

# Curriculum Vitae

## GAIK AMBARTSOUMIAN

### Mailing Address:

Department of Mathematics  
University of Texas at Arlington  
P.O. Box 19408  
Arlington, TX 76019-0408

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**URL:** <http://www.uta.edu/faculty/gambarts>

### Education

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#### Texas A&M University (TAMU)

*Ph.D. in Mathematics*

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

College Station, TX

08/2001-08/2006

#### Obninsk Institute of Nuclear Power Engineering (OINPE)

*Mathematician-engineer in Applied Mathematics*

- 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

Obninsk, Russia

09/1995-02/2001

### Professional Experience

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- 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

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

## Current Research Interests

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

## Grant Support

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

## Honors and Awards

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- 2014 US Junior Oberwolfach Fellow, The Mathematisches Forschungsinstitut Oberwolfach Oberwolfach, Germany
- 2011-2013 Structured Quartet Research Ensembles (SQuaREs) Member The American Institute of Mathematics Palo Alto, CA
- 2010 MSRI Research Member The Mathematical Sciences Research Institute Berkeley, CA
- 2009 Mathematical Research Communities (MRC) Member American Mathematical Society Snowbird, UT
- 2007-2008 Project NExT Fellow Mathematical Association of America Washington, DC
- 2006 L.F. Guseman Prize in Mathematics Texas A&M University College Station, TX

- 2006 VIGRE Match Fellowship in the Department of Mathematics  
Texas A&M University College Station, TX
- 2005-2006 Barnes & Noble Academic Excellence Scholarship  
Texas A&M University College Station, TX
- 2005 First Place Winner of the Student Research Week  
Texas A&M University College Station, TX
- 2003-2004 AUF Fellow in the Department of Mathematics  
College of Science, Texas A&M University College Station, TX
- 2001 Regent's Fellow in the Department of Mathematics  
College of Science, Texas A&M University College Station, TX
- 2001 Obninsk City Fellow,  
Program of the First Naukograd of Russian Federation Obninsk, Russia
- 2001 Research Excellence Award at the Department of Applied Mathematics  
Obninsk Institute of Nuclear Power Engineering Obninsk, Russia

## **Publications in Preparation or Submitted**

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1. *Inversion of the spherical Radon transform in a spherical shell*, with R. Gouia-Zarrad, V. Krishnan, and S. Roy, in preparation.
2. *Numerical inversion of a class of broken ray transforms arising in single scattering optical tomography*, with S. Roy, submitted.

## **Peer-reviewed Publications**

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3. *Inversion of a class of circular and elliptical Radon transforms*, with V. Krishnan, to appear in Contemporary Mathematics, (2016).
4. *Exact inversion of the conical Radon transform with a fixed opening angle*, with R. Gouia-Zarrad, Inverse Problems, 30 (2014), no. 4, 045007.
5. *Exterior problem of acoustic reflectivity imaging*, with L. Kunyansky, Inverse Problems and Imaging, 8, no. 2 (2014), pp 339-359.
6. *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.
7. *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.
8. *A Series formula for inversion of the V-line transform in a disc*, with S. Moon, Computers & Mathematics with Applications, ISSN 0898-1221, DOI: 10.1016/j.camwa.2013.01.039 (2013).
9. *Effect of refraction on dose reconstruction in optical-CT gel dosimetry*, with L. Florescu and C. Wu, Journal of Physics: Conference Series, 444 (2013), 012063.
10. *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.
11. *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.
12. *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.

13. *Effect of refraction on dose reconstruction in optical-CT gel dosimetry*, with L. Florescu and C. Wu, Medical Physics, 38 (2011) 3514.
14. *Inversion of the circular Radon transform on an annulus*, with R. Gouia-Zarrad, and M. Lewis, Inverse Problems, 26 (2010) 105015 (11pp).
15. *Tomographic reconstruction of nodular images from incomplete data*, with M. Xie, American Institute of Physics Conference Proceedings, vol. 1301, pp 167-174, 2010.
16. *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.
17. *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.
18. *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.
19. *A range description for the planar circular Radon transform*, with P. Kuchment, SIAM Journal on Mathematical Analysis, 38 (2006), no. 2, 681-692.
20. *On the injectivity of the circular Radon transform*, with P. Kuchment, Inverse Problems, 21 (2005) 473-485.
21. *Reconstruction in limited view thermoacoustic tomography*, with Y. Xu, L. Wang, and P. Kuchment, Medical Physics, 31(4) April 2004, 724-733.
22. *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

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23. *Microlocal analysis and imaging*, with R. Felea, V. Krishnan, C. Nolan, and E. T. Quinto, a chapter in Mathematics of Planet Earth, edited by H. Kaper and C. Rousseau, SIAM, (2015), ISBN 978-1-611973-70-9.
24. *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.
25. *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

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- *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

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1. *Broken-ray and conical Radon transforms in imaging*, Computational Science Seminar, UT Dallas, Dallas  
Dallas, TX  
10/2015
2. *Broken-ray and conical Radon transforms in imaging*, AMS Spring Western Sectional Meeting, Meeting #1110, Las Vegas  
Las Vegas, NV  
04/2015
3. *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
4. *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
5. *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
6. *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
7. *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
8. *Spherical mean transform and its generalizations*, Research Seminar, Institute of Mathematics, Armenian Academy of Sciences, Yerevan  
Yerevan, Armenia  
10/2013
9. *Generalized Radon transforms in image reconstruction problems*, Department of Mathematics and Mechanics, Yerevan State University  
Yerevan, Armenia  
10/2013
10. *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
11. *Generalized Radon transforms in image reconstruction problems*, Department of Mathematics Seminar, Indian Institute of Science, Bangalore  
Bangalore, India  
06/2013
12. *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
13. *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
14. *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
15. *Integral geometry and tomography*, Colloquium, Centre for Applicable Mathematics, Tata Institute of Fundamental Research , Bangalore  
Bangalore, India  
12/2012
16. *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
17. *Generalized Radon transforms and image reconstruction problems*, Mathematics Department Colloquium, Virginia Tech University, Blacksburg  
Blacksburg, VA  
11/2012

18. *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
19. *The elliptical Radon transform and ultrasound tomography*,  
BIOMATH 2012, Bulgarian Academy of Sciences, Sofia  
Sofia, Bulgaria  
06/2012
20. *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
21. *Injectivity and exact inversion of ultrasound operators in the spherical  
geometry*, Partial Differential Equations Seminar, University of Houston  
Houston, TX  
04/2012
22. *Injectivity and exact inversion of ultrasound operators in the spherical  
geometry*, AMS 2012 Spring Southeastern Section Meeting, Tampa  
Tampa, FL  
03/2012
23. *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
24. *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
25. *On reconstruction in thermoacoustic tomography*,  
BIOMATH 2011, Bulgarian Academy of Sciences, Sofia  
Sofia, Bulgaria  
06/2011
26. *Generalized Radon transforms in SAR image reconstruction problems*, Applied  
Mathematics And Image Processing Summer Workshop, UT Pan American  
Edinburg, TX  
05/2011
27. *Image reconstruction in acoustic reflectivity tomography*,  
Applied Inverse Problems Conference, College Station  
College Station, TX  
05/2011
28. *Exterior problem of acoustic reflectivity imaging*, Harmonic Analysis and  
Integral Geometry Workshop, Louisiana State University, Baton Rouge  
Baton Rouge, LA  
01/2011
29. *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
30. *The generalized Radon transforms and their applications in tomography*,  
Mathematics Department Colloquium, Texas Christian University, Fort Worth  
Fort Worth, TX  
10/2009
31. *Overview of mathematics of thermoacoustic tomography*, Inverse Problems  
Workshop, AMS Mathematical Research Communities (MRC), Snowbird  
Snowbird, UT  
06/2009
32. *Integral geometry in medical imaging*, Research Colloquium,  
Department of Mathematics, Southern Methodist University, Dallas  
Dallas, TX  
10/2008
33. *On limited view tomography with side constraints*, American Mathematical  
Society, Spring Southeastern Sectional Meeting, Meeting # 1037, Baton Rouge  
Baton Rouge, LA  
03/2008
34. *Some mathematical problems of thermoacoustic tomography*,  
SIAM Conference on Imaging Science 2006, Minneapolis  
Minneapolis, MN  
05/2006
35. *Image reconstruction in thermoacoustic tomography*, Institute of  
Mathematics and Applications (IMA), Imaging from Wave Propagation,  
Annual Program Year Workshop, Minneapolis  
Minneapolis, MN  
10/2005
36. *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
37. *Numerical reconstructions in 3D thermo-acoustic tomography*,  
American Mathematical Society, 2005 Joint Mathematics Meeting, Atlanta  
Atlanta, GA  
01/2005

38. *Thermoacoustic tomography – reconstruction in 3D*, Applied Science Laboratory Special Research Forum, GE Healthcare Technologies, Milwaukee  
Milwaukee, WI  
08/2004
39. *The circular Radon transform and thermoacoustic tomography*, American Mathematical Society, Spring Eastern Sectional Meeting, Meeting # 997, Lawrenceville  
Lawrenceville, NJ  
04/2004
40. *Circular Radon transform, wave equation and thermoacoustic tomography*, 7<sup>th</sup> Annual Texas Partial Differential Equations Conference, College Station  
College Station, TX  
04/2004
41. *On injectivity of the circular Radon transform*, AMS, Fall Eastern Sectional Meeting, Meeting # 990, Binghamton  
Binghamton, NY  
10/2003
42. *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
43. *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
44. *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

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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

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| 12. <i>Inverse Scattering for Radar Imaging</i> ,<br>National Science Foundation, CBMS Conference, Arlington                                  | Arlington, TX<br>05/2008   |
| 13. <i>Imaging in Random Media</i> ,<br>National Science Foundation, CBMS Conference, Houston   | Houston, TX<br>05/2008     |
| 14. <i>New Mathematics and Algorithms for 3D Image Analysis</i> , Institute for<br>Mathematics and Applications, Annual Program Year Workshop | Minneapolis, MN<br>01/2006 |
| 15. <i>Imaging from Wave Propagation</i> , Institute for Mathematics and Applications,<br>Annual Program Year Workshop, Minneapolis           | Minneapolis, MN<br>10/2005 |
| 16. <i>The Radon Transform and Applications to Inverse Problems</i> ,<br>American Mathematical Society Short Course Series, Atlanta           | Atlanta, GA<br>01/2005     |
| 17. <i>Inverse Problems: Computational Methods and Emerging Applications</i> ,<br>Institute for Pure and Applied Mathematics, Los Angeles     | Los Angeles, CA<br>09/2003 |

## Supervised Postdoctoral Fellows

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- *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

## Supervised PhD Students

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- *Si-Ghi Choi*, expected to graduate in 2017, The University of Texas at Arlington, Arlington, Texas.
- *Rim Gouia*, PhD 2011, The 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

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- *David Hightower*, expected MS 2015, UTA.
- *Spencer Lunderman*, MS 2015, UTA
- *Ernesto Garcia*, MS 2012, UTA.
- *R S Vaidyanathan*, MS 2010, UTSW (co-supervised with Prof. Matthew Lewis).
- *Rim Gouia*, MS 2009, UTA.
- *Ming Xie*, REP Project, MS 2008, UTA.

## Supervised Undergraduate Students

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- *Jesse Baum*, BS expected in 2013, UTA.
- *Clinton Kimberlin*, BS 2012, UTA.
- *Hyung Wook Chun*, BS 2011, UTA.

## Dissertation/Thesis Committee Membership

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

## Teaching at UTA

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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 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.
10. **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.
11. **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.
12. **Math 4394 -Undergraduate Research Experiences (undergrad)**, U of Texas at Arlington, **Co-Instructor**. Class size – 5 students, supervising undergraduate research projects in UTA QEP (Quality Enhancement Plan) course aimed at using active learning in undergraduate education. Partially supported by NHARP grant. **Instructor**. Class size – 2 students, supervising undergraduate research projects
13. **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

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14. **Calculus I (undergrad)**, American University of Armenia, **Instructor**. Class size – about 60 students. Responsibilities: lectures, office hours, 3 exams per semester.
15. **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.
16. **Numerical Analysis (undergrad)**, Texas A&M University, **Teaching assistant**. Class size – about 25 students. Responsibilities: recitations and labs, office hours, grading quizzes, home works and programming assignments.
17. **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.
18. **Calculus I (undergrad)**, Obninsk Mathematical College (Russia), **Instructor**. Class size – 30 students.
19. **Calculus II (undergrad)**, Obninsk Mathematical College, **Instructor**. Class size – about 30 students.

## Professional Service to the Scientific Community

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1. Panel Member for the *US National Science Foundation Grant Proposal Reviews*, Washington, DC, November 2015
2. Panel Member for the *US National Science Foundation Grant Proposal Reviews*, Washington, DC, March 2011
3. Panel Member for the *US National Science Foundation Grant Proposal Reviews*, Washington, DC, February 2009
  
4. 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
5. 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
6. Co-organizer of the *2013 Texas Geometry and Topology Conference (TGTC) 49-th meeting*, Arlington, Texas, Feb 08 – Feb 10, 2013
7. Co-organizer of the *2012 National Science Foundation CBMS Conference on Mathematical Methods of Computed Tomography*, Arlington, Texas, May 29 – June 2, 2012
8. 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
9. Co-organizer of the *Harmonic Analysis and Integral Geometry Workshop*, at Louisiana State University, Baton Rouge, Louisiana, January 2011
10. Co-organizer of the *AMS Special Session on Integral Geometry: Analysis and Applications*, Joint Mathematics Meeting, New Orleans, Louisiana, January 2011
11. Co-organizer of the *AMS Special Session on Inverse Problems: Analysis and Computations*, Joint Mathematics Meeting, San Francisco, California, January 2010
12. Co-organizer of the *2008 National Science Foundation CBMS Conference on Inverse Scattering for Radar Imaging*, Arlington, Texas, May 27-31 2008
13. Co-organizer of the *7-th AIMS International Conference on Dynamical Systems and Differential Equations*, Arlington, Texas, May 18-21 2008
  
14. Journal Reviewer for:
  - 1) *IEEE Transactions on Computational Imaging*
  - 2) *International Journal of Biomedical Imaging*
  - 3) *Inverse Problems*
  - 4) *Inverse Problems and Imaging*
  - 5) *Inverse Problems in Science and Engineering*
  - 6) *Journal of Geophysics and Engineering*
  - 7) *Journal of Mathematical Imaging and Vision*
  - 8) *Journal of Mathematical Analysis and Applications*
  - 9) *Journal of Modern Optics*
  - 10) *Mathematical Methods in the Applied Sciences*
  - 11) *Measurement Science and Technology*
  - 12) *Optics Express*
  - 13) *Physics in Medicine and Biology*
  - 14) *SIAM Journal on Applied Mathematics*
  - 15) *SIAM Journal on Imaging Science*
  - 16) *SIAM Journal on Mathematical Analysis*

15. Member of the *Mid-Cities Math Circle (MC)<sup>2</sup> Faculty*, Arlington, TX, 2008-present
16. Co-Director of the *UTA Calculus Bowl*, Arlington, TX, 2007-present
17. Faculty Member of the *National Alliance for Doctoral Studies in the Mathematical Sciences*, 2013-present

## **Professional Service to the University**

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

## **Additional Information**

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