

CURRICULUM VITAE

Yimin Zhong

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Research Interests

Numerical Analysis: Fast Algorithm, Numerical Optimization, Low Rank Approximation

Inverse Problems and Imaging: Hybrid Multi-physics Inverse Problems including PAT, TAT, UMOT;
Control Theory for Hybrid Multi-physics system.

Education

- 2011 – current Ph.D. Candidate, Department of Mathematics, University of Texas at Austin
Expected by 2017, May.
Advisor: Kui Ren
- 2007 – 2011 B.S. University of Science and Technology of China, P.R.China

Teaching Experiences

Teaching assistant for graduate courses

- 2015 Spring *M387D: Numerical Analysis: Differential Equations*
2014 Fall *M387C: Numerical Analysis: Algebra & Approximation*
2013 Fall *M387C: Numerical Analysis: Algebra & Approximation*

Teaching assistant for undergraduate courses

- 2016 Fall *M427L: Advanced Calculus for Application II*
2015 Fall *M408C: Differential and Integral Calculus*
2014 Spring *M427L: Advanced Calculus for Application II*
2013 Summer *M F316: Elementary Statistical Methods*
2013 Summer *M F325K: Discrete Mathematics*
2013 Spring *M408L: Integral Calculus*
2012 Fall *M408C: Differential and Integral Calculus*

Publications and Preprints

1. K. Ren, R. Zhang and Y. Zhong, *Inverse transport problems in quantitative PAT for molecular imaging*, Inverse Problems, 31, 125012, 2015
2. K. Ren, R. Zhang and Y. Zhong, *A FMM-based algorithm for radiative transport in isotropic media*, submitted, 2016
3. K. Ren and Y. Zhong, *Reconstruction of acoustic and optical properties in PAT/TAT with data from multiple illuminations*, Preprint, 2016
4. K. Ren and Y. Zhong, *Recovering point sources in unknown inhomogeneous environments*, In preparation, 2016

Invited Presentations

May 2016, SIAM Conference on Imaging Science, *Inverse transport problems in quantitative PAT for molecular imaging*, Albuquerque. NM.

February 2016, Numerical Analysis Seminar, *Existence and stability estimate of H_p^1 solution of radiative transport system*, University of Texas, Austin, TX.

December 2015, Numerical Analysis Seminar, *Inverse transport problems in quantitative PAT for molecular imaging*, University of Science and Technology of China, Hefei, China.

February 2013, Schlumberger Applied Mathematics Webinar, *Recovering Point Sources in Unknown Environment with Differential Data*, Houston, TX.

Oct 2012, Workshop on Inverse Problems, *Inverse Problems for Maxwell's Equation in isotropic media*, Texas A & M University, College Station, TX.

Awards and Honors

2016 SIAM Student Travel Award

2013 Frank Gerth III Graduate Excellence Award

2011 First Prize of Computational Mathematics Summer Camp at Chinese Academy of Science

2011 First Prize of Contest of Mathematics of Undergraduate of China

Professional Services

Review for SIAM Journal on Imaging Science.

Miscellaneous Academic Activities

April 2016, Talk in Junior Numerical Analysis Seminar at UT Austin: *One step reconstruction of acoustic and optical properties in PAT*.

February 2016, Participate in KI-Net conference on *Advances in kinetic and fluid dynamics transport: Analysis and approximations*

October 2015, Participate in conference on *Numerical and Multiscale Issues for Partial and Integral Differential Equations* (in honor of Björn Engquist's 70th birthday).

May 2015, Talk in Junior Numerical Analysis Seminar at UT Austin: *Uniqueness and Stability in BLT*

March 2014, Participate in Texas Consortium for Computational Seismology Tenth Bi-Annual Research Meeting at Houston

July 2013, Participate in the MSRI Graduate Summer School on: *Introduction to the Mathematics of Seismic Imaging*.

April 2013, Talk in Junior Numerical Analysis Seminar at UT Austin: *Solvability of degenerate elliptic problem in 2D*.

March 2013, Talk in Junior Numerical Analysis Seminar at UT Austin: *Stability of inverse source problem*.

Programming Skills

C++/C, Python, Java, Julia, MATLAB, Fortran