Aditya Karnataki

Contact Information

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Research Interests

p-adic automorphic forms, p-adic Hodge theory, Galois representations, Cohomology of Shimura varieties, Artin L-functions, Counting arithmetic objects.

Employment

2017 - – **Beijing International Center for Mathematical Research**, Beijing, Post-doctoral researcher.

2016 - 2017 **Tata Institute of Fundamental Research**, Mumbai, Post-doctoral fellow.

Education

Boston University

Ph.D., Mathematics (May 2016)

- Dissertation Topic: Two theorems on Shimura varieties and Galois representations.
- Advisor: David Rohrlich

M.A. in Mathematics, September 2012

Chennai Mathematical Institute

B.Sc. in Mathematics and Computer Science with honors, July 2010

- Highest honors in mathematics, highest distinction in general scholarship
- Minor in Computer Science

Publications

A. Karnataki, *Level-raising for automorphic forms on GL_n,* Submitted.

A. Karnataki, *Self-dual Artin representations of dimension three (with an appendix by David E. Rohrlich),* J. Number Theory(2017), Vol. 173, $425 - 447$.

Invited Talks

Finiteness of Cohomology of Arithmetic families of (φ, Γ)-modules, Tata Institute of Fundamental Research, Mumbai, India. (February 2018)

Level-raising for automorphic forms on GL_n, Korean Institute of Advanced Studies, Seoul, Korea. (October 2018)

Level-raising for automorphic forms on GL_n, 2018 Young Mathematician Forum, Beijing International Center for Mathematical Reseach, Beijing. (July 2018)

p-adic uniformization of locally symmetric spaces, Indian Institute of Science Education and Research, Pune. (January 2017)

p-adic uniformization of locally symmetric spaces, Conference on Theoretical and Computational Aspects of the Birch and Swinnerton-Dyer Conjecture, International Centre for Theoretical Sciences, Bangalore. (December 2016)

p-adic uniformization of locally symmetric spaces, Tata Institute of Fundamental Research, Mumbai. (September 2016)

Canonical models of certain locally symmetric spaces, AMS graduate student math conference, Brown University. (April 2016)

Canonical models of certain locally symmetric spaces, Boston University. (February 2016)

Self-dual Artin representations of dimension three, University of Connecticut. (September 2015)

Density of self-dual Artin representations of dimension three, Tata Institute of Fundamental Research, Mumbai. (June 2015)

Self-dual Artin representations of dimension three, Boston University. (March 2015)

On the density of primes modulo 2π, Ecole Normale Superieure, Paris. (June 2010)

Other Talks (Including contributed talks)

*Diamonds and p-adic Hodge theory (*4 *talks)*, Tata Institute of Fundamental Research, Mumbai. (Spring 2017)

*Moduli of p-divisible groups (*6 *talks)*, Tata Institute of Fundamental Research, Mumbai. (Fall 2016)

Self-dual Artin representations of dimension three, Midwest number theory conference for graduate students, University of Illinois at Chicago. (October 2015)

Self-dual Artin representations of dimension three, Boston-Keio summer workshop, Boston University. (September 2015)

Select Conferences Attended

Conference in Arithmetic geometry on the occasion of Rapoport's Birthday , Universitat Bonn, Bonn. (October 2018)

Mathematics is a long conversation: a celebration of Barry Mazur, Harvard University, Boston. (June 2018)

p-adic Hodge theory and automorphic forms, Beijing International Center for Mathematical Research, Beijing. (June 2017)

Conference on Theoretical and Computational Aspects of the Birch and Swinnerton-Dyer Conjecture, International Centre for Theoretical Sciences, Bangalore. (December 2016)

Oberwolfach Seminar on Perfectoid Spaces, Mathematische Foschunginstitut Oberwolfach. (October 2016)

Automorphic forms, Shimura varieties, Galois representations, L-functions (dedicated to Michael Harris), MSRI Berkeley. (December 2014)

p-adic variations in number theory (Glennfest), Boston University. (June 2014)

Hot Topics Workshop : Perfectoid spaces and their applications, MSRI Berkeley. (Febru-

ary 2014)

Local Langlands Conjecture and Galois representations, Tata Institute of Fundamental Research, Mumbai. (December 2013)

International Colloquium on Automorphic forms and Galois representations, Tata Institute of Fundamental Research, Mumbai. (January 2012)

Honors and Awards

Oberwolfach Leibniz Graduate Fellow, Mathematische Forschunginstitut Oberwolfach.

Kishore Vaigyanik Protsahan Yojana Fellow, Indian Institute of Science, Bangalore.

National Talent Search Fellow, National Council of Educational Research and Training, Delhi.

Activities and Visiting

Spring	2017	Organizer of Diamonds seminar, TIFR Mumbai.
Fall	2016	Organizer of Perfectoid seminar, TIFR Mumbai.
Fall	2015	Organizer of Seminar on congruences of modular forms, Boston University.
Fall	2014	Co-organizer of Seminar on p-adic Hodge theory, Boston University.
Spring	2014	Co-organizer of Local Langlands Seminar, Boston University.
Summer	2013	Visitor at TIFR Mumbai.
Spring	2011	Co-organizer of Seminar on etale cohomology, Boston University.

Relevant Skills

Languages: English, French

References

David Rohrlich,
Boston University, rohrlich@math.bu.edu

Ruochuan Liu,
Beijing International Center for Mathematical Research, liuruochuan@math.pku.edu.cn

Jack Thorne,
DPMMS, University of Cambridge, thorne@dpmms.cam.ac.uk

Jared Weinstein,
Boston University, jsweinst@math.bu.edu

Rob Pollack,
Boston University, rpollack@math.bu.edu