

# YAKUN XI

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## Education

- Ph.D. in Mathematics, June 2017 (expected)  
Johns Hopkins University, Maryland, USA  
Advisor: Professor Christopher D. Sogge
- Master of Arts in Mathematics, June 2014  
Johns Hopkins University, Maryland, USA
- Bachelor of Science in Mathematics, June 2012  
Zhejiang University, Hangzhou, China  
Advisor: Professor Haiyi Jiang

## Research Interests

Harmonic Analysis: *Keakeya-Nikodym problem, Restriction conjecture, Eigenfunction estimates on compact Riemannian manifold.*

## Papers

1. (with C. D. Sogge and C. Zhang) *Geodesic period integrals of eigenfunctions on Riemann surfaces and the Gauss-Bonnet Theorem*, arXiv:1604.03189.
2. (with C. Zhang) *Improved critical eigenfunction restriction estimates on Riemannian surfaces with nonpositive curvature*, arXiv:1603.01601.
3. (with C. Miao, C. D. Sogge and J. Yang) *Bilinear Keakeya-Nikodym averages of eigenfunction on compact Riemannian surfaces*, to appear in **Journal of Functional Analysis**, arXiv:1602.06936.
4. *On Keakeya-Nikodym maximal inequalities*, to appear in **Transaction of American Mathematical Society**, arXiv:1505.05426.
5. *Hausdorff Dimension for Arithmetic Sum of Cantor Sets* (Undergraduate Thesis, in Chinese).

## Academic Activities

- Talks
  - Feburary 2016, New Mexico Analysis Seminar, University of New Mexico

- December 2015, Analysis Seminar, Peking University, China
- December 2015, Seminar, Yau Mathematical Sciences Center, Tsinghua University, China
- November 2015, Graduate Student Intercollegiate Mathematics Seminar, Lehigh University
- October 2015, Analysis and PDEs Seminar, Johns Hopkins University
- October 2015, Analysis Seminar, University of Rochester
- June 2015, Analysis Seminar, Beijing Normal University, China
- June 2015, Seminar, Zhengzhou University, China
- May 2015, Analysis Seminar, Institute of Applied Physics and Computational Mathematics, China

- **Conferences and Summer School Attended**

- February 2016, New Mexico Analysis Seminar, University of New Mexico
- July 2014, Chicago Summer School in Analysis, University of Chicago
- December 2013, RU-CUNY Symposium on Geometric Analysis, Rutgers University and the City University of New York

## Awards and Honors

- 2012 - 2015, The Owen Scholars Fellowship, Johns Hopkins University
- 2012, Outstanding Undergraduate Thesis, Zhejiang University
- 2010 - 2011, China National Scholarship
- 2011, 2nd Runner Up in International Genetically Engineering Machine Competition World Championship Jamboree

## Teaching

- Instructor, Department of Mathematics, Johns Hopkins University
  - Math 110.202 Calculus III, Summer 2013
  - Math 110.202 Calculus III, Summer 2014
- Teaching Assistant, Department of Mathematics, Johns Hopkins University
  - Math 110.311 Complex Analysis, Fall 2012
  - Math 110.439 Differential Geometry, Fall 2012
  - Math 110.109 Calculus II, Fall 2013
  - Math 110.109 Calculus II, Spring 2014
  - Math 110.109 Calculus II, Fall 2014
  - Math 110.405 Introduction to Real Analysis, Fall 2014
  - Math 110.405 Introduction to Real Analysis, Spring 2015
  - Math 110.607 Complex Variables, Spring 2015
  - Math 110.405 Introduction to Real Analysis, Fall 2015
  - Math 110.605 Real Variables, Fall 2015