Curriculum Vitae
James G. Nagy

Professor
Mathematics and Computer Science
Emory University
Atlanta, GA, USA
http://www.mathcs.emory.edu/~nagy

Research: Scientific computation, numerical linear algebra, inverse and ill-posed problems, algorithms and software for image processing.

Education:

- Ph.D., Applied Mathematics, North Carolina State University, December 1991.
- M.S., Mathematics, Northern Illinois University, August, 1988.
- B.S., Mathematics, Northern Illinois University, May, 1986.

Previous Positions:

- Emory College Professor for Distinguished Teaching, Emory University (2001–2005)
- Associate Professor, Emory University (1999–2006)
- Associate Professor, Southern Methodist University (1997–1999)
- Assistant Professor, Southern Methodist University (1992–1997)
- NSF MSPRF, University of Maryland, College Park (1994–1995)
- IMA Postdoctoral Research Fellowship, University of Minnesota (1991–1992)

Academic Awards, Honors and Recognitions:

- SIAM Fellow, selected in 2016.
- Co-Chair, University Research Committee, Emory University, 2016–present.
- Chair, SIAM Activity Group on Linear Algebra, January 1, 2016 – December 31, 2018.
- Vice Char, SIAM Activity Group on Linear Algebra, January 1, 2013 – December 31, 2015.
- Chair of Householder Committee, 2014–2017.
- Co-Chair, SIAM Conference on Applied Linear Algebra, October 26–30, 2015.
- Current editorial board appointments:
  SIAM Journal on Matrix Analysis and Applications
  SIAM Journal on Scientific Computing
  Numerical Algorithms
  Electronic Journal of Linear Algebra
- Invited talk at 2008 SIAM Annual meeting recorded and made available at:
  https://live.blueskybroadcast.com/bsb/client/CL_DEFAULT.asp?Client=975312&MA_ID=6085
- Talk at 2015 SIAM Applied Linear Algebra meeting recorded and made available at:
  https://www.pathlms.com/siam/courses/1697/sections/2330/video_presentations/20556
- Northern Illinois University, Golden Anniversary Alumni Award, September 25, 2009.
  http://www.niu.edu/clas/aboutus/awards/past-CLAS-award-honorees.pdf

Grants:

- NSF, $10,000, January 1, 2017–December 31, 2017.
- NSF, $299,933, July 15, 2015–June 30, 2018.
- AFOSR, $350,330, March 15, 2012–March 14, 2015.
- NSF, $270,000, September 1, 2011–August 31, 2014.
- AFOSR, $305,052, July 15, 2009–November 30, 2011.
- NSF, $297,373, July 1, 2008–June 30, 2011.
- NSF, $266,448, July 1, 2005–June 30, 2008.
- Emory URC, $21,120, July 1, 2005–June 30, 2006.
- Emory ECOR Seed Funding, $40,500, July 1, 2004–June 30, 2005.
- NSF, $130,000, April 1, 2001–March 31, 2004.
- DOE, $10,000, August 1, 1998–July 31, 1999.
- NSF, $9,660, August 1, 1998–July 31, 1999.
- NSF, $75,000, September 1, 1994–August 31, 1997.
- Oak Ridge Associated Universities, $10,000, September 1993–August 31, 1994.

Scholarly Activity:

Books: **Image Deblurring**, *SIAM Press*, 2006.
co-authors: Per Christian Hansen and Dianne P. O'Leary

Introduction to Scientific Computing using Matlab, *Lulu*, 2011.
co-authors: Ian Gladwell and Warren E. Ferguson, Jr.

87 publications, which may be classified as follows:

Refereed Publications:	52	Conference Proceedings:	29
Educational Articles:	3	Submitted Manuscripts:	3

Google Scholar: https://scholar.google.com/citations?user=fMdqZFsAAAAJ&hl=en

Selected publications:

- *High-Resolution Speckle Imaging Through Strong Atmospheric Turbulence.* Optics Express, 24 (2016), pp. 12116–12129. (with D. Hope, S. Jefferies and M. Hart)
- *Deblurring and Sparse Unmixing of Hyperspectral Images using Multiple Point Spread Functions.* SIAM J. Sci. Comput., 37 (2015), pp. S389–S406 (with S. Berisha and R. J. Plemmons)
- *Estimation of Atmospheric PSF Parameters for Hyperspectral Imaging.* Numer. Lin. Alg. Appl., May 2015 (DOI: 10.1002/nla.1986). (with S. Berisha and R. J. Plemmons)
- *Rotational Image Deblurring with Sparse Matrices*, BIT Numerical Mathematics, 54 (2014), pp. 649–671. (with P. C. Hansen and K. Kigkos)
- *Generalized Arnoldi-Tikhonov Method for Sparse Reconstruction*, SIAM J. Sci. Comp., 36 (2014), pp. B225–B247. (with S. Gazzola)
- *Iterative Breast Tomosynthesis Image Reconstruction*, SIAM J. Sci. Comp., 35 (2013), pp. S192–S208. (with V. Mejia-Bustamante and I. Sechopoulos)

- *Iterative Wavefront Reconstruction for Astronomical Imaging*, SIAM J. Sci. Comp., 35 (2013), pp. S84–S103. (with Q. Chu and S. Jefferies)
- *Image Deblurring, Gaussian Random Fields, and Neumann Boundary Conditions*, ETNA, 40 (2013), pp. 476–488. (with J. Bardsley and M. Howard)
- *Iterative Methods for Image Restoration*, book chapter to appear in e-Reference on Signal Processing, Elsevier, editor H. J. Trussell, 2013. (with S. Berisha)
- *An Efficient Computational Approach for Multiframe Blind Deconvolution*, J. Comput. Appl. Math., 236 (2012), pp. 2112–2125. (with Y.-W. Fan)
- *Large-Scale Inverse Problems in Imaging*, Chapter 2 in Handbook of Mathematical Methods in Imaging, Otmar Scherzer, ed., Springer (2011), pp. 43–86. (with J. Chung and S. Knepper)
- *Parallel Colt: A High Performance Java Library for Scientific Computing and Image Processing*, ACM Transactions on Mathematical Software, 37 (2010), pp. 31:1–31:22. (with P. Wendykier)
- *An Efficient Iterative Approach for Large-Scale Separable Nonlinear Inverse Problems*, SIAM J. Sci. Comput., 31 (2010), pp. 4654-4674. (with J. Chung)
- *Numerical Linear Algebra for Nonlinear Microwave Imaging*, Elect. Trans Numer. Anal., 33 (2009), pp. 105-125. (with F. Di Benedetto, C. Estatico, and M. Pastorino)
- *A Weighted GCV Method for Lanczos Hybrid Regularization*, Elect. Trans. Numer. Anal., 28 (2008), pp. 149–167. (with J. Chung and D. O'Leary)
- *Kronecker Product Approximations for Dense Block Toeplitz-plus-Hankel Matrices*, Num. Lin. Alg. Applic., 14 (2007), pp. 581–602. (with M. Kilmer)

Conference and Lecturing Activities:

Conferences Organized:	3	Invited Plenary Presentations:	33
Minisymposia Organized:	12	Invited Minisymposia Presentations:	50
Short Courses Organized:	4	Contributed Presentations/Posters:	7

External Invited Seminar and Colloquium Presentations: 36

Selected conference, seminar and colloquium activities include:

- Chair of Householder Committee, *Householder Symposium XX*, Blacksburg, VA, June 18–23, 2017.
- Chair, *Georgia Scientific Computing Symposium*, Atlanta, GA, February, 2016.
- Member of Program Committee, *Copper Mountain Conference on Iterative Methods*, Copper Mountain, CO, March 21–25, 2016.
- Co-Chair, *SIAM Conference on Applied Linear Algebra*, Atlanta, GA, October 26–30, 2015.
- Member of Householder Committee, *Householder Symposium XIX*, Spa, Belgium, June 8–13, 2014.
- Member of Organizing Committee, *SIAM Conference on Applied Linear Algebra*, 2006 and 2009.
- Plenary Talk, *SIAM-SEAS Conference*, University of Alabama at Birmingham, March 20–22, 2015.
- Plenary Talks, *4th Workshop on Mathematical Analysis on Inverse Problems and Imaging*, National Astronomical Observatory of Japan, Tokyo, Japan. January 7–8, 2014.

- Plenary Talk, *International Workshop on Numerical Linear Algebra with Applications*, Hong Kong, China. November 17–18, 2013.
- Plenary Talk, *Optimization Techniques for Inverse Problems*, Modena, Italy, September 20–21, 2012.
- Plenary Talk, *SAMSI Opening Workshop, Massive Datasets Program*, Raleigh, NC, September 9-11, 2012.
- Plenary Talk, *24th Biennial Conference on Numerical Analysis*, University of Strathclyde, Glasgow, Scotland, June 28 - July 1, 2011
- Plenary Talk, *Advanced Maui Optical and Space Surveillance Technologies Conference*, Maui, HI, September 24, 2009.
- Invited Topical Talk, *SIAM Annual Meeting*, San Diego, CA, July 7–11, 2008.
- Plenary Talk, *International Linear Algebra Society (ILAS) Conference*, Cancun, Mexico, June 15–21, 2008.
- Plenary Talk, *Householder Symposium*, Zeuthen, Germany, May 31 June 7, 2008.
- Plenary Talk, *Advanced Maui Optical and Space Surveillance Technologies Conference*, Maui, HI, September 24, 2007.
- Plenary Talk, *Householder Symposium*, Champion, PA, May 23–27, 2005.
- Plenary Talk, *SIAM-SEAS Conference*, Charleston, SC, March 25–26, 2005.
- Plenary Talk, *SIAM Conference on Applied Linear Algebra*, Williamsburg, VA, July 15–18, 2003.
- Plenary Talk, *Householder Symposium*, Whistler, B.C., Canada, June 13–18, 1999.
- Plenary Talk, *SIAM Conference on Sparse Matrices*, Coeur d'Alene, Idaho, October 9–11, 1996.

Refereeing:

- Average approximately 10 journal papers per year.
- Proposals from AFOSR, NSF (including several Panels), DOD, NIH, NSERC (Canada).

Student Supervision:

- Currently supervising 2 Ph.D. students and 2 undergraduate honors students.
- Former Ph.D. students:
  Sebastian Berisha, 2014. Current postion: Postdoc, U. of Pennsylvania.
  Qing Chu, 2013. Current position: Highmark Health.
  Veronica Mejia-Bustamante, 2013. Current position: Financial Analytics, JP Morgan Chase.
  Sarah Knepper, 2011. Current position: Staff Scientist for MKL Group, Intel.
  Ying-Wai (Daniel) Fan, 2010. Current position: Software Engineer, Google.
  Piotr Wendykier, 2009. Current position: Software Engineer, Wolfram Research.
  Julianne Chung, 2009. Current position: Assistant Prof., VA Tech.
  Lisa Perrone, 2004. Current position: DDS, Honolulu, HI.
  Katrina Palmer, 2004. Current position: Associate Prof., Appalachian State University.
  Julie Kamm, 1998. Current position: Software Engineer, Raytheon Systems.
- Former M.S. students: K. Johnson, 2005; Z. Xie, 2007; N. Adams, 2013.
- Former B.S./M.S. Honors students: S. Sulaiman, 2001; R. Wright, 2002.
- Former B.A./B.S. Honors students: J. Chung, 2004; J. Herring, 2010; J. Nance, 2011; C. Cheng, 2013; H. Xia, 2015; L. Lin, 2016; C. Meng, 2016; S. Raju, 2016.

Teaching Awards:

- Emory Williams Distinguished Teaching Award
  Emory University, 2010.
- Crystal Apple Award for Excellence in Graduate Teaching
  Emory University, 2007.
- Emory College Professor for Distinguished Teaching
  August 2001–July 2005.
- Golden Mustang Award for Excellence in Teaching and Scholarship
  Southern Methodist University, 1996.

Teaching Activities:

- Workshop for *Sonia Kovalevsky High School Math Day*, Emory University, May 8, 2008.
- Organized MATLAB Training Sessions for Emory faculty, postdocs and graduate students, August 2003, August 2004, October 2004.
- National Public Radio Interview, *Emory Scientists Seek Perfect Pictures*, October 28, 2003.
- Teaching Problem-Solving Skills Presentation, *Teaching Assistant Seminar*, August 20, 1998.
- Faculty Mentor, *Fifth Annual Teaching Effectiveness Symposium*, Southern Methodist University, August 18, 1998.
- Invited Faculty Panel Participant, *Reflections of Teaching Award Winners*, for the *Fifth Annual Teaching Effectiveness Symposium*, Southern Methodist University, August 19, 1997.
- Selected Member of *Project Kaleidoscope Faculty for the 21st Century*, an alliance of individuals, institutions, and organizations dedicated to strengthening the nation's undergraduate and mathematics community. (Supported by the Exxon Foundation and the NSF.) 1996–1999.
- Group Leader, break-out session on Teaching Mathematics and Quantitative Analysis, *Third Annual Teaching Effectiveness Symposium*, Southern Methodist University, August 25, 1995.

University Service Activities (Emory):

- Co-Chair, University Research Committee (URC), 2016–present.
- Member, Program for Enhancement of Research and Scholarship (PERS) Committee, 2015–present.
- Member of Recruitment Advisory Committee for Senior Associate Dean of Research, 2014–2015.
- Laney Graduate School Appointments Committee, 2014–2016.
- Chair, Emory College Tenure and Promotion Committee, 2012–2013.
- Emory College Tenure and Promotion Committee, 2010–2013.
- Graduate Studies Committee, Math. and Comp. Sci., Emory University, 2010–present.
- Director of Graduate Studies, Math. and Comp. Sci., Emory University, 2003–2009.
- University Research Committee (URC), 2006–2009.
- Emerson Lecture Committee, 2006–2009.
- Computational and Life Sciences Advisory Committee, 2006–present.
- Graduate School of Arts and Sciences Executive Council, Emory University, 2006–2007.
- Center for Teaching and Curriculum Advisory Committee, Emory University, 2002–2005.
- Athletic Council (including Executive, Academic, Budget and Equity subcommittees), Southern Methodist University, 1997–1999.

- CTC Teaching Initiatives Committee, fall, 2002 – spring, 2003.
- Integrated Natural, Physical and Computational Sciences (INPACS) degree planning committee member, spring 2001 – 2003.

University Service Activities (SMU):

- Director of Graduate Studies, Mathematics, Southern Methodist University, 1997–1999.
- Athletic Council Member (Executive, Academic, Budget, and Equity Subcommittees)
- Chair, Athletic Council Budget Subcommittee, spring, 1999.
- Athletics Policies Committee for SACS Accreditation, 1998–1999.

Additional Awards and Honors

- Northern Illinois University, Golden Anniversary Alumni Award, September 25, 2009.
  http://www.niu.edu/clas/aboutus/awards/past-CLAS-award-honorees.pdf
- Invited talk at 2008 SIAM Annual meeting recorded and made available at:
  https://live.blueskybroadcast.com/bsb/client/CL_DEFAULT.asp?Client=975312&MA_ID=6085
- NCAA All American, Gymnastics. (3rd place on Still Rings at the 1986 NCAA National Championships, University of Nebraska).
  http://www.mathcs.emory.edu/~nagy/Nagy_gymnastics_1986a.jpg
  http://www.mathcs.emory.edu/~nagy/Nagy_gymnastics_1986b.jpg