

**Sung Ha Kang**  
Associate Professor  
School of Mathematics  
Georgia Institute of Technology  
<http://people.math.gatech.edu/~kang/>

## Employment and Education

**Tenured Associate Professor** August 2011 - Present  
School of Mathematics, Georgia Institute of Technology, Atlanta, GA 30332, USA

**Tenure-Track Assistant Professor** August 2008 - July 2011  
School of Mathematics, Georgia Institute of Technology, Atlanta, GA 30332, USA

**Tenure-Track Assistant Professor** August 2002 - July 2008  
Department of Mathematics, University of Kentucky, Lexington, KY 40506, USA  
Promotion to Associate Professor with tenure approved on March 27, 2008

**Ph.D. in Applied Mathematics** September 1997- June 2002  
Department of Mathematics, University of California, Los Angeles, CA 90095, USA  
Thesis Adviser : Prof. Tony F. Chan  
Thesis Title : Mathematical approaches to color denoising and image inpainting problems.

**B.S. in Mathematics** March 1993 - February 1997  
Department of Mathematics, Yonsei University, Seoul, Korea

## Research Interest

- Mathematical approaches to image processing and computer vision. Variational functional and PDE based methods for various problems arising in image restorations and segmentation: denoising, de-blurring, inpainting, color image, video, shape analysis, texture, multiphase image segmentation and various extensions.
- New modeling of functionals, mathematical analysis and numerical simulations. Numerical methods and scientific computing, level-set methods, wavelets and applied differential equations.

## Refereed Publications

1. Tony F. Chan, Sung Ha Kang and Jianhong Shen, Total Variation denoising and enhancement of color images based on the CB and HSV color Models, *Journal of Visual Communication and Image Representation*, Volume 12, Issue 4, Pages 422-435, 2001.
2. Tony F. Chan, Sung Ha Kang and Jianhong Shen, Euler's Elastica and curvature based inpaintings, *SIAM journal on Applied Mathematics*, Volume 63, Number 2, Pages 564-592, 2002.
3. Sung Ha Kang and Jianhong Shen, Video dejittering by Bake and Shake, *Image and vision computing*, Volume 24, Issue 2, Pages 143-152, 2006.
4. Tony F. Chan and Sung Ha Kang, Error analysis for image inpainting, *Journal of Mathematical Imaging and Vision*, Volume 26, Number 1-2, Pages 85-103, 2006.

5. Jean-François Aujol and Sung Ha Kang, Color image decomposition and restoration, *Journal of Visual Communication and Image Representation*, Volume 17, Issue 4, Pages 916-928, 2006.
6. Sung Ha Kang and Jianhong Shen, On the slicing moments of BV functions and applications to image de-jittering, in *Image Processing Based on Partial Differential Equations*, Springer-Verlag, Berlin, pages 35-55, 2007.
7. Yoon Mo Jung, Sung Ha Kang and Jianhong Shen, Multiphase image segmentation via Modica-Mortola phase transition, *SIAM journal on Applied Mathematics*, Volume 67, Issue 5, Pages 1213-1232, 2007.
8. Sung Ha Kang and Riccardo March, Variational models for image colorization via Chromaticity and Brightness decomposition, *IEEE transaction on image processing*, Volume 16, Issue 9, Pages 2251-2261, 2007.
9. Jianhong Shen and Sung Ha Kang, Quantum TV and Applications in Image Processing, *Inverse Problems and Imaging*, Volume: 1, Number 3, pages 557-575, 2007.
10. James H. Money and Sung Ha Kang, Total variation semi-blind deconvolution using shock filters, *Image and Vision Computing*, Volume 26, Issue 2, Pages 302-314, 2008.
11. Berta Sandberg, Sung Ha Kang, and Tony F. Chan, Unsupervised Multiphase Segmentation: A phase balancing model, *IEEE transaction on image processing*, Volume 19, Issue 1, pages 119 - 130, 2010.
12. Minh Ha-Quang, Sung-Ha Kang, and Triet M. Le, Image and Video Colorization Using Vector-Valued Reproducing Kernel Hilbert Spaces, *Journal of Mathematical Imaging and Vision*, Volume 37, Number 1, Pages 49 - 65, 2010.
13. Marco Barchiesi, Sung-Ha Kang, Triet Le, Massimiliano Morini, and Marcello Ponsiglione, A variational model for infinite perimeter segmentations based on Lipschitz level set functions: denoising while keeping finely oscillatory boundaries, *SIAM Journal of Multiscale Modeling and Simulation*, Volume 8, Issue 5, pages 1715-1741, 2010.
14. Sung Ha Kang, Berta Sandberg, and Andy Yip, "A Regularized K-means and Multiphase Scale Segmentation", *Inverse problems and imaging*, Volume 5, Issue 2, Pages 407-429, 2011.
15. Frank Crosby and Sung Ha Kang, Multiphase Segmentation for 3D Flash Lidar Images, *Journal of Pattern Recognition Research*, Vol 6, No 2, 193-200, 2011.
16. Wei Zhu, Sung Ha Kang and George Biros, A geodesic active contour based variational model for short axis cardiac-MR image segmentation, *International Journal of Computer Mathematics*, Vol. 90, No.1, 124-139, 2013.
17. Sung Ha Kang and Riccardo March, Existence and regularity of minimizers of a functional for unsupervised multiphase segmentation, *Nonlinear Analysis Series A: Theory, Methods and Applications*, Vol. 76, 181-201, 2013
18. Yifei Lou, Sung Ha Kang, Stefano Soatto and Andrea Bertozzi, Video Stabilization of Atmospheric Turbulence Distortion, *Inverse Problems and Imaging*, Vol. 7, Issue 3, 2013.
19. Sung Ha Kang, Behrang Shafei and Gabriele Steidl, Supervised and Transductive Multi-Class Segmentation Using p-Laplacians and RKHS Method, *Journal of Visual Communication and Image Representation*, Vol 25, Issue 5, 1136-1148, July 2014
20. Sung Ha Kang and Riccardo March, "Multiphase image segmentation via equally distanced multiple well potential", in *Journal of Visual Communication and Image Representation*, Volume 25, Issue 6, Pages 1446-1459, 2014.

21. Sung Ha Kang, Wei Zhu and Jackie Shen, Illusory Shapes via Corner Fusion, *SIAM J. Imaging Sci.*, Vol. 7, Num 4, 1907-1936, 2014
22. Sung Ha Kang, Seong Jun Kim, and Haomin Zhou, "Path optimization with limited sensing ability", in *Journal of Computational Physics* Volume 299, 15 October 2015, Pages 887– 901.

### Peer-reviewed Proceedings (double-blind reviewed)

23. Sung Ha Kang, Tony. F. Chan and Stefano Soatto, Inpainting from Multiple view, *IEEE Proceedings of First International Symposium on 3D Data Processing Visualization Transmission*, Pages 622-625, 2002.
24. Triet Le, Minh Ha Quang and Sung Ha Kang, Reproducing kernel and colorization, *Proceedings of the 8th International Conference on Sampling Theory and Applications (SAMPTA 09)*, May 2009.
25. Guozhi Dong, Markus Grasmair, Sung Ha Kang and Otmar Scherzer, Scale and Edge detection with Topological Derivatives of the Mumford-Shah Functional, in *Fourth International Conference on Scale Space and Variational Methods in Computer Vision SSVM 2013*.
26. Maryam Yashtini, Sung Ha Kang, "Alternating Direction Method of Multiplier for Euler's Elastica-Based Denoising", *International Conference on Scale Space and Variational Methods in Computer Vision (SSVM) 2015*: 690-701

### Technical Reports

27. Jeff Anderson, Feng-Nan Hwang, Sung Ha Kang, Bahareh Momken, Richard Shugart, Caroline Torcaso, Modeling molecular diffusion in soft tissues using fluorescence microscopy, *NCSU tech report CRSC-TR00-24*, 2000.
28. Sung Ha Kang, Tony F. Chan and Stefano Soatto, Landmark based inpainting from Multiple view, *UCLA Math CAM Report 02-11*, March 2002.
29. SeongJai Kim and Sung Ha Kang, Implicit Procedures for PDE-based Color Images Denoising via Brightness-Chromaticity, *UK tech report 02-07*, 2002.

### Grants

- |                          |  |
|--------------------------|--|
| <b>NSF DMS-ITR</b>       | Period : Sep. 2003 - Aug. 2006<br>Title: PDE based Image Restoration: Efficient Numerical Algorithms and software engineering. Amount \$110,520.<br>PI: SeongJai Kim (Mississippi State Univ.), Co-PI: Sung Ha Kang. |
| <b>NSF DMS</b>           | Period : Sep. 2007- Aug. 2010, Single PI, Amount \$106,201.<br>Title: Image Deblurring and Decomposition: Texture and Color Image Analysis.  |
| <b>Simons Foundation</b> | Collaboration Grant. Period : Sep. 2014- Aug. 2019, Single PI, Amount \$35,000.<br>Title: Mathematical Analysis and Numerical Application of Imaging Problems.   |

## Workshop/Conference Organization/Committee

Workshop at University of Kentucky, Lexington, KY, March 21-23, 2003  
Workshop Title: Image Processing and Computational Methods.  
Co-organizer with S. Kim, P. Hislop, D. Lau, and B. Seales.

**BIRS Workshop** : Banff, Canada, October 23-28, 2004  
Title: Mathematical Image Analysis and Processing.  
Co-organizer with S. Esedoglu (UCLA), M. Pugh (Toronto) and J. Shen (Minnesota).

**SIAM** Conference on Analysis of Partial Differential Equation, Mesa, AZ, December 10-12, 2007  
MS29 and MS51 PDE Based Models in Image Processing  
Co-organizer of Minisymposium with S. Levine (Duquesne)

Hausdorff Research Institute for Mathematics (**HIM**), Bonn, Germany, Sep. - Dec. 2008  
Organizer of group A, Junior Trimester Program on Analysis  
Title: Calculus of Variation and Image processing  
Co-organizers: M. Barchiesi (CMU), T. Le (Yale), M. Morini (SISSA),  
L. Mugnai(Leipzig), and M. Ponsiglione(Roma)

**SIAM** Conference on Analysis of Partial Differential Equation, Miami, FL, December 7-10, 2009  
MS1, MS11, and MS20 Variational Methods in Image Processing and Interface Problems.  
Co-organizer of Minisymposium with Maria Westdickenberg (GT Math)

2nd annual Georgia Scientific Computing Symposium (**GSC**), February 20, 2010  
Georgia Tech, School of Mathematics, Atlanta, GA  
Co-organizer with Jim Nagy (Emory), Luca Dieci and Haomin Zhou.

**SIAM** Conference on Imaging Science, Chicago, Illinois, April 12-14, 2010  
MS8 and MS13 Variational models and mathematical approaches to image processing.  
Co-organizer of Minisymposium with Jean-Francois Aujol (ENS, France)

**SIAM** Conference on Imaging Science, Philadelphia, Pennsylvania, May 20-22, 2012  
MS5 and MS15 Current Developments and Challenges in Imaging Through Turbulence.  
Co-organizer of Minisymposium with Yifei Lou (Gatech)

**IPAM** The International Conference on the Frontier of Computational and Applied Mathematics  
Tony Chan's 60th Birthday Conference, June 8 - 10, 2012  
**Organizing committee** with Thomas Hou (Caltech), Hongkai Zhao (UCI), Haomin Zhou (GT)

## Scholarly Visits and Activities

- **Visiting Scholar** at UCLA, July 2004 - December 2004  
Department of Mathematics, University of California, Los Angeles, CA.
- **Long-term visitor** at IMA, January 2006 - May 2006  
Institute of Mathematics and its Applications (IMA),  
University of Minnesota, Minneapolis, MN  
2005-2006 Thematic year on Imaging.
- **Trimester visit** at HIM, September 2008 - November 2008  
Hausdorff Research Institute for Mathematics, Bonn, Germany

Junior Trimester Program on Analysis,  
Group A: Calculus of Variation and Image processing

- **Visiting Professor** at ENS Cachan, May 2009-June 2009.  
The Ecole normale suprieure de Cachan, France  
Visiting Prof. Jean-Francois Aujol
- Participant at Mathematisches Forschungsinstitut **Oberwolfach**, Germany, Jan 30- Feb 5, 2011  
Workshop 1105: Trends in Mathematical Imaging and Surface Processing  
Organized by V. Caselles (Barcelona), M. Rumpf (Bonn), G. Sapiro (Minneapolis), and P. Schroder (Pasadena)
- Participant at **Dagstuhl**, Nov 20 - Nov 25, 2011  
Efficient Algorithms for Global Optimization Methods in Computer Vision  
Organized by A. Bruhn (Saarlandes), T. Pock (Graz) and X.-C. Tai (Bergen)
- **Visiting Scholar** at Moulhouse, France, May 5-31, 2013  
Laboratoire de Mathematiques, Informatique et Applications, Univ. de Haute-Alsace Mulhouse-Colmar
- Participant at IMA, Sep 23-26, 2013. Hot Topics Workshop :Imaging in Geospatial Applications
- **MSRI Member** Fall 2013 semester, Nov-Dec 2013  
Program: Optimal Transport: Geometry and Dynamics program
- The International Federation for Information Processing (**IFIP**), Working group 7.4 - Inverse Problems and Imaging, Jan. 2014-present.
- The Fields Institute Fall 2014, Sep 15-19, 2014  
Thematic Program on Variational Problem in Physics, Economics and Geometry
- ICERM Sep 29- Oct 3, 2014  
Semester Program on "High-dimensional Approximation"  
workshop on 'Approximation, Integration, and Optimization'

## Invited Conference/Workshop Presentations

1. Workshop on Image Processing and Computational Methods, University of Kentucky, Lexington, KY, March 21-23, 2003.
2. **AMS** Sectional meeting, Ohio University, Athens, Ohio, March 26-27, 2004, Invited talk in Special Session on Wavelets, other multiscale methods and their applications.
3. **SIAM** Conference on Imaging Science, Salt Lake City, Utah, May 3-5, 2004, Invited talk in MS6 Geometric Regularization in Image Analysis and Processing.
4. KWMS, 1st international workshop for Korean women in Mathematics, Korea Institute for Advanced Study, **Seoul, Korea**, June 21, 2004, **Plenary Talk**, "Mathematical approaches to image denoising and inpainting problems".
5. KWMS, 1st international workshop for Korean women in Mathematics, **Seoul, Korea**, June 23, 2004, invited talk in Special Session on Applied Mathematics.
6. **AMS** Sectional Meeting, University of Pittsburgh, Pittsburgh, Pennsylvania, November 6-7, 2004, Invited talk in Special Session on PDE-Based Methods in Imaging and Vision.

7. AHA International conference on Applicable Harmonic Analysis, May 23-27, 2005, Invited talk in Special Session on PDE based imaging, **HangZhou, China**.
8. Workshop: PDE-Based Image Processing and Related Inverse Problems, Center of Mathematics for Applications (CMA), **Oslo, Norway**, August 8-12, 2005, Invited address.
9. **AMS** Eastern Section Meeting, Annandale-on-Hudson, NY, October 8-9, 2005, Invited talk in Special Session on Mathematical Methods for the Analysis of Images and High Dimensional Data.
10. **AMS** Southeastern Section Meeting, Florida International University, Miami, FL, April 1-2, 2006, Invited talk in Special Session on Mathematical Models in Image and High-Dimensional Data Analysis.
11. **SIAM** Conference on Imaging Science, Minneapolis, Minnesota, May 15-17, 2006, Invited talk in MS44 Variational and PDE Models for Image Decomposition.
12. **AMS** Fall Central Section Meeting, Cincinnati, OH, October 21-22, 2006, Invited talk in Special Session on Nonlinear Partial Differential and Its Applications.
13. **SIAM** Conference on Analysis of Partial Differential Equations, Mesa, AZ, December 10-12, 2007. MS29 PDE Based Models in Image Processing - Part I of II.
14. **SIAM** Conference on Imaging Science, San Diego, CA, July 7-9, 2008. MS39 Variational Color Image Processing
15. **SIAM** Annual Meeting, San Diego, CA, July 7-11, 2008. MS82 Segmentation and Data Mining Conference on Imaging Science.
16. **SAMPTA** the 8th international conference on Sampling Theory and Applications, **Marseille, France**, May 18-22, 2009, Invited talk in Special session on Sampling and inpainting.
17. **IMACS** World Congress, Computational and Applied mathematics and Applications in Science and Engineering, **Athens, GA**, August 3-5, 2009
18. Konkuk-Hanyang Workshop on Biomedical Topics, *Konkuk University*, Seoul, Korea, December 15, 2009
19. **KMS-AMS** Joint Meeting of the Korean Mathematical Society and the American Mathematical Society. **Seoul, Korea**, December 16-20, 2009, Invited talk in the special session on Mathematical Biology.
20. One day Workshop, Department of Mathematical Sciences, *Korea Advanced Institute of Science and Technology (KAIST)*, December 29, 2009
21. **SIAM** Conference on Imaging Science, Chicago, IL, April 12-14, 2010. MS 51 Analytical and Computational Aspects of Mathematical Modeling for Image Enhancement, Reconstruction and Segmentation
22. International Conference on Mathematical Methods for Imaging, Sun Yat-Sen University, **Guangzhou, China**, August 4-6, 2010.
23. **UKC2010**, US-Korea conference on science technology, and entrepreneurship, Seattle, WA, August 13, 2010, 1:30PM. Invited Papers Talk in (PAS) Pure and Applied Sciences Symposium on Mathematics and Statistics.
24. **SIAM** Conference on Computational Science and Engineering, Reno, Nevada, March 3, 2011. MS106 Scientific Computing in Image Processing - Part I of II.
25. **FoCM** (Foundations of Computational Mathematics), Period 1 Workshop A4 on Computational harmonic analysis, image and signal processing, Budapest, Hungary, July 4, 2011.

26. The international workshop on “Recent Advances in Biomedical Imaging” at Shanghai Jiao Tong University, **Shanghai, China**, August 18, 2011.
27. The second Midwest Conference on Mathematical Methods for Images and Surfaces, Michigan State University, East Lansing, MI, August 28, 2011.
28. Schloss **Dagstuhl** Leibniz-Zentrum Fur Informatik, Germany. Seminar 11471, Efficient Algorithms for Global Optimisation Methods in Computer Vision, November 24, 2011.
29. International Conference on Scientific Computing: In honor of Prof. Tony F. Chan at his 60th birthday for his contributions to scientific computing, **Hong Kong**, January 4, 2012.
30. 4th Georgia Scientific Computing Symposium (**GSC**), University of Georgia, Athens, GA, February 25, 2012
31. Erwin Schrodinger International Institute for Mathematical Physics (**ESI**) and Universitat Wien, Vienna, Austria, April 25, 2012, Workshop on Computational Inverse Problems.
32. 3rd New York Conference on Applied Mathematics (**NYCAM**), Rensselaer Polytechnic Institute, Troy, NY, October 13, 2012. Plenary Talk.
33. The 8th International Congress on Industrial and Applied Mathematics (**ICIAM**), Beijing, China, August 10-14, 2015. MS-Th-E-48 Image restoration: new algorithms and new applications - Part I of III.
34. 39th **SIAM** Southeastern Atlantic Section Conference, Birmingham, Alabama, March 20-22, 2015. MS 10 Variational models and their fast algorithms in mathematical imaging.
35. 39th **SIAM** Southeastern Atlantic Section Conference, Birmingham, Alabama, March 20-22, 2015. MS 13 Inverse Problems and Imaging II.

### Summer School Lectures

36. Summer School and Workshop on Imaging Science and Medical Applications, **University of Coimbra, Portugal**, June 15, 2010 (9-10:30AM, 11AM - 1PM) and June 16, 2010 (9-10:30AM)
37. 2010 NIMS Hot topics School and Workshops on Image Processing, Computer Vision, Compress sensing and related Applications, **Seoul National University**, Seoul, Korea, Dec 14, 2010 (15:30-17:10PM) and Dec 15, 2010 (10-11:40AM).

### Seminar and Colloquium Presentations

38. Image Processing Seminar, Department of Mathematics, UCLA, Jan. 2001.
39. CCS (Center for Computational Sciences) seminar series, U of Kentucky, October 23, 2002.
40. Departmental Colloquium, Mathematics, U of Kentucky, November 7, 2002.
41. Numerical Analysis Seminar (Math), *Kunkook University*, Seoul, Korea, June 24, 2004.
42. Numerical and Applied Mathematics Seminar, Department of Mathematics, *Seoul National University*, Seoul, Korea, June 28, 2004.
43. Partial Differential Equation seminar, Dep of Mathematics, U of Kentucky, February 9, 2005.
44. Applied Mathematics Colloquium (Math), *Yonsei University*, Seoul, Korea, May 31, 2005.

45. Applied Computational and Mathematics Seminar, Department of Mathematics, *Georgia Institute of Technology*, Atlanta, Georgia, September 23, 2005.
46. Institution of Mathematics and Its Applications (IMA) Seminar, Minneapolis, MN, Feb 20, 2006.
47. Applied Mathematics Seminar, Department of Mathematics, *Ohio State University*, Columbus, OH, November 16, 2006.
48. Applied Mathematics Seminar, Department of Applied Mathematics, *University of Washington*, Seattle, WA, January 24, 2008.
49. Istituto per le Applicazioni del Calcolo, "Mauro Picone" of C.N.R., Rome, Italy November 24, 2008
50. Dipartimento di Matematica Pura ed Applicata, Universita' degli Studi di L' Aquila, L' Aquila, Italy, November 26, 2008
51. Applied Math seminar, *University of Georgia*, Athens, Georgia, December 8, 2008
52. PDE Seminar, *Georgia Institute of Technology*, Atlanta, Georgia, January 27, 2009.
53. Applied Math seminar, *University of Georgia*, Athens, Georgia, April 8, 2009
54. Mathematics and Computer Science, *Emory University*, Atlanta, Ga, September 30, 2009
55. Department of Mathematics, *SungKyunKwan University*, Suwon, Korea, Dec 22, 2009
56. Seminar, Department of Mathematics, *University of Alabama*, Tuscaloosa, AL, Jan 28, 2010
57. CSE seminar, College of Computing, *Georgia Institute of Technology*, March 5, 2010
58. Seminar, Computational Science and Engineering department, *Yonsei University*, Seoul, Korea, Dec 21, 2010
59. Analysis and Applied Mathematics Seminar, Department of Mathematics and Statistics, *Kennesaw State University*, Kennesaw, GA, April 4th, 2011.
60. Applied Math seminar, *University of Georgia*, Athens, Georgia, April 20, 2011
61. Istituto per le Applicazioni del Calcolo, "Mauro Picone" of C.N.R., *Rome*, Italy, June 21, 2011.
62. Mathematical Image Processing and Data Analysis, Department of Mathematics, *Technische Universitat Kaiserslautern*, Germany, June 27, 2011.
63. Computational Science Center, *Universitat Wien*, Vienna, Austria, July 1, 2011.
64. Seminar, Computational Science and Engineering department, *Yonsei University*, Seoul, Korea, August, 2011
65. Applied Mathematics Seminar, Department of Mathematics, University at Buffalo, The State University of New York, October 15, 2012
66. Departmental Colloquium, Department of Mathematics, The University of Alabama at Birmingham, November 2, 2012
67. Laboratoire de Mathmatiques, Informatique et Applications (LMIA), Universite de Haute-Alsace (UHA) Mulhouse-Colmar, France, May 16, 2013
68. Fields Institute for Research in Mathematical Sciences University of Toronto Toronto, Canada, July 18, 2013

69. SciCom group, David R. Cheriton School of Computer Science, University of Waterloo, Waterloo, Ontario, Canada, July 19, 2013
70. Analysis Seminar, Department of Mathematical Sciences, Clemson University, October 3, 2013
71. Departmental Colloquium, Georgia State University, March 27, 2015

### **Talk for Students/Outreach**

72. (Undergraduate students) Mathematics and Computer science seminar series, Department of Mathematics and Computer science, *Duquesne University*, Pittsburgh, PA, October 5-7, 2006.
73. (Graduate students) Research Horizon seminar, Department of Mathematics, *Georgia Institute of Technology*, Atlanta, Georgia, April 15, 2009.
74. (Graduate students) Research Horizon seminar, Department of Mathematics, *Georgia Institute of Technology*, Atlanta, Georgia, October 14, 2009.
75. (Undergraduate students) Department of Mathematics, *University of Alabama*, Tuscaloosa, AL, Jan 29, 2010.
76. (Junior high/high school teachers) Teacher Professional Development Experiences, Center for Education Integrating Science, Mathematics, and Computing Student and Technology (CEISMC), Georgia Institute of Technology, July 16, 2010.
77. (K12 students) Invited Talk, KSEA Students Mathematics Workshop, UKC2010, Seattle, WA, August 13, 2010 5PM.
78. (Undergraduate students) School of Mathematics, Georgia Tech, Math 4801, Atlanta, GA, September 23, 2010.
79. (High school students) Keynote Speaker at 2010 Siemens Competition, Atlanta, GA, November 13th, 2010 7PM.
80. (Graduate students) Research Horizon seminar, Department of Mathematics, *Georgia Institute of Technology*, Atlanta, Georgia, March 16, 2011.
81. (Undergraduate students) School of Mathematics, Georgia Tech, Math 4801, Atlanta, GA, September 20, 2011.
82. (Undergraduate students) School of Mathematics, Georgia Tech, Math 4801, Atlanta, GA, September 3, 2013.
83. (Graduate students) Research Horizon seminar, Department of Mathematics, *Georgia Institute of Technology*, Atlanta, Georgia, Feb. 12, 2014.
84. (Undergraduate students) School of Mathematics, Georgia Tech, Math 4801, Atlanta, GA, November 10, 2015.

### **Referee Service**

- **Editorial board**  
The AIMS journal, Inverse Problems and Imaging

- **Referee for the Journals**

- Applied and Computational Harmonic Analysis
- Applied Mathematics Research Express
- Communications in Mathematical Sciences
- Computational Methods in Science and Engineering
- Computational Optimization and Applications
- Computers in Biology and Medicine
- Computer Vision and Image Understanding
- Computing in Science and Engineering
- Digital Signal Processing
- EURASIP Journal on Image and Video Processing
- European Journal of Applied Mathematics
- IEEE Signal Processing Letters
- IEEE Transactions on Image Processing
- IEEE Transactions on Multimedia
- IEEE Transactions on Visualization and Computer Graphics
- IET Image Processing
- Image and Vision Computing
- Image Processing On Line(IPOL), journal of image processing and image analysis
- International Journal of Biomedical Imaging
- International Journal of Image and Graphics
- International Journal of Imaging Systems and Technology
- Inverse Problems (IOP)
- Inverse Problems and Imaging (IPI)
- Journal of Computational Mathematics
- Journal of Computational Methods in Sciences and Engineering
- Journal of Electronic Imaging
- Journal of Nonlinear Analysis-B: Real World Applications
- Journal of Mathematical Imaging and Vision
- Journal of Scientific Computing
- Journal of the Optical Society of America A
- Journal of Visual Communication and Image Repres.
- Methods and Applications of Analysis
- Multidimensional Systems and Signal Processing
- Multiscale Modeling and Simulation (MMS)
- Numerische Mathematik
- Optical Engineering
- Pattern Recognition (PR)
- Pattern Recognition Letters
- PLOS ONE
- Signal Image and Video Processing
- Signal Processing
- SIAM Book Review
- SIAM Journal on Mathematical Analysis
- SIAM Journal on Imaging Sciences (SIIMS)
- SIAM Journal on Scientific Computing
- Transactions on Ultrasonics, Ferroelectrics, and Frequency Control
- Transactions on Visualization and Computer Graphics

- **Referee for the Conference Proceedings and Textbook**

- European Signal Processing conference
- IEEE Visualization

International Conference on Large-Scale Scientific Computations  
International Symposium on Computational and Information Sciences  
Conference on Scale Space and Variational Methods in Computer Vision (SSVM)

Cambridge University Press  
John Wiley and Sons, Inc.  
Mathematics, Statistics and Physics, CRC Press

## **Ph. D. Student and Postdoc**

James Money, Department of Mathematics, University of Kentucky  
PhD Defense on April 25, 2006  
Thesis title: Variational methods for image deblurring and discretized Picard's method.  
post-graduate first position: Tenure-track Assist. Prof. at North Carolina Central Uni.

Ben Ide, School of Mathematics, Georgia Institute of Technology  
Graduate Student, Fall 2015 -present

Maryam Yashtini, School of Mathematics, Georgia Institute of Technology  
IMPACT postdoc , Fall 2014 -present

Seong Jun Kim, School of Mathematics, Georgia Institute of Technology  
Hale and regular postdoc (main Mentor: Haomin Zhou) , Fall 2014 -present