

# Zhen Qian

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## Education:

- Rutgers University–New Brunswick, NJ, USA  
    **Ph.D. in Biomedical Engineering,** **May 2008**  
    Focus: **Biomedical Image Processing and Computational Bioengineering.**
- South China University of Technology, Guangzhou, China  
    **M.S. in Computer Science,** **October 2007**
- South China University of Technology, Guangzhou, China  
    **B.S. in Electronic Engineering.** **July 1999**

## Experiences:

- **Fuqua Heart Institute, Piedmont Hospital, Atlanta, GA** **2008-Present**
  - Position: **Advanced Cardiovascular Imaging Scientist.**
- **Rutgers University, the Center for Computational Biomedicine, Imaging and Modeling (CBIM).** **2002-2008**
  - Position: **Research Assistant and Teaching Assistant.**
  - Research advisors are Professors. Dimitris Metaxas and Leon Axel.
- **Siemens Medical Solutions Inc., Computer-Aided Diagnosis group.** **Summer 2006**
  - Position: **Summer Internship.**

## Academic Services:

- Paper Reviewer of: *IEEE Transactions on Medical Imaging, International Journal of Image and Graphics, Electronic Letters on Computer Vision and Image Analysis, Graphical Models, MICCAI, ICCV, ECCV, and CVPR.*
- Committee Member / Technical Proceedings Support / Web Support for **MICCAI 2008.**

## Patent:

**Zhen Qian**, Matthias Wolf and Luca Bogoni, “3D Segmentation in MR Colonography”. USA Patent filed in 02/2008.

## Publications:

1. **Z. Qian**, Q. Liu, D. Metaxas, and L. Axel, “Identifying regional cardiac abnormalities from myocardial strains using spatio-temporal tensor analysis” In *Proc. of the 11th International Conference on Medical Image Computing and Computer Assisted Intervention (MICCAI)*, Accepted. 2008.
2. J. Huang, **Z. Qian**, X. Huang, D. Metaxas, and L. Axel, “Tag separation in cardiac tMRI” In *Proc. of the 11th International Conference on Medical Image Computing and Computer Assisted Intervention (MICCAI)*, Accepted. 2008.
3. **Z. Qian**, X. Huang, L. Axel, and D. Metaxas, “Automatic Segmentation of Cardiac Tagged MRI” Book Chapter in *Biomedical Image Analysis: Methodologies and Applications*, N. Paragios, J. Duncan and N. Ayache (Editors), Springer, 2008. (In press).

4. J. Maikos, **Z. Qian**, D. Metaxas, and D. Shreiber, "Finite Element Analysis of Spinal Cord Injury in the Rat." In *Journal of Neurotrauma*, vol. 25 pp. 795–816, 2008.
5. W-N. Lee, **Z. Qian**, Christina L Tosti, Truman R Brown, Dimitris N Metaxas, and Elisa E Konofagou, "Validation of Angle-Independent Myocardial Elastography Using MR Tagging in Human Subjects In Vivo." In *Journal of Ultrasound in medicine and biology*, Accepted. 2008.
6. Xiaoxu Wang, Weijun He, **Zhen Qian**, Dimitris Metaxas, Robin Mathew, and Eileen White, "Cell segmentation for division rate estimation in computerized video time-lapse microscopy", Book Chapter in *Image Analysis for Life Science Applications*, J. Rittscher, R. Machiraju and S. Wong (Editors), Artech House, 2008. (In press).
7. **Z. Qian**, D. Metaxas, and L. Axel, "Non-tracking-based 2D strain estimation in tagged MRI." In *Proc. of IEEE Int'l Symposium on Biomedical Imaging (ISBI)*, **oral presentation**, 2008.
8. **Z. Qian**, W-N. Lee, D. Metaxas, and and E. E. Konofagou, "Ultrasound myocardial elastography and registered 3D tagged MRI: quantitative strain comparison." In *Proc. of the 10th International Conference on Medical Image Computing and Computer Assisted Intervention (MICCAI)*, pp 800-808, 2007.
9. **Z. Qian**, D. Metaxas, and L. Axel, "Learning methods in segmentation of cardiac tagged MRI." In *Proc. of IEEE International Symposium on Biomedical Imaging (ISBI)*, **oral presentation**, pp 688-691, 2007.
10. **Z. Qian**, R. Huang, D. Metaxas, and L. Axel, "A novel tag removal technique for tagged cardiac MRI and its applications." In *Proc. of IEEE International Symposium on Biomedical Imaging (ISBI)*, pp 364-367, 2007.
11. W-N. Lee, **Z. Qian**, D. Metaxas and E. E. Konofagou, "Clinical Validation of Angle-Independent Myocardial Elastography Using MRI Tagging", In *IEEE International Ultrasonics Symposium (UFFC)*, New York, NY, Oct. 28-31, **oral presentation**, 2007.
12. W-N. Lee, **Z. Qian**, C. L. Tosti, S. V. Swaminatha, T. R. Brown, D. Metaxas, and E. E. Konofagou, "Validation of 2D Ultrasound-based Strain Estimates with MR Tagging." In *Proc. of the International Society for Magnetic Resonance in Medicine (ISMRM)*, 2007, accepted.
13. W-N. Lee, **Z. Qian**, C. L. Tosti, S. V. Swaminatha, T. R. Brown, D. Metaxas, and E. E. Konofagou, "Validation of ultrasound myocardial elastography using MR tagging in normal human hearts in vivo." In *Proc. of IEEE International Symposium on Biomedical Imaging (ISBI)*, pp 684-687, 2007.
14. J. Maikos, R. Elias, **Z. Qian**, D. Metaxas, and D. Shreiber, "In Vivo Tissue-Level Thresholds for Spinal Cord Injury." In *Proc. of ASME 2007 Summer Bioengineering Conference*, 2007, accepted as **oral presentation**.
15. X. Wang, J. Schaerer, S. Huh, **Z. Qian**, D. Metaxas, T. Chen, and L. Axel, "Reconstruction of detailed left ventricle motion from tMRI using deformable models." In *Proc. of International Conf. on Functional Imaging and Modeling of the Heart (FIMH)*, pp. 60-69, 2007.

16. **Z. Qian**, D. Metaxas, and L. Axel, "Boosting and Nonparametric Based Tracking of Tagged MRI Cardiac Boundaries." In *Proc. of MICCAI, LNCS 4190*, pp 636-644. 2006.
17. J. Schaerer, **Z. Qian**, P. Clarysse, D. Metaxas, L. Axel, and I. Magnin, "Fast and Automated Creation of Patient-Specific 3D Heart Models from Tagged MRI" In *Proc. Of Workshop on From Statistical Atlases to Personalized Models: Understanding Complex Diseases in Populations and Individuals, In Conjunction with MICCAI*, 2006.
18. **Z. Qian**, D. Metaxas, and L. Axel, "Extraction and Tracking of MRI Tagging Sheets Using a 3D Gabor Filter Bank." in *Proc. of International Conf. of the Engineering in Medicine and Biology Society, oral presentation*, pp. 711-714, 2006.
19. D. Metaxas, **Z. Qian**, X. Huang, R. Huang, T. Chen and L. Axel, "Hybrid Deformable Models for Medical Segmentation and Registration" in *Proc. of International Conf. on Control, Automation, Robotics and Vision*, 2006.
20. D. Metaxas, L. Axel, **Z. Qian** and X. Huang, "A Segmentation and Tracking system for 4D Cardiac Tagged MR Images." in *Proc. of International Conf. of the Engineering in Medicine and Biology Society*, pp. 1541-1544, 2006.
21. **Z. Qian**, D. Metaxas, and L. Axel, "A Learning Framework for the Automatic and Accurate Segmentation of Cardiac Tagged MRI Images." In *Proc. of CVIBA Workshop, In Conjunction with ICCV, LNCS 3765*, pp. 93-102, 2005.
22. X. Huang, **Z. Qian**, R. Huang, and D Metaxas, "Deformable-model based Textured Object Segmentation", In *Proc. of the 4th Int'l Workshop on Energy Minimization Methods in Computer Vision and Pattern Recognition (EMMCVPR), LNCS 3757*, pp. 119-135, 2005.
23. **Z. Qian**, X. Huang, D. Metaxas, and L. Axel, "Robust Segmentation of 4D Cardiac MRI-tagged Images via Spatio-temporal Propagation," In *Proc. Of SPIE, Medical Imaging, Physiology, Function, and Structure from Medical Images*. Vol. 5746, pp. 580-591. 2005.
24. **Z. Qian**, A. Montillo, D. Metaxas, L. Axel, "Segmenting cardiac MRI tagging lines using Gabor filter banks", in *Proc. of International Conf. of the Engineering in Medicine and Biology Society, oral presentation*, pp. 630–633, 2003.
25. D. Metaxas, L. Axel, Z. Hu, A. Montillo, K. Park and **Z. Qian**, "Segmentation and Analysis of 3D Cardiac Motion from Tagged MRI Images" in *Proc. of International Conf. of the Engineering in Medicine and Biology Society*, pp. 122-125, 2003.
26. T. Manglik, L. Axel, **Z. Qian**, V. M. Pai, D. Kim, P. Dugal, A. Montillo, "Use of Bandpass Gabor Filters for Enhancing Blood-Myocardium Contrast and Filling-in tags in tagged MR Images", in *Proc. of the Int'l Society for Magnetic Resonance in Medicine (ISMRM)*, 2003.

#### Honors/Awards:

- Travel Award, IEEE International Symposium on Biomedical Imaging, 2007.
- Travel Award, UCLA IPAM Heart Modeling Conference, 2006.
- Doctoral Student Fellowship, UMDNJ and Rutgers University, 2001.
- Excellent Student Scholarships (multiple times), China, 1996-2000.