

# Ahmad Rafiqi

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## EDUCATION

### Cornell University, Ithaca, New York, USA

- Doctor of Philosophy (Ph.D.) in Mathematics (anticipated) Aug 2012 – May 2018
  - Thesis: On dilatations of pseudo-Anosov maps
  - Adviser: Professor John H. Hubbard.
  - Research areas: pseudo-Anosov maps, dilatations, Teichmuller space.
- Master of Science (M.S.) in Mathematics Aug 2012 – Aug 2014

### Stony Brook University, Stony Brook, New York, USA

- Bachelor of Science (B.S.) in Mathematics Aug 2008 – May 2012
  - Thesis: On Thurston-Nielsen Classification of Automorphisms of Hyperbolic Surfaces.
  - Adviser: Professor Dennis Sullivan.
  - Graduated with College Honors.

### Tyndale Biscoe School (K-12), Srinagar, Jammu and Kashmir

Nov 1994- Jan 2007

## INTERESTS

Topology, Dynamics, Geometry.

## PUBLICATIONS

- [1] H. Baik, A. Rafiqi, and C. Wu, “Constructing pseudo-Anosov maps with given dilatations,” *Geometriae Dedicata*, vol. 180, no. 1, pp. 39–48, Feb 2016.
- [2] H. Baik, A. Rafiqi, and C. Wu, “Is a typical bi-Perron algebraic unit a pseudo-Anosov dilatation?,” *Accepted: Ergodic Theory and Dynamical Systems*, Sep 2017.

## INVITED TALKS

- *Topology Seminar* at **University of Illinois at Urbana-Champaign**, Illinois, USA. Title: “Constructing pseudo-Anosov maps”. Jan 2015
- *Topology Seminar* at **University of California at Berkeley**, California, USA. Title: “pseudo-Anosov Maps and the Teichmuller Polynomial”. Mar 2017
- *Discrete Structures in Conformal Dynamics and Geometry* special session at the **American Mathematical Society meeting at Indiana University in Bloomington**, Indiana, USA. Apr 2017
- *Geometry and Dynamics* seminar at **Harvard University**, MA. Title: “Surface homeomorphisms from matrices and typical properties of biPerron numbers” May 2017

## TEACHING EXPERIENCE

- Grader for “Manifolds and Differential Forms” (Math 3210) - Cornell. Fall 2017
- Grader for “Differential Equations and Dynamical Systems” (Math 4200) - Cornell. Fall 2017
- Lecturer for “Calculus 1” (Math 1110) - Cornell. Summer 2017
- Grader for the graduate course in “Algebraic Topology” (Math 6510) - Cornell. Spring 2017
- Instructor for “Calculus 1” (Math 1110) - Cornell. Fall 2016
- Volunteer math tutor with the “Cornell Prison Education Program” (Cayuga Correctional Facility - Moravia, New York, USA). Fall 2016
- Grader for “Manifolds and Differential Forms” (Math 3210) - Cornell. Fall 2015
- Grader for “Applied Complex Analysis” (Math 4220) - Cornell. Fall 2015
- Volunteer math tutor with the “Cornell Prison Education Program” (Auburn Prison - Auburn, New York, USA). Fall 2015
- Sectional Instructor for “Multivariable Calculus” (Math 2220) - Cornell. Spring 2015
- Grader for “Introduction to Topology” (Math 4350) - Cornell. Fall 2014
- Sectional Instructor for “Linear Algebra” (Math 2210) - Cornell. Spring 2014
- Sectional Instructor for “Calculus for Engineers” (Math 1910) - Cornell. Fall 2013
- Math Tutor at Stony Brook University Sports Complex. Fall 2010 until Spring 2012
- Sectional Instructor for “Pre-Calculus” - Stony Brook. Fall 2009
- Tutor at the University Math Learning Center - Stony Brook. Fall 2008 until Spring 2010

**ACADEMIC AWARDS**

- Undergraduate fellowship, Simons Center for Geometry and Physics. Jun 2009 – May 2012  
Tuition and Stipend.
- Putnam Math Competition - Top 500 (score 32). Dec 2010
- 4th place - New Jersey Undergraduate Math Competition. Apr 2010
- 5th place - New Jersey Undergraduate Math Competition. Apr 2011
- Kuga-Sah Award - Math Department, Stony Brook University. May 2009 and May 2010
- Academic Achievement Award - Stony Brook University. Mar 2010 and Mar 2011

**LANGUAGES**

- Kashmiri: Native language.
- English: Fluent (speaking, reading, writing). Urdu/Hindi: Fluent (speaking, reading, writing).

**SKILLS**

LaTeX, Mathematica, SageMath, C++.

**REFERENCES**

- **John H. Hubbard** (Professor)  
Cornell University  
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- **Jason Manning** (Associate Professor)  
Cornell University  
Department of Mathematics  
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- **Hyungryul Baik** (Assistant Professor)  
Korea Advanced Institute of Science and Technology (KAIST)  
Department of Mathematical Sciences  
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- **Kelly Delp** (Senior Lecturer, *Teaching Reference*)  
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