop, University of Lincoln, Nebraska, July 2002.
- Invited speaker, Numerical Analysis Seminar, Courant Institute, Feb. 28, 2003.
- Mathematics Department, Worcester Polytechnic Inst., Spring 2003.
- Computational Science Seminar, Emory University, Jan. 2003.
- Invited speaker, Boston University Computational Science Seminar, Spring 2001.
- Invited speaker, Inverse Problems Seminar, Technical University of Denmark, Nov. 2001.

- Invited participant, expenses paid, AMS/IMS/SIAM Joint Summer Research Conference on Structured Matrices, Mt. Holyoke College, Aug. 2001.
- Invited seminar speaker, Chinese University of Hong Kong, Math Dept., May 2000.
- Invited speaker at the Workshop on 3D Numerical Modeling and Visualization, Northeastern University, Nov 2000.
- Invited speaker, Linear Algebra: Theory, Applications, and Computations, A Conference in Honor of Bob Plemmons' 60th Birthday, Wake Forest University, Winston-Salem, NC, 1999.
- Invited speaker, Mathematics Department Colloquium, University of Massachusetts, Dartmouth Campus, Oct. 1998.
- Industrial Mathematics Seminar, Mathematics Dept., Northeastern Univ., Boston, May 1998.
- Multi-Dimensional Signal Processing Laboratory Seminar, Boston University, Mar. 1998.
- Numerical Analysis Seminar, University of Maryland, College Park, MD, Sept. 1997.
- Colloquium speaker, Wake Forest University Department of Mathematics and Computer Science, Nov. 1996.

Conference/Minisymposia Organization (see also program cmtes under service):

- Minisymposium organizer (SIAG-LA *invited*), SIAM Annual Meeting, July 2016.
- Minisymposium co-organizer, SIAM Imaging Sciences, May, 2016.
- Minisymposium co-organizer, *Celebrating the Contributions of Dianne P. O'Leary*, SIAM Applied Linear Algebra, 2015.
- Minisymposium co-organizer (x 2), SIAM Computational Science and Engineering, 2015.
- Minisymposium co-organizer and speaker, AWM 40 Years and Counting, ICERM, Brown Univ., 2011.
- Mini-symposium co-organizer and speaker, 2011 SIAM Computational Science and Engineering, Reno, NV, 2011.
- Conference co-organizer, *Conference in Honor of the retirement and 70th Birthday of G. W. (Pete) Stewart*, UT Austin, 2010.
- Minisymposium co-organizer, "Approximate Structured Factorization Algorithms for Tensors," SIAM Computational Science and Engineering, Miami, 2009.
- Minisymposium organizer, *Linear Algebra in Image Processing*, SIAM Annual Meeting, 2005.
- Minisymposium co-organizer, *Numerical Linear Algebra in Image Processing*, ICIAM, Zurich, 2007.
- Minisymposium co-organizer, SIAM Computational Science and Engineering Meeting, Orlando, 2005.

Invited Minisymposium Talks (*)/Contributed Talks:

- *SIAM Annual Meeting, Session on "Model reduction approaches in wavefield simulations and imaging," July, 2016.
- *ICIAM 2015, China, Mini on Optimality in reduced order modeling and inversion, Aug 2015.
- *ICIAM 2015, China, Mini on Image restoration: new algorithms and new applications, 2015.
- Copper Mountain Conference on Iterative Methods, April, 2014.
- *SIAM Annual Meeting minisymposium, New Advances in SVD methods, San Diego, CA, 2013.
- *International Linear Algebra Society Annual Meeting, invited minisymposium on Tensors, Providence, RI, June, 2013.
- *SIAM CS&E, (x2) Boston, MA, Feb. 2013.
- Copper Mountain Conference on Iterative Methods, Copper Mountain, CO, Mar 2012.
- *PIERS, Cambridge, MA, July 2010.

- *ILAS 2010, Pisa, Italy, June 2010.
- *SIAM Applied Linear Algebra Conference, Monterey, CA, Oct. 2009.
- *New England Numerical Analysis Day, University of Rhode Island, URI, April 2009.
- *ECE Distinguished Lecture Series, Northeastern University, Sept. 2008.
- *SIAM Annual Meeting, Minisymposium “Regularization Parameter Selection for Ill-Posed Problems,” San Diego, CA, July 2008.
- Contributed talk, Copper Mountain Conference on Iterative Methods, April 2008.
- Speaker, Schlumberger-Tufts Computational and Applied Math Seminar Series, March, 2008.
- *ICIAM 2007, mini “Trends in Tomography”, Zurich, July 2007.
- *ICIAM 2007, mini “Solution Methods for Sequences of Linear Systems and Applications”, Zurich, 2007.
- *Invited minisymposium speaker and contributed session speaker, Joint GAMM-SIAM Conference on Applied Linear Algebra, Duesseldorf, Germany, July, 2006.
- *Invited minisymposium speaker and AWM mentor, SIAM Annual Meeting, Boston, MA 2006.
- *SIAM Imaging Science Conference, University of MN, May 2006.
- Contributed talk, 2006 Copper Mountain Conference on Iterative Methods, April 2006.
- AMS Special session* “The Radon Transform and Inverse Problems,” 2005 AMS National Meeting, Atlanta, January 5-8.
- *SPIE Advanced Signal Processing Algorithms, Architectures, and Implementations XIV, Denver, 2004
- Workshop on Tensor Decompositions, CA, July 2004.
- *SIAM Conference on Imaging Science, May 2004.
- Copper Mountain Conference on Iterative Methods, Copper Mountain, CO, Mar. 2004.
- Women in Applied Math Leadership and Research Workshop, UMCP, Oct. 2003.
- *SIAM Conference on Applied Linear Algebra, July 2003.
- Attendee, SIAM Annual Meeting, Montreal, Canada, June 2003.
- *Applied Inverse Problems: Theoretical and Computational Aspects, Lake Arrowhead, 2003.
- Attended POMDP (Partially Observable Markov Decision Processes) seminar series Mondays at Draper Lab, Summer 2002.
- Sandia National Labs Workshop on Circuit Simulation and Design, Santa Fe, NM, April 2002.
- SIAM Imaging Conference, Boston, Feb. 2002.
- Speaker, Northeastern University Workshop on Breast Imaging, Jan. 2002.
- *BIT 40th Anniversary Conference, Minisymposium “Discrete ill-posed problems,” Lund, Sweden, 2000.
- Math Department Colloquium, Tufts University, Feb. 2000.
- *Invited speaker at the special session “Linear Algebra and Optimization”, AMS-MAA-SIAM Joint meeting, Washington D.C., Jan. 2000.
- Attendee, Conference in Honor of Gilbert Strang’s 60th birthday, MIT, Dec. 1999.
- *Householder Symposium, Whistler, B.C., June 1999.
- SIAM Annual Meeting in Atlanta, GA, May 1999.
- Conference in Honor of Richard Varga’s birthday, Kent State, Mar. 1999.
- *SIAM Annual Meeting, Minisymposium “Numerical Methods for Structured Matrices and Applications,” Toronto, Canada, Jul. 1998.
- *Session on High Resolution Imaging during the SPIE Annual Meeting, San Diego, CA, 1998.
- ILAS Conference, Minisymposium “Structured Matrix Problems,” ILAS Conference, Madison, WI, 1998.
- Poster presenter at the Sixth SIAM Conference on Applied Linear Algebra, Snowbird, 1997.
- SIAM 45th Anniversary Meeting, Minisymposium “Numerical Solution of Ill-Posed Problems,” Stanford, CA, July 1997.

- Poster presenter at the AWM Workshop, SIAM 45th Anniversary Meeting, Stanford, CA, 1997.
- Speaker at the Czech-U.S. Workshop on Iterative Methods and Parallel Computing, Milovy, Czech Republic, June 1997.
- Speaker at the SIAM Conference on Sparse Matrices, Coeur d'Alene, Idaho, Oct. 1996.
- Poster presenter at the Julia Robinson Celebration of Women in Mathematics, Berkeley, CA, July 1996.
- Attendee at the ILAY Workshop on Iterative Methods, Toulouse, France, June 1996.
- Attendee at the Maui High Performance Computing Center Introductory MHPCC User Training Workshop, Army Research Lab, Aberdeen, MD, Mar. 1995.
- Attendee at the Cornelius Lanczos Centennial Conference, Raleigh, NC, Dec. 1993.

Honors, Funding and Awards

- William Walker Professor of Mathematics, effective Sept. 1, 2016.
- NSF DMS- 1720291, 9/1/2017 – 8/30/2020. “Collaborative Proposal: NoFRILS Inversion: Novel Feature-Based, Randomized Methods for Large Scale Inversion. Joint with Eric Miller (PI). Total award to Tufts: \$284,131.
- Householder Poster Blitz prize, 2017.
- Plenary speaking invitations, see list above.
- Invited Minisymposium organizer to represent the SIAG/LA; SIAM Annual Meeting, July 2016.
- Subcontract to Univ. of Southern California, IARPA award, Phase I, Jan 2015. Phase II awarded Mar 2016. Total award to Tufts \$363,757.
- NSF:CIF:SMALL 1319653, 9/1/2013 – 8/30/2016: “Optimal Sampling and Recovery for Multilinear Signals and Systems”. Joint with Profs. Aeron (PI) and Miller, Tufts ECE. Total Award to Tufts: \$483,000.
- NSF DMS 1217161, 9/1/2012 – 8/30/2015. “Collaborative Research: Innovative, Integrated Strategies for Nonlinear Parametric Inversion.” Total Award to Tufts: \$190,001.
- NIH R01-CA154774 7/12/2011-6/30/2016. Co-PI. (PI: Sergio Fantini, Tufts BME), “Near-infrared spectral imaging of the breast for cancer detection and monitoring.” Total Award to Tufts: \$2,223,119
- NSF-DMS 0914957, PI, “Collaborative Research: Multilinear Algebra Computations with Higher-Order Tensors”, Aug. 1, 2009 – July 31, 2012. Total Award to Tufts: \$221,217.
- Listed as one of 5 international experts included in “CSI: Computational Science in Imaging” funded by the Danish Research Council, 2007.
- DARPA grant subcontracted through BAE Systems: Interior Intelligence by Networked Sensing, Imaging and Global Hierarchical Tomography (I2NSIGHT). 2006-2007.
- External (international) Ph.D. committee member for Toke Jensen, Technical University of Denmark, May 2006.
- NSF: BCP Supplement (20K) to current CCF grant to initiate Computing Undergraduate Scholars Program (CUSP) jointly with other faculty from Tufts. 2006-2008.
- Senior Personnel: NSF grant for Acquisition of a Scientific Visualization Facility, awarded Fall 2006.
- Promotion directly from Assistant Professor to Full Professor, Sept. 1, 2005.
- NSF 0631054 S-STEM: CSEMS Scholars Program, 8/16/2006-8/15/2010. co-PI
- NSF 0342559 ACR Grant “Collaborative Research: Tuning Libraries to Effectively Exploit the Memory Hierarchy”, 9/01/04- 8/08. PI
- NSF 0139968 “Inverse Scattering Models and Algorithms for Functional Brain Imaging with Diffuse Optical Wavefields,” 9/01/02 – 8/31/05. co-PI
- NSF 0208548, “Toward a Unified Approach to Diffuse Wave Inverse Problems,” 8/01/02 – 7/31/05. Co-PI

- NSF 0220651, “Tufts-CSEMS Scholars Program,” 9/15/02-9/14/06. co-PI
- Tufts Undergraduate Initiative on Teaching Award, May 14, 2001.
- Subcontract award from Northeastern University to work designing preconditioners for 3D-vector Maxwell’s equations with PML boundary conditions, Summer 2000.
- Awarded Northeastern University seed funding for research related to the Center for Subsurface Sensing and Imaging Technologies, Jun. 1998.
- Nominated for Householder Prize, summer 1999.
- SIAM Student Paper Prize winner for the paper *Cauchy-like Preconditioners for 2-Dimensional Ill-posed Problems*, 1997.
- Student travel award recipient, funding for travel and expenses related to the Czech-U.S. Workshop on Iterative Methods and Parallel Computing, 1997.
- AWM student travel award recipient, funding for travel and expenses related to the AWM Workshop at the SIAM 45th Anniversary Meeting, 1997.
- SIAM Student Travel Award recipient, funding towards travel and expenses related to the SIAM Conference on Sparse Matrices, 1996.
- University of Maryland Goldhaber Travel Award recipient, funding towards travel and expenses related to the SIAM Conference on Sparse Matrices, 1996.
- Student travel award recipient, funding for travel and daily expenses related to the ILAY Workshop on Iterative Methods, Toulouse, France, 1996.
- Student travel award recipient, funding for travel and daily expenses related to the Julia Robinson Celebration of Women in Mathematics, Berkeley, CA, 1996.
- Wake Forest University Graduate Fellowship recipient, Department of Mathematics and Computer Science, 1992-1994.
- Phi Beta Kappa
- Pi Mu Epsilon, National Mathematics Honor Society
- Golden Key National Honor Society
- Magna Cum Laude graduate, May 1992

Patents

- Kilmer (Tufts) and Hoge (Brigham and Women’s Hospital, Boston), “Magnetic Resonance Imaging by Subspace Projection” Awarded 2010.
- Horesh (IBM), Hao (Oracle), and Kilmer (Tufts), PENDING, “Non-intrusive method for supplementation of mis-specified simulation models” - Disclosure YOR8-2013-0474

Memberships

- Society for Industrial and Applied Mathematics (SIAM)
- SIAM – Activity Group on Linear Algebra (Secretary, 2004-2006; Nominating Cmte. Chair, 2006, Nominating Cmte. Member, 2009 and 2012)
- SIAM – Activity Group on Computational Science and Engineering
- SIAM – Activity Group on Image Processing
- Association for Women in Mathematics (AWM)

Professional Service/Activities

Program/Organizing Committees:

- International Linear Algebra Society Annual Meeting 2013 Local Organizing Cmte

- Program Committee, SIAM Annual Meeting 2012
- Program Committee, SIAM Conference on Imaging Science, 2012
- Organizing Committee, Copper Mountain Conference on Iterative Methods, 2008-current
- Co-organizer, Conference in Honor of G.W. (Pete) Stewart's 70th Birthday, Summer 2010
- Co-organizer, Session on Career Development, SIAM Annual 2008, SIAM CS&E Mar. 2009
- Co-organizer, Schlumberger-Tufts Computational and Applied Math Seminar, 2006 – present
- Program Committee, SIAM Computational Science and Engineering Meeting 2009
- Program Committee, SIAM Linear Algebra Meeting 2009
- Program Committee, Preconditioning 2007
- Organization committee member for the Conference in Honor of G. W. Stewart's 60th Birthday, Oct. 2000

Award Committees and Refereeing:

- SIAM CSE Early Career Prize Committee, 2016-2017
- SIAM Activity Group on Linear Algebra, Best LA Paper Prize Committee, 2015
- Agenzia Nazionale di Valutazione del Sistema Universitario e della Ricerca , review member, 2012 – Spring 2013
- International proposal reviewer, non-US agencies
- American Mathematical Society Centennial Fellowship Committee, 2010-2012
- AWM/SIAM Sonia-Kovalesky Lecture Prize Selection Committee, Fall 2007 – Spring 2009
- 2008, 2010, 2014 Copper Mountain Student Paper Competition Selection Committees
- NSF external proposal reviewer
- NSF Site Visit Team member, Institute for Computational and Experimental Research in Mathematics (ICERM), Brown University, Fall 2009
- DOE proposal reviewer
- NSF panel reviewer
- Referee: *SIAM Review*, *ISSAC97*, *proceedings for ICSO3*, *International Conference on Supercomputing*, *Math Comp.*, *SIAM Journal on Matrix Analysis and Appl.*, *SIAM Journal on Sci. Comput.*, *IEEE Trans. on Signal Processing*, *IEEE Trans. Geoscience and Remote Sensing*, *Linear Algebra and its Applications*, *Computers and Mathematics with Applications*, *IEEE Trans. Image Processing*, *Optics Express*, *Stat*, *Applied Optics*, *BIT*, *Journal of Computational and Applied Math*, *Applied and Computational Harmonic Analysis*, *IEEE Signal Processing Letters*, *Inverse Problems*, *Optimization Methods and Software*, *SIAM Journal on Numerical Analysis*, *Computational Optimization and Applications*, *Communications in Nonlinear Science and Numerical Simulations*, *Pattern Analysis and Applications*, *Applied Numerical Mathematics*, *Computational Statistics and Data Analysis*, *IEEE Trans. Neural Networks and Learning Systems*, *Numerical Algorithms*.

Other Professional Service Activities:

- Panelist, SIAM Career Panel, SIAM CS&E Meeting, 2017.
- Panelist, SIAM Career Panel, SIAM Annual Meeting, 2016.
- Interviewed for AWM's *Mathematics Live!*, Nov-Dec 2014 issue of the AWM Newsletter
- Speaker, Girl's Engineering Camp, Ursuline Academy, Dedham, MA, July 2013
- Panelist, Computational Science and Engineering Education, SIAM CS&E meeting, Mar. 2009
- Secretary, SIAM Activity Group on Linear Algebra, 2004-2006; Nominating Cmte. Chair, 2006
- AWM Student Chapter Selection Committee, 2007 – present
- AWM Faculty Mentor, SIAM Annual Meeting, 2006

- AWM Mentor program, 2000 – present
- Ph.D. thesis committee member for Toke Jensen, Technical University of Denmark, May 2006
- Master's thesis committee member for Gregory Boverman, ECE Dept., Northeastern Univ, 2003
- Consultant, Center for Subsurface Sensing and Imaging Systems (CenSSIS)
- Participant in the AWM Essay contest, Fall 2001 – high school student Sana Ahmed wrote my biography and her essay won first place in the High School competition.
- All Girls All Math (AGAM) speaker, summer 2002
- Ph.D. committee for Murat Belge, ECE Dept. at Northeastern University, Fall 1999
- Women in Computer Science group at UMCP 1997
- Women in Mathematics (WIM) at UMCP 1994 – 1997
- Student representative to the Graduate Council for Applied Mathematics for 1996 – 1997
- Organizer of graduate WIM talks, Spring 1996; WIM lunch organizer, Fall 1996 – Spring 1997
- Volunteer Math Tutor, OSLC Tutoring Program, Fall 1994 – 1997
- Women in science, engineering, and math (WAGSEM) group at UMCP 1994 – 1995
- Wake Forest Mathematics and Computer Science Club 1991 – 1994, (president, `92-`93)

Tufts University and Departmental Service

University:

- Member, Search Committee for Director of the Data Intensive Studies Center, Fall 2017
- Tufts Univ. Special Advisor to the President and Interim Provost on Matters of Academic Appointments 09/2011 – 06/2012
- Co-Chair, Research and Scholarship Subcommittee, IT Governance, 2015 – current
- Member, planning committee, Center for Computational and Data-Enabled Research, 2015 – 2016
- GREAT – 2015 panelist
- Tufts Jumbo Days, mock lecture, April 2015
- Member, A&S Working Group on Faculty Workload, Spring 2015
- Co-Chair, Computational Subcommittee, SEC Leaders group, 2014 -- 2015
- Thematic Area Working Group on Computational and Quantitative Skills and Methods, Co-Chair of the Computational Subcommittee, 2014 -- 2015
- Proposal Organizer for a Tufts Computational Science, Engineering and Statistical Data Analysis Center, Fall 2013
- Tenure and Promotion Ad Hoc Summer Committee member, Summer 2013
- Tufts Summer Scholars Evaluation Committee member, Spring 2013
- Special Advisor to the President and Interim Provost on Matters of Academic Appointments, July 2011 -- June 2012
- Voices participant, Fall 2011
- AS&E Dean Search Committee, Spring-Summer 2010
- Arts, Sciences and Engineering Tenure and Promotion Committee, May 2007 – Aug 2008, May 2009 – April 2011 (Chair, May 2010 – April 2011)
- University Scholarship Committee, 2000 – present
- University Computer Facilities and Usage Committee, 2001 – 2006
- School of Engineering Curriculum Committee, 2001 – fall 2007
- DILES (now the Center for STEM Diversity) program coordinator search committee, Fall 2007
- Center for STEM Diversity Faculty Steering Committee, 2008 – 2009

Department:

- Department Chair, Sept. 2013 – Aug. 2019
- Hiring Committees, 2016-2017
- Curriculum Committee, 2014-2016
- Graduate Committee, multiple (non-consecutive) years
- Scientific Computing Hiring Committee, 2013-2014
- Dept. representative, Tufts Open House, Oct. 28, 2013
- Lecturer Hiring Committee Member, Spring/Summer 2013
- NA, PDE, Qual Examiner (multiple years)
- Weiner Lecture Series Organizer, Spring 2011
- Scientific Computing Search Committee, Chair, Fall 2010-Spring 2011
- Coach for the Mathematical Contest in Modeling Teams, Fall 2010-Spring 2011
- Applied Mathematics Search Committee, Fall 2009 – Spring 2010
- Applied Mathematics Grad Program Proposal Committee co-chair, Fall 2009 – Spring 2010
- Co-organizer, Schlumberger-Tufts Computational & Applied Math Seminar, Dec. 2006 – present
- Tufts team co-facilitator, SIAM undergraduate Mathematical Contest in Modeling, Fall 2009 – Spring 2010
- Math Department 2008 Wiener Lecture Organizer, Fall 2007 – Spring 2008
- Coordinator, Math 12A Pilot Program, Fall 2006 – Fall 2007
- Tufts SIAM Student Chapter Advisor, Fall 2004 – 2008, 2009-2010
- Tufts Women in Mathematics Group Coordinator, Fall 2004
- Publicity Committee, Department of Mathematics, Fall 2006
- Graduate Committee, Department of Mathematics, 1999 – 2012
- Calculus Committee Chairperson, Department of Mathematics, 1999 – 2000
- Hiring Committee, Department of Mathematics, 1999 – 2001, 2004, 2006; chair 2000 – 2001 and 2006 –2007
- Math Dept. representative, Orientation, Fall 2000, 2001, 2002, 2003, 2005
- Orientation Faculty Presenter (Math in Medical Imaging), 2004, 2005
- Math Dept. representative, Recruitment, Spring 2000, 2001
- Undergraduate Host Advisor (in addition to CSEMS host advising) 2000 – 2002, 2007, 2014
- Undergraduate Transfer Advisor 2002 – 2003
- CSEMS (Computer Science, Engineering and Math Scholars) Advisor 2002 – 2010; CSEMS program manager, Fall 2005; co-director Fall 2006
- Undergraduate RA supervisor, Spring 2002 – present

Tufts Thesis Committees

- Ph.D. prelim exam and committee member, Hussain Elkotby, ECE, May 2017-Nov 2017.
- Ph.D. committee member, Jamie Zhang, ECE, Dec. 2016.
- Ph.D. advisor and Committee member, Jiani Zhang, Math, May 2017.
- Ph.D. advisor and Committee member, Meghan O'Connell, Math, May 2016
- Candidacy Exam Committee member, Hamidah Rezaee, ECE, Oct. 2015
- Ph.D. committee member, Almasi Sepideh, ECE, Aug. 2015
- Ph.D. committee member, Eli Brown, Computer Science, July 2015
- Ph.D. Candidacy exam committee member, Anuj Abhishek, May 2015
- M.S. advisor and committee member, Anika Rounds, Mathematics, Aug. 2014
- Ph.D. advisor and committee member, Ning Hao, Mathematics, Oct. 2013
- M.S. committee member, Gregory Ely, ECE, Aug. 2013

- M.S. committee member, Roni Cantor, BME, May 2013
- Ph.D. committee member, Oguz Semerci, Electrical and Computer Eng, Oct. 2012
- Ph.D. advisor and committee member, Donghui Chen, Mathematics, June 2012
- M.Sc. committee member, Alexander Nectow, Biomedical Engineering, May 2011
- Ph.D. committee member, Elena Jakubiak, Computer Science, Mar. 2009
- M.Sc. committee member, Fridrik Larusson, ECE, Sept. 2009
- Ph.D. advisor and committee member, Malena Espanol, Mathematics, April 2009
- Master's thesis committee member, Christopher DiCarlo, CEE, Sept. 2008
- Master's thesis committee member, Haris Siampanis, Chemical Eng., Mar. 2008
- Candidacy exam committee member (Dec. 2005) and Ph.D. prelim exam Comm. Member (Aug. 2006) for Yunjie Tong, Tufts Biomedical Engineering
- Ph.D. committee member for Yunjie Tong, Tufts BME, April 2008
- Master's committee member for Jill Waldman, Tufts Math, April 2008
- Ph.D. committee member for Eynat Raflin, Tufts Computer Science, Spring 2005
- Ph.D. committee for Aleksei Beltukov, Tufts Math, Spring 2004
- Ph.D. committee member for Chitra Javdekar, Civil Engineering, Dec. 2003
- Ph.D. committee for Madeline Kleiner, EECS, May 2002

Postdoctoral Researchers Supervised

Dr. Arvind Saibaba (Ph.D., Stanford); co-advised with Prof. Eric Miller, Tufts ECE, Fall 2013-Summer 2015

Graduate Research Students Supervised

- Jiani Zhang, Math Ph.D. Candidate and RA, 2012 – 2017
- Meghan O'Connell, Math Ph.D. Candidate and RA, 2013 - 2016
- Elizabeth Newman, Ph.D. student and summer RA, current
- Anika Rounds, M.S. in Mathematics, Fall 2013- Aug. 2014
- Donghui Chen, Math Ph.D. advisee, Ph.D. awarded Aug. 2012
- Ning Hao, Math Ph.D. advisee and RA, Aug. 2009 – Aug. 2013
- Malena Espanol, Math Ph.D. advisee and RA, 2003 – 2009
- Nathan Ricci, RA (CS PhD student) Fall 2007 – June 2008
- Khaled Abukhidejah, RA (Math), Fall 2006
- Keith McClung, Master's student (Math), 2001 – 2003. Master's thesis title: "Optimization with Imperfect State Information."
- Xin Fu, RA (Math), 2002 – 2003

Undergraduate Research Assistants Supervised

- Michael Thramann, Summer 2017
- Nishant Joshi, Summer 2016, NSF REU
- Eric Kernfeld, Tufts Summer Scholar, Summer 2013; Honors Thesis Advisee 2013-2014
- Eliza Tadley, Summer 2009
- Kellie Swanton (nee Siler), Tufts Summer Scholar, Summer 2008
- Maya Shoham, Fall 2007 – Spring 2008
- Stacey Ecott, Fall 2006 – Spring 2007

- Emily Reid, Fall 2006 – Spring 2007
- Natalie Velasco, Fall 2005 – Spring 2006
- Kerry Thornton, Summer 2005 – Spring 2006
- David Kelley, summer 2005
- Marco Enriquez, Spring 2004 – Spring 2005
- Daniel Keesing, Fall 2002 – Spring 2004
- Laura Dev, Fall 2003 – Spring 2004
- Alethea Barbaro, Spring 2002

Visiting Students Supervised

- Sara Soltani, Technical University of Denmark, 3/24/14-4/5/14.
- Betsey LaRue, James Madison Univ. undergrad RA, (Carla Martin, advisor), June 2011
- Rick Shafer, James Madison Univ. undergrad RA, (Carla Martin, advisor), June 2011
- Jeff Wyman, James Madison Univ. undergrad RA, (Carla Martin, advisor) June 2010
- William Henderson, James Madison Univ. undergrad RA, (Carla Martin, advisor) June 2010
- Esben Høgh-Rasmussen, Ph.D. student, Technical University of Denmark (Per Christian Hansen, advisor), Oct. 2003 – Mar. 2004
- Rikke Kjeldsen, Master's student, Technical University of Denmark (Per Christian Hansen, advisor), June 2001

Courses Taught at Tufts

- Scientific Computing (Graduate seminar)
- Nonlinear Optimization (Graduate seminar)
- Tensors in Data Mining and Analysis (Graduate Reading Courses)
- Numerical Linear Algebra (graduate and undergraduate)
- Numerical Analysis (graduate and undergraduate)
- Numerical Methods for PDE's (graduate level)
- Wavelets and Fourier Series
- Undergraduate Indept. Study, Mathematical Finance
- Undergraduate Indept. Study, Quantitative Analysis of Cell Alignment
- Undergraduate Reading Course, Tensor Factorizations
- Other Graduate Reading Courses: Eigenvalue Computation, Wavelets; Structured Matrix Factorization; Iterative Methods; Computational Economics; Computed Tomography; Image Deblurring
- Graduate Applied Mathematics Seminar
- Linear Algebra II (used own co-authored textbook-in-progress to teach the course)
- Ordinary Differential Equations
- Linear Algebra
- Honors Linear Algebra
- Calculus I,II