Curriculum Vitae

GAIK AMBARTSOUMIAN

Mailing Address:
Department of Mathematics
University of Texas at Arlington
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Education

Texas A&M University (TAMU) — College Station, TX
Ph.D. in Mathematics — 08/2001-08/2006

- Thesis title "Spherical Radon transforms and mathematical problems of thermoacoustic tomography"
- Overall GPA 4.0
- Thesis advisor: Dr. Peter Kuchment

Obninsk Institute of Nuclear Power Engineering (OINPE) — Obninsk, Russia
Mathematician-engineer in Applied Mathematics — 09/1995-02/2001

- Diploma with honors
- Thesis title "Analysis of nonlinear dynamical models similar to cascades by iterated functions method"
- Overall GPA 4.0
- Thesis advisor: Dr. Alexandr V. Burobin

Professional Experience

- Associate Professor at the Department of Mathematics, The University of Texas at Arlington — Arlington, TX 09/2013 – present
- Assistant Professor at the Department of Mathematics, The University of Texas at Arlington — Arlington, TX 09/2006 – 08/2013
- Teaching/Research Assistant at the Department of Mathematics, Texas A&M University — College Station, TX 09/2001 – 07/2006
- Lecturer, Obninsk Mathematical College (OMC) — Obninsk, Russia 09/2000-06/2001
- Research Assistant at the Department of Applied Mathematics, Obninsk Institute of Nuclear Power Engineering — Obninsk, Russia 09/1998-02/2001

Visiting and Adjunct Positions

- Visiting Professor in the College of Science and Engineering, American University of Armenia (AUA) — Yerevan, Armenia 09/2013 – 12/2013
- Visiting Professor at the Centre for Applicable Mathematics, Tata Institute of Fundamental Research (TIFR) — Bangalore, India 12/2012, 06/2013
- Adjunct Faculty of the Graduate Program in Biomedical Engineering, UT Southwestern Medical Center (UTSW) — Dallas, TX 02/2008 – 08/2011

- Research Member, Berkeley, CA
  The Mathematical Sciences Research Institute (MSRI) 08/2010 – 12/2010
- Intern at General Electric Medical Systems, Milwaukee, WI
  Applied Science Laboratory of GE Medical Systems 05/2004 – 08/2004

Current Research Interests

- Inverse Problems
- Computerized Tomography
- Integral Geometry
- Mathematical Problems of Imaging

Grant Support

- **Principal Investigator** (with Co-PI Venkateswaran Krishnan), $197,628 Arlington, TX
  "Conical Radon transforms and their applications in tomography", 09/2016-08/2019
  NSF DMS-1616564, National Science Foundation, Division of Mathematical Sciences
- **Principal Investigator**, $35,000 "Integral geometric problems in tomography", Arlington, TX
  # 360357, Mathematics and Physical Sciences-Collaboration Grants for 09/2015-08/2020*
  Mathematicians, Simons Foundation
  * *Stopped in 2016 due to the reception of the NSF DMS-1616564 grant.*
- **Principal Investigator** (with Co-PI Venkateswaran Krishnan), $175,899 Arlington, TX
  "Elliptical Radon transforms in image reconstruction", NSF DMS-1109417 08/2011-07/2015
  National Science Foundation, Division of Mathematical Sciences
- **Principal Investigator** (with Co-PIs Wei Qian and Daniel Terreros), $150,000 Arlington, TX
  "Image reconstruction problems in tomosynthesis" NHARP 003656-0109-2009 08/2010-05/2013
  Norman Hackerman Advanced Research Program Consortium Grant
- **Co-PI** (with PI Matthew Lewis and Co-PI Tuncay Aktosun), $770,818 Arlington, TX
  "Acoustic inverse scattering for breast microcalcification detection" BC063989 01/2008-08/2011
  Department of Defense Medical Research Program Synergistic Idea Award
- **Co-PI** (with PI Jianzhong Su, Co-PI's Xin Lu and Hua Shan), $25,000 Arlington, TX
  "AIMS Seventh International Conference on Dynamical Systems and 04/2008-03/2009
  Differential Equations", NSF DMS-0738356, National Science Foundation
- **Principal Investigator**, $10,000, REP-GCS07457, Arlington, TX
  "Some problems of constraint reconstruction in tomography" 09/2007-01/2009
  The University of Texas at Arlington Research Enhancement Program

Honors and Awards

- 2014 US Junior Oberwolfach Fellow, Oberwolfach, Germany
  The Mathematisches Forschungsinstitut Oberwolfach
- 2012-2013 Outstanding Faculty Teaching Award, Arlington, TX
  College of Science, The University of Texas at Arlington
- 2011-2013 Structured Quartet Research Ensembles (SQuaREs) Member Palo Alto, CA
  The American Institute of Mathematics

- 2010 MSRI Research Member — Berkeley, CA
  The Mathematical Sciences Research Institute
- 2009 Mathematical Research Communities (MRC) Member — Snowbird, UT
  American Mathematical Society
- 2007-2008 Project NExT Fellow — Washington, DC
  Mathematical Association of America
- 2006 L.F. Guseman Prize in Mathematics — College Station, TX
  Texas A&M University
- 2006 VIGRE Match Fellowship in the Department of Mathematics — College Station, TX
  Texas A&M University
- 2005-2006 Barnes & Noble Academic Excellence Scholarship — College Station, TX
  Texas A&M University
- 2005 First Place Winner of the Student Research Week — College Station, TX
  Texas A&M University
- 2003-2004 AUF Fellow in the Department of Mathematics — College Station, TX
  College of Science, Texas A&M University
- 2001 Regent's Fellow in the Department of Mathematics — College Station, TX
  College of Science, Texas A&M University
- 2001 Obninsk City Fellow, — Obninsk, Russia
  Program of the First Naukograd of Russian Federation
- 2001 Research Excellence Award at the Department of Applied Mathematics — Obninsk, Russia
  Obninsk Institute of Nuclear Power Engineering

Publications in Preparation or Submitted

1. *V-line and conical Radon transforms with applications in imaging*, submitted.
2. *The V-line transform with some generalizations and cone differentiation*, with M. J. Latifi-Jebelli, submitted.

Peer-reviewed Publications

3. *Image reconstruction from radially incomplete spherical Radon data*, with R. Gouia-Zarrad, V. Krishnan, and S. Roy, European Journal of Applied Mathematics, vol. 29 (2018), issue 3, pp 470-493.
4. *Singular FIOs in SAR imaging, II: transmitter and receiver at different speed*s, with R.Felea, V.Krishnan, C. Nolan, and E. T. Quinto, SIAM Journal on Mathematical Analysis, vol. 50 (1), 2018, pp 591-621.
5. *Numerical inversion of a broken ray transform arising in single scattering optical tomography*, with S. Roy, IEEE Transactions on Computational Imaging, vol. 2 (2016), issue 2, pp 166-173 .
6. *Inversion of a class of circular and elliptical Radon transforms*, with V. Krishnan, Contemporary Mathematics, vol. 653 (2015), 13174.
7. *Exact inversion of the conical Radon transform with a fixed opening angle*, with R. Gouia-Zarrad, Inverse Problems, 30 (2014), no. 4, 045007.
8. *Exterior problem of acoustic reflectivity imaging*, with L. Kunyansky, Inverse Problems and Imaging, 8, no. 2 (2014), pp 339-359.
9. *A Series formula for inversion of the V-line transform in a disc*, with S. Moon, Computers & Mathematics with Applications, vol. 66, Issue 9, Nov 2013, pp 1567-1572.

10. *Effect of refraction on dose reconstruction in optical-CT gel dosimetry*, with L. Florescu and C. Wuu, Journal of Physics: Conference Series, 444 (2013), 012063.

11. *Microlocal analysis of an ultrasound transform with circular source and receiver trajectories*, with J. Boman, V. Krishnan, and E. T. Quinto, Contemporary Mathematics, vol. 598 (2013), pp 45-58.

12. *Invasion speed in cellular automaton models for T. cruzi vector migration*, with B. Crawford, and C. Kribs-Zaleta, Bulletin of Mathematical Biology, vol. 75, no. 7 (2013), pp 1051-1081.

13. *A class of singular Fourier integral operators in synthetic aperture radar imaging*, with R. Felea, V. Krishnan, C. Nolan, and E. T. Quinto, Journal of Functional Analysis, 264 (2013), pp 246-269.

14. *Approximate inversion algorithm of the elliptical Radon transform*, with R. Gouia-Zarrad, Proceedings of ISMA 2012, Biomedical Applications (2012), ISBN 978-1-4673-0862-5.

15. *Inversion of the v-line Radon transform in a disc and its applications in imaging*, Computers & Mathematics with Applications, vol. 64, Issue 3, August 2012, pp 260–265.

16. *Effect of refraction on dose reconstruction in optical-CT gel dosimetry*, with L. Florescu and C. Wuu, Medical Physics, 38 (2011) 3514.

17. *Inversion of the circular Radon transform on an annulus*, with R. Gouia-Zarrad, and M. Lewis, Inverse Problems, 26 (2010) 105015 (11pp).

18. *Tomographic reconstruction of nodular images from incomplete data*, with M. Xie, American Institute of Physics Conference Proceedings, vol. 1301, pp 167-174, 2010.

19. *Reconstruction algorithms for interior and exterior spherical Radon transform-based ultrasound imaging*, with R. Vaidyanathan, M. Lewis, and T. Aktosun, Proceedings of SPIE, v. 7265, Medical Imaging: Ultrasonic Imaging and Signal Processing, (2009), 72651I pp1-8.

20. *Limited view thermoacoustic tomography*, with Y. Xu, L. Wang, and P. Kuchment, Chapter 6 in "Photoacoustic imaging and spectroscopy", CRC Press, 2009, pp 61-73.

21. *Thermoacoustic tomography: numerical results*, with S. K. Patch, Proceedings of SPIE, v. 6437, Progress in Biomedical Optics and Imaging, 8 (2007), no. 14, pp 6437 -47.

22. *A range description for the planar circular Radon transform*, with P. Kuchment, SIAM Journal on Mathematical Analysis, 38 (2006), no. 2, 681-692.

23. *On the injectivity of the circular Radon transform*, with P. Kuchment, Inverse Problems, 21 (2005) 473-485.

24. *Reconstruction in limited view thermoacoustic tomography*, with Y. Xu, L. Wang, and P. Kuchment, Medical Physics, 31(4) April 2004, 724-733.

25. *Continuation of functions representable by exponentials of infinite multiplicity with alternating exponents*, with A. Burobin, Mat. Zametki, Russian Academy of Sciences, 73 (2003), no. 2, 163-172 (Russian). English translation in: Mathematical Notes, vol. 73, no. 2, 2003, 155-162.

Other Publications

26. *Microlocal analysis and imaging*, with R. Felea, V. Krishnan, C. Nolan, and E. T. Quinto, a chapter in Mathematics of Planet Earth, edit. H. Kaper and C. Rousseau, SIAM, (2015), ISBN 978-1-611973-70-9.

27. *Integral geometry and mathematical problems of image reconstruction*, a chapter in Mathematical Models, Methods and Applications, edited by A.H. Siddiqi, P. Manchanda, and R. Bhardwaj, Springer, (2015), ISBN: 978-981-287-971-4.

28. *On the V-line Radon transform and its applications in imaging*, in Mathematics and Algorithms in Tomography. Oberwolfach Reports, Vol. 11, Issue 3, 2014, edited by Martin Burger, Alfred K. Louis and Eric Todd Quinto, EMS, (2014), DOI: 10.4171/OWR/2014/37.

Technical Reports and Theses

- *Recommendations to the Cancer Prevention and Research Institute of Texas (CPRIT),* (with P. Fox, D. Sherry, A. Annapragada, J. Gelovani, M. Motamedi, W. Qian, and C. Van Den Berg) The University of Texas System, Imaging Working Group, Austin, 2009.
- *Spherical Radon transforms and mathematical problems of thermoacoustic tomography,* May 2006, Doctoral Dissertation, Texas A&M University
- *Thermoacoustic tomography - implementation of exact backprojection formulas,* (with S. K. Patch) ASL Technote #04-06, Applied Science Lab, GE Medical Systems, 2004.
- *Analysis of nonlinear dynamical models similar to cascades by iterated functions method,* February 2001, Diploma Thesis, Department of Applied Mathematics, Obninsk Institute of Nuclear Power Engineering.

Selected List of Invited Presentations

1.	*The broken-ray transform and its generalizations,* Mini-symposium on Generalized Radon Transforms and Applications, 9-th International Conference on "Inverse Problems: Modeling and Simulation", May 21-25, 2018, Malta	Malta 05/2018
2.	*Generalizations of broken-ray transform and conical differentiation,* Special Session on 'Recent developments in Integral Geometry and Tomography, 2017 Fall AMS Southeastern Sectional Meeting, Orlando	Orlando, Florida 09/2017
3.	*The broken-ray transform and its generalizations,* Plenary talk at the conference "100 Years of the Radon Transform", The Radon Institute of Computational and Applied Mathematics, Linz	Linz, Austria 03/2017
4.	*Mathematical problems of image reconstruction in medicine,* Seminar Series of Neuro Technical Development Group, Advanced Neuro-Science Imaging Research Lab, UT Southwestern Medical Center, Dallas	Dallas, TX 09/2016
5.	*Generalized Radon transforms arising in single scattering optical tomography,* Special Session on Imaging Methods in Coupled Physics Models, The 11th AIMS Conference on Dynamical Systems, Differential Equations and Applications, Orlando	Orlando, FL 07/2016
6.	*Generalized Radon transforms in tomography,* Mathematics Department Colloquium, Kent State University, Kent	Kent, OH 04/2016
7.	*Broken-ray and conical Radon transforms in imaging,* Computational Science Seminar, UT Dallas, Dallas	Dallas, TX 10/2015
8.	*Broken-ray and conical Radon transforms in imaging,* AMS Spring Western Sectional Meeting, Meeting #1110, Las Vegas	Las Vegas, NV 04/2015
9.	*On the V-line Radon transform and its applications in imaging,* Oberwolfach Workshop on Mathematics and Algorithms in Tomography, The Mathematisches Forschungsinstitut Oberwolfach	Oberwolfach, Germany 08/2014
10.	*Exterior problem of acoustic reflectivity imaging,* Special Session on Hybrid Imaging Methods, The 10th AIMS Conference on Dynamical Systems, Differential Equations and Applications, Madrid	Madrid, Spain 07/2014
11.	*Microlocal analysis of an elliptical Radon transform in circular geometry of data acquisition,* Special Session on Microlocal Analysis and the Inverse Conductivity Problem, The 10th AIMS Conference on Dynamical Systems, Differential Equations and Applications, Madrid	Madrid, Spain 07/2014

12.	*Generalized Radon transforms in tomography*, A series of lectures at the Advanced Instructional School on Theoretical and Numerical Aspects of Inverse Problems, Tata Institute of Fundamental Research , Bangalore	Bangalore, India 06/2014
13.	*Elliptical Radon transform in synthetic aperture radar imaging*, Special Session on Novel Developments in Tomography and Applications, 2014 Spring AMS Eastern Sectional Meeting, Baltimore	Baltimore, MD 03/2014
14.	*Spherical mean transform and its generalizations*, Research Seminar, Institute of Mathematics, Armenian Academy of Sciences, Yerevan	Yerevan, Armenia 10/2013
15.	*Generalized Radon transforms in image reconstruction problems*, Department of Mathematics and Mechanics, Yerevan State University	Yerevan, Armenia 10/2013
16.	*Four lectures on integral geometry and mathematical problems of image reconstruction*, Lecture Series at the Centre for Applicable Mathematics, Tata Institute of Fundamental Research , Bangalore	Bangalore, India 06/2013
17.	*Generalized Radon transforms in image reconstruction problems*, Department of Mathematics Seminar, Indian Institute of Science, Bangalore	Bangalore, India 06/2013
18.	*Reconstructing a function from its v-line Radon transform in a disc*, Complex Analysis and Dynamical Systems VI, Bar-ilan University, ORT Braude College, and the University of Miami, Naharia	Naharia, Israel 05/2013
19.	*Injectivity and inversion of ultrasound operators in the spherical geometry*, Conference on Computational Analysis of Inverse Problems and Partial Differential Equations, University of Central Florida, Orlando	Orlando, FL 05/2013
20.	*Reconstructing a function from its V-line averages in a disc*, Inverse Problems and Applications, Linköping University and Institut Mittag-Leffler, Linköping	Linköping, Sweden 04/2013
21.	*Integral geometry and tomography*, Colloquium, Centre for Applicable Mathematics, Tata Institute of Fundamental Research , Bangalore	Bangalore, India 12/2012
22.	*On generalized Radon transforms in ultrasound tomography*,11-th Annual Conference of the Indian Society of Industrial and Applied Mathematics, Gautam Buddha University, New Delhi	New Delhi, India 12/2012
23.	*Generalized Radon transforms and image reconstruction problems*, Mathematics Department Colloquium, Virginia Tech University, Blacksburg	Blacksburg, VA 11/2012
24.	*The elliptical Radon transform and ultrasound tomography*, Fourth Conference of the Euro-American Consortium for Promoting the Application of Mathematics in Technical and Natural Sciences, Varna	Varna, Bulgaria 06/2012
25.	*The elliptical Radon transform and ultrasound tomography*, BIOMATH 2012, Bulgarian Academy of Sciences, Sofia	Sofia, Bulgaria 06/2012
26.	*Inversion of the V-Line Radon transform in a disc and its applications in imaging*, SIAM Conference on Imaging Science, Philadelphia	Philadelphia, PA 05/2012
27.	*Injectivity and exact inversion of ultrasound operators in the spherical geometry*, Partial Differential Equations Seminar, University of Houston	Houston, TX 04/2012
28.	*Injectivity and exact inversion of ultrasound operators in the spherical geometry*, AMS 2012 Spring Southeastern Section Meeting, Tampa	Tampa, FL 03/2012
29.	*Exact inversion of ultrasound operators in the spherical geometry*, Workshop on Geometric Analysis on Euclidean and Homogeneous Spaces, Tufts University, Boston	Medford, MA 01/2012

30. *Image reconstruction in acoustic reflectivity tomography,* Third Conference of the Euro-American Consortium for Promoting the Application of Mathematics in Technical and Natural Sciences, Sozopol	Albena, Bulgaria 06/2011
31. *On reconstruction in thermoacoustic tomography,* BIOMATH 2011, Bulgarian Academy of Sciences, Sofia	Sofia, Bulgaria 06/2011
32. *Generalized Radon transforms in SAR image reconstruction problems,* Applied Mathematics And Image Processing Summer Workshop, UT Pan American	Edinburg, TX 05/2011
33. *Image reconstruction in acoustic reflectivity tomography,* Applied Inverse Problems Conference, College Station	College Station, TX 05/2011
34. *Exterior problem of acoustic reflectivity imaging,* Harmonic Analysis and Integral Geometry Workshop, Louisiana State University, Baton Rouge	Baton Rouge, LA 01/2011
35. *On inversion of Radon transforms from partial data,* Second Conference of the Euro-American Consortium for Promoting the Application of Mathematics in Technical and Natural Sciences, Sozopol	Sozopol, Bulgaria 06/2010
36. *The generalized Radon transforms and their applications in tomography,* Mathematics Department Colloquium, Texas Christian University, Fort Worth	Fort Worth, TX 10/2009
37. *Overview of mathematics of thermoacoustic tomography,* Inverse Problems Workshop, AMS Mathematical Research Communities (MRC), Snowbird	Snowbird, UT 06/2009
38. *Integral geometry in medical imaging,* Research Colloquium, Department of Mathematics, Southern Methodist University, Dallas	Dallas, TX 10/2008
39. *On limited view tomography with side constraints,* American Mathematical Society, Spring Southeastern Sectional Meeting, Meeting # 1037, Baton Rouge	Baton Rouge, LA 03/2008
40. *Some mathematical problems of thermoacoustic tomography,* SIAM Conference on Imaging Science 2006, Minneapolis	Minneapolis, MN 05/2006
41. *Image reconstruction in thermoacoustic tomography,* Institute of Mathematics and Applications (IMA), Imaging from Wave Propagation, Annual Program Year Workshop, Minneapolis	Minneapolis, MN 10/2005
42. *On reconstruction in thermoacoustic tomography* (poster presentation), The 8-th International Meeting on Fully Three-Dimensional Image Reconstruction in Radiology and Nuclear Medicine, Salt Lake City	Salt Lake City, UT 07/2005
43. *Numerical reconstructions in 3D thermo-acoustic tomography,* American Mathematical Society, 2005 Joint Mathematics Meeting, Atlanta	Atlanta, GA 01/2005
44. *Thermoacoustic tomography – reconstruction in 3D,* Applied Science Laboratory Special Research Forum, GE Healthcare Technologies, Milwaukee	Milwaukee, WI 08/2004
45. *The circular Radon transform and thermoacoustic tomography,* American Mathematical Society, Spring Eastern Sectional Meeting, Meeting # 997, Lawrenceville	Lawrenceville, NJ 04/2004
46. *Circular Radon transform, wave equation and thermoacoustic tomography,* 7^{th} Annual Texas Partial Differential Equations Conference, College Station	College Station, TX 04/2004
47. *On injectivity of the circular Radon transform,* AMS, Fall Eastern Sectional Meeting, Meeting # 990, Binghamton	Binghamton, NY 10/2003
48. *Global existence of infinitely iterated exponentials with alternating exponents of different signs,* 2001 Voronezh Winter Mathematical School / Modern Methods of Functions Theory and Related Problems, Conference of Steklov Institute of Mathematics of Russian Academy of Sciences, Moscow State University, Voronezh State University, Voronezh	Voronezh, Russia 02/2001

49.	*Analysis of a cascade type nonlinear dynamical system*, Differential Equations Seminar, Faculty of Computational Mathematics and Cybernetics, Moscow State University, Moscow	Moscow, Russia 12/2000
50.	*On continuation of functions represented by infinitely iterated exponentials*, 1999 Voronezh Winter Mathematical School / Conference of Steklov Institute of Mathematics of Russian Academy of Sciences, Moscow State University, Voronezh State University, Voronezh	Voronezh, Russia 02/1999

Workshops

1.	*Computational and Analytical Aspects of Image Reconstruction*, The Institute for Computational and Experimental Research in Mathematics (ICERM), Brown University, Providence	Providence, RI 07/2015
2.	*Inverse Problems and Spectral Theory*, Dedicated to 65-th Birthday of Peter Kuchment, Texas A&M University, College Station	College Station, TX 10/2014
3.	*Mathematics and Algorithms in Tomography*, Mathematisches Forschungsinstitut Oberwolfach (MFO), Oberwolfach	Oberwolfach, Germany 08/2014
4.	*Microlocal Analysis and Imaging*, SQuaREs workshop, The American Institute of Mathematics, Palo Alto	Palo Alto, CA 08/2011, 12, 13
5.	*Mathematical Methods of Computed Tomography*, National Science Foundation, CBMS Conference, Arlington	Arlington, TX 05/2012
6.	*Applied Inverse Problems*, Pre-Conference Workshop of AIP 2011, College Station	College Station, TX 05/2011
7.	*Inverse Problems: Theory and Applications*, Mathematical Sciences Research Institute (MSRI), Berkeley	Berkeley, CA 11/2010
8.	*Mathematics and Algorithms in Tomography*, Mathematisches Forschungsinstitut Oberwolfach (MFO), Oberwolfach	Oberwolfach, Germany 04/2010
9.	*Mathematical Methods in Emerging Modalities of Medical Imaging*, Banff International Research Station (BIRS), Banff	Banff, Canada 10/2009
10.	*Inverse Problems*, AMS Mathematical Research Communities (MRC), Snowbird	Snowbird, UT 06/2008
11.	*Evolution Equations*, Clay Mathematics Institute Summer School Swiss Federal Institute of Technology, Zürich	Zürich, Switzerland 06/2008-07/2008
12.	*Inverse Scattering for Radar Imaging*, National Science Foundation, CBMS Conference, Arlington	Arlington, TX 05/2008
13.	*Imaging in Random Media*, National Science Foundation, CBMS Conference, Houston	Houston, TX 05/2008
14.	*New Mathematics and Algorithms for 3D Image Analysis*, Institute for Mathematics and Applications, Annual Program Year Workshop	Minneapolis, MN 01/2006
15.	*Imaging from Wave Propagation*, Institute for Mathematics and Applications, Annual Program Year Workshop, Minneapolis	Minneapolis, MN 10/2005
16.	*The Radon Transform and Applications to Inverse Problems*, American Mathematical Society Short Course Series, Atlanta	Atlanta, GA 01/2005
17.	*Inverse Problems: Computational Methods and Emerging Applications*, Institute for Pure and Applied Mathematics, Los Angeles	Los Angeles, CA 09/2003

Supervised Postdoctoral Fellows

1. *Souvik Roy*, Spring 2015, The University of Texas at Arlington, Arlington, Texas.
   Position after UTA: Postdoctoral Researcher at the Department of Mathematics,
   University of Würzburg, Germany

Supervised PhD Students

1. *John Montalbo*, current, University of Texas at Arlington, Arlington, Texas.
2. *Sl-Ghi Choi*, PhD 2017, University of Texas at Arlington, Arlington, Texas.
   Dissertation Title: "Image Reconstruction from Incomplete Radon Data and Generalized Principal Component Analysis".
3. *Rim Gouia-Zarrad*, PhD 2011, University of Texas at Arlington, Arlington, Texas.
   Dissertation Title: "Some Problems of Integral Geometry in Advanced Imaging".
   Winner of "2011 Outstanding Graduate Research Award" at the Department of Mathematics, UTA.
   Position obtained: Assistant Professor of Mathematics at The American University of Sharjah, UAE.

Supervised Master Students

1. *Mohammad Javad Latifi Jebelli*, MS 2017, UTA. Position after MS: PhD Student, University of Arizona.
2. *David Hightower*, MS 2015, UTA. Position after MS: Specialist at Lockheed Martin.
3. *Spencer Lunderman*, MS 2015, UTA. Position after MS: PhD Student, University of Arizona.
4. *Ernesto Garcia*, MS 2012, UTA. Position after MS: PhD Student, CUNY.
5. *R S Vaidyanathan*, MS 2010, UTSW (co-supervised with Prof. Matthew Lewis).
6. *Rim Gouia*, MS 2009, UTA. Position after MS: PhD Student, University of Texas at Arlington.
7. *Ming Xie*, REP Project, MS 2008, UTA. Position after MS: PhD Student, University of Wisconsin.

Supervised Undergraduate Students

1. *Mostofa Hisham*, BS Honors Thesis, UTA 2018.
2. *Mary Gockenbach*, 2017-2018 NSF supported REU program.
3. *Katherine Livingston*, 2017-2018 NSF supported REU program.
4. *Tom Overman*, 2017-2018 NSF supported REU program.
5. *Srivani Gandikota*, 2016-2017 NSF supported REU program.
6. *Joyce Hong*, 2016-2017 NSF supported REU program.
7. *Brendon Hotchkiss*, 2016-2017 NSF supported REU program.
8. *Javier Salazar*, 2016-2017 NSF supported REU program.
9. *Jesse Baum*, BS 2013, UTA.
10. *Clinton Kimberlin*, BS 2012, UTA.
11. *Hyung Wook Chun*, BS 2011, UTA.

Dissertation/Thesis Committee Membership

1. Mark Jackson, PhD committee (chair Benito Chen), Mathematics, UTA
2. Iris Alvarado, PhD committee (chair Hristo Kojouharov), Mathematics, UTA
3. Peng Wan, PhD committee, (chair Andrzej Korzeniowski), Mathematics, UTA

4. Ting Luo, PhD committee (chair Yue Liu), Mathematics, UTA
5. Hongguang Xi, PhD committee (chair Jianzhong Su), Mathematics, UTA
6. Junwei Sun, PhD committee (chair Yue Liu), Mathematics, UTA
7. Ivan Ojeda-Ruiz, PhD committee (chair Ren-Cang Li), Mathematics, UTA
8. Derek Tomlin, PhD committee (chair Michaela Vancliff), Mathematics, UTA
9. Daniel Wood, PhD committee (chair Hristo Kojouharov), Mathematics, UTA
10. Melinda Au, PhD committee (chair Ren-Cang Li), Mathematics, UTA
11. Rachel Traylor, PhD committee (chair Andrzej Korzeniowski), Mathematics, UTA
12. Pavan Kumar Nuthi, PhD committee (chair Kamesh Subbarao), Mechanical & Aerospace Eng., UTA
13. Laura Suarez Henderson, PhD committee (chair Kamesh Subbarao), Mechanical & Aerospace Eng., UTA
14. Joonas Ilmavirta, PhD pre-examiner (chair Mikko Salo), Mathematics, University of Jyväskylä, Finland
15. Nathan Steele, PhD committee (chair David Jorgensen), Mathematics, UTA
16. John Griffis, PhD committee (chair Dimitar Grantcharov), Mathematics, UTA
17. Andrew Cavaness, PhD committee (chair Dimitar Grantcharov), Mathematics, UTA
18. Wilber Ventura, PhD committee (chair Andrzej Korzeniowski), Mathematics, UTA
19. Ahmed Ali, PhD committee (chair Ren-Cang Li), Mathematics, UTA
20. Christopher Mitchell, PhD committee (chair Christopher Kribs), Mathematics, UTA
21. Denise Rangel, PhD committee (chair David Jorgensen), Mathematics, UTA
22. Allie Ray, PhD committee (chair Ruth Gornet), Mathematics, UTA
23. Yonghua Yan, PhD committee (chair Chaoqun Liu), Mathematics, UTA
24. Thomas Seaquist, PhD committee (chair Andrzej Korzeniowski), Mathematics, UTA
25. Ibrahim Diakite, PhD committee (chair Benito Chen), Mathematics, UTA
26. Alicia Machuca, PhD committee (chair Tuncay Aktosun), Mathematics, UTA
27. Juan Licea Salazar, PhD committee (chair Benito Chen), Mathematics, UTA
28. Aubrey Rhoden, PhD committee (chair Jianzhong Su), Mathematics, UTA
29. Weichao Wang, PhD committee (chair Ren-Cang Li), Mathematics, UTA
30. Byungsoo Moon, PhD committee (chair Yue Liu), Mathematics, UTA
31. Caixia Chen, PhD committee (chair Yue Liu), Mathematics, UTA
32. Jared Painter, PhD committee (chair David Jorgensen), Mathematics, UTA
33. Britnee Crawford, PhD committee (chair Christopher Kribs), Mathematics, UTA
34. Humberto Perez-Gonzales, PhD committee (chair Jianzhong Su), Mathematics, UTA
35. Natee Pantong, PhD committee (chair Jianzhong Su), Mathematics, UTA
36. Mehmet Ali Akinlar, PhD committee (chair Guojun Liao), Mathematics, UTA
37. Snehanshu Saha, PhD committee (chair Yue Liu), Mathematics, UTA
38. Meri Florence, PhD committee (chair David Jorgensen), Mathematics, UTA
39. Theresa Busse, PhD committee (chair Tuncay Aktosun), Mathematics, UTA
40. Paul Stern, PhD committee (chair David Jorgensen), Mathematics, UTA

41. Mondal Hasan Zahid, MS committee (chair Christopher Kribs), Mathematics, UTA
42. Jonathan Johnson, MS committee (chair Barbara Shipman), Mathematics, UTA
43. Catherine Rogers, MS committee (chair Christopher Kribs), Mathematics, UTA
44. Mehmet Unlu, MS committee (chair Tuncay Aktosun), Mathematics, UTA
45. Rachel Moss, MS committee (chair Barbara Shipman), Mathematics, UTA
46. Alekzander Malcom, MS committee (chair Dimitar Grantcharov), Mathematics, UTA
47. Jennifer Anderson, MS committee (chair Stephen Pankavich), Mathematics, UTA
48. Britnee Crawford, MS committee (chair Christopher Kribs), Mathematics, UTA

Teaching at UTA

1. ***Math 5392*** - *Mathematics of Medical Imaging (graduate),* University of Texas at Arlington, **Instructor**. Class size – about 14 students (7 at UTA and 7 at UTSW). Cross-listed with a graduate course at UT Southwestern Medical School (UTSW), and webcasted online to UTSW campus. Responsibilities: curriculum development, lectures, 2 course projects.
2. ***Math 5327*** - *Functional Analysis I (graduate),* University of Texas at Arlington, **Instructor**. Class size – about 10 students. Responsibilities: lectures, office hours, 2 exams per semester.
3. ***Math 5328*** - *Functional Analysis II (graduate),* University of Texas at Arlington, **Instructor**. Class size – about 10 students. Responsibilities: lectures, office hours, 2 exams per semester.
4. ***Math 5322*** - *Complex Variables I (graduate),* University of Texas at Arlington, **Instructor**. Class size – about 30 students. Responsibilities: lectures, office hours, 3 exams per semester.
5. ***Math 5317*** - *Real Analysis (graduate),* **Instructor**. Class size – about 25 students. Responsibilities: lectures, office hours, 3 exams per semester.
6. ***Math 5307*** - *Mathematical Analysis I (graduate),* University of Texas at Arlington, **Instructor**. Class size – about 30 students. Responsibilities: lectures, office hours, 2 exams per semester.
7. ***Math 5308*** - *Mathematical Analysis II (graduate),* University of Texas at Arlington, **Instructor**. Class size – about 20 students. Responsibilities: lectures, office hours, 2 exams per semester.
8. ***Math 5345*** - *Concepts and Techniques in Analysis (grad),* University of Texas at Arlington, **Instructor**. Class size – about 10 students. Responsibilities: lectures, office hours, 4 exams per semester.
9. ***Math 5350*** - *Applied Mathematics I (graduate),* University of Texas at Arlington, **Instructor**. Class size – about 10 students. Responsibilities: lectures, office hours, 1 exam per semester.
10. ***Math 4394*** - *Undergraduate Research Experiences (undergrad),* U of Texas at Arlington, **Instructor**. Class size – about 5 students, supervising undergraduate research projects in different programs, including UTA QEP (Quality Enhancement Plan). Course aimed at using active learning in undergraduate education. Partially supported by instructor's NSF and NHARP grants.
11. ***Math 4322*** - *Introduction to Complex Variables (undergraduate),* University of Texas at Arlington, **Instructor.** Class size – about 26 students. Responsibilities: lectures, office hours, 3 exams/semester.
12. ***Math 3335*** - *Analysis I (undergraduate),* University of Texas at Arlington, **Instructor**. Class size – about 26 students. Discovery based learning course. Responsibilities: lectures, office hours, 5 exams/semester.
13. ***Math 3318*** - *Ordinary Differential Equations (undergrad),* University of Texas at Arlington, **Instructor**. Class size – about 26 students. Responsibilities: lectures, office hours, 3 exams per semester.
14. ***Math 3319*** -*Differential Equations and Linear Algebra (undergrad),* U of Texas at Arlington, **Instructor**. Class size – about 50 students. Responsibilities: lectures, office hours, 3 exams per semester.
15. ***Math 1426*** - *Calculus I (undergraduate),* University of Texas at Arlington, **Instructor**. Class size – about 65 students. Responsibilities: lectures, recitations, office hours, 3 exams per semester.

Teaching outside of UTA

16. *Calculus I (undergrad),* American University of Armenia, **Instructor**. Class size – about 60 students. Responsibilities: lectures, office hours, 3 exams per semester.
17. *Business Mathematics (undergrad),* Texas A&M University, **Instructor**. Class size – about 100 students. Responsibilities: lectures, office hours, maintaining an online part of the class through the "iLrn" system, 4 exams per semester. The class required strong use of graphical calculators.

18. *Numerical Analysis (undergrad),* Texas A&M University, **Teac**hin**g assistant**. Class size – about 25 students. Responsibilities: recitations and labs, office hours, grading quizzes, home works and programming assignments.
19. *Calculus II (undergrad),* Texas A&M University, **Teaching assistant**. Class size – about 35 students. Responsibilities: recitations, office hours, composing and grading quizzes, home works and exams.
20. *Calculus I (undergrad),* Obninsk Mathematical College (Russia), **Instructor**. Class size – 30 students.
21. *Calculus II (undergrad),* Obninsk Mathematical College, **Instructor**. Class size – about 30 students.

Professional Service to the Scientific Community

1. Panel Member for the *US National Science Foundation Grant Proposal Reviews,* Washington, DC, March 2017
2. Panel Member for the *US National Science Foundation Grant Proposal Reviews,* Washington, DC, January 2017
3. Panel Member for the *US National Science Foundation Grant Proposal Reviews,* Washington, DC, October 2016
4. Panel Member for the *US National Science Foundation Grant Proposal Reviews,* Washington, DC, November 2015
5. Panel Member for the *US National Science Foundation Grant Proposal Reviews,* Washington, DC, March 2011
6. Panel Member for the *US National Science Foundation Grant Proposal Reviews,* Washington, DC, February 2009

7. Co-organizer of the mini-symposium on *Analytic and Numerical Problems in Tomography,* 9-th International Conference on "Inverse Problems: Modeling and Simulation", May 21-25, 2018, Malta
8. Co-organizer of the mini-symposium on *Cone/Compton transforms and their applications*, conference on the "100 Years of the Radon transform", The Radon Institute of Computational and Applied Mathematics. Linz, Austria, March 27-31, 2017
9. Co-organizer of the workshop on *Computational and Analytical Aspects of Image Reconstruction*, The Institute for Computational and Experimental Research in Mathematics (ICERM), Brown University, Providence, July 13-17, 2015
10. Co-organizer of the *Inverse Problems and Spectral Theory Conference*, Dedicated to 65-th Birthday of Peter Kuchment, Texas A&M University, College Station, Texas, October 17-19, 2014
11. Co-organizer of the *2013 Texas Geometry and Topology Conference (TGTC) 49-th meeting,* Arlington, Texas, Feb 08 – Feb 10, 2013
12. Co-organizer of the *2012 National Science Foundation CBMS Conference on Mathematical Methods of Computed Tomography,* Arlington, Texas, May 29 – June 2, 2012
13. Co-organizer of the *Special Session on Ultrasound and Photo-Acoustic Imaging,* Southern Biomedical Engineering Conference (SBEC) 2011, Arlington, Texas, April 29 – May 1, 2011
14. Co-organizer of the *Harmonic Analysis and Integral Geometry Workshop*, at Louisiana State University, Baton Rouge, Louisiana, January 2011
15. Co-organizer of the *AMS Special Session on Integral Geometry: Analysis and Applications,* Joint Mathematics Meeting, New Orleans, Louisiana, January 2011
16. Co-organizer of the *AMS Special Session on Inverse Problems: Analysis and Computations,* Joint Mathematics Meeting, San Francisco, California, January 2010
17. Co-organizer of the *2008 National Science Foundation CBMS Conference on Inverse Scattering for Radar Imaging,* Arlington, Texas, May 27-31 2008

18. Co-organizer of the *7-th AIMS International Conference on Dynamical Systems and Differential Equations*, Arlington, Texas, May 18-21 2008

19. **Guest Editor** of a special issue of the journal **Inverse Problems** on "Broken ray and conical transforms in tomography", 2017-2018.

20. Journal Reviewer for:

1) *Applied Numerical Mathematics*
2) *IEEE Transactions on Computational Imaging*
3) *International Journal of Biomedical Imaging*
4) *Inverse Problems*
5) *Inverse Problems and Imaging*
6) *Inverse Problems in Science and Engineering*
7) *Journal of Fourier Analysis and Applications*
8) *Journal of Geophysics and Engineering*
9) *Journal of Mathematical Analysis and Applications*
10) *Journal of Mathematical Imaging and Vision*
11) *Journal of Modern Optics*
12) *Journal of Physics A: Mathematical and Theoretical*
13) *Mathematical Methods in the Applied Sciences*
14) *Measurement Science and Technology*
15) *Optics Express*
16) *Physics in Medicine and Biology*
17) *SIAM Journal on Applied Mathematics*
18) *SIAM Journal on Imaging Science*
19) *SIAM Journal on Mathematical Analysis*

21. Member of the *Mid-Cities Math Circle (MC)^2 Faculty*, Arlington, TX, 2008-present

22. Co-Director of the *UTA Calculus Bowl*, Arlington, TX, 2007-present

23. Faculty Member of the *National Alliance for Doctoral Studies in the Mathematical Sciences*, 2013-present

Professional Service to the University

1. Member of the *Faculty Recruitment Committee*, 2017-2018
Department of Mechanical and Aerospace Engineering, University of Texas at Arlington

2. Member of the *Faculty Recruitment Committee*,
Department of Mathematics, University of Texas at Arlington, 2016-2017

3. Member of the *Committee on Faculty Professional Development*,
College of Science, University of Texas at Arlington, 2016-2017

4. Member of the *Awards Committee*,
Department of Mathematics, University of Texas at Arlington, 2015-2017

5. Faculty Advisor for UTA chapter of the *Pi Mu Epsilon Honor Society*,
University of Texas at Arlington, 2015-present

6. Member of the *Center for Security Advances via Applied Nano-Technology (SAVANT),* University of Texas at Arlington, 2013-present
7. Member of the *Advisory Board of the Interdisciplinary Program in Medical Physics,* Department of Physics and Astronomy, UTA, 2008-present
8. Chair of the *Colloquium Series*, 2013-2016, Department of Mathematics, University of Texas at Arlington
9. Chair of the *PhD Preliminary Exam Committee*, 2011-2016 (Member of the Committee 2007-2016) Department of Mathematics, University of Texas at Arlington
10. Member of the *Frontiers in Science Series Speaker Selection Committee*, College of Science, University of Texas at Arlington, 2014-2015
11. Member of the *Advisory Committee*, Department of Mathematics, University of Texas at Arlington, 2011-2015
12. Member of the *Faculty Recruitment Committee*, Department of Mathematics, University of Texas at Arlington, 2011-2015
13. Member of the *Graduate Affairs Committee*, Department of Mathematics, University of Texas at Arlington, 2007-2011
14. Member of the *College of Science Workload Committee*, College of Science, University of Texas at Arlington 2011
15. Member of the *University of Texas System Imaging Working Group* Preparing Recommendations for the *Cancer Prevention & Research Institute of Texas (CPRIT),* 2008-2009

Articles and Videos in the Media (hyperlinks)

1. Feb 2017. **Ambartsoumian Leading NSF-funded Project on Math and Imaging Technology**
2. May 2015. **Teaching Assistants Reflect on Career Choices on the National Teacher Day**
3. Dec 2013. **Students of the American University of Armenia about Dr. Ambartsoumian**
4. Oct 2013. **Seminar and Interview of G. Ambartsoumian at the Russian-Armenian State University**
5. May 2013. **College of Science Presents 2012-13 Faculty Awards**
6. Apr 2013. **Sharper Image - On Dr. Ambartsoumian's Research in Maverick Science Magazine**

Additional Information

- Languages: fluent in English, Russian and Armenian
- US Citizen