

Tokyo Institute of Technology
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Date of birth: August 24, 1985
Nationality: Indian

Academic History

- **Postdoctoral Fellow**, Tokyo University of Science, April 2017–September 2018
- **Research Assistant**, Sophia University, October 2016–March 2017
- **JSPS Postdoctoral Fellow**, Kyushu University, September 2014–September 2016 under host Professor Masanobu Kaneko.
- **Research Fellow**, University of Warwick, July 2012–June 2014.
- **Guest Researcher**, Max Planck Institute for Mathematics, Bonn, January–March 2013.
- **Ph.D. in Mathematics**, University of Warwick, July 2012, under Professor Samir Siksek.
- **Junior Research Fellow**, Indian Statistical Institute, Bangalore, 2007–2008.
- **Master of Mathematics**, Indian Statistical Institute, Bangalore, 2005–2007.
- **B. Sc. Mathematics**, St. Stephen's College, University of Delhi, 2002–2005.

Current Affiliation

Tokyo Institute of Technology, Special Associate Professor

Research Interests

Number Theory, Modular Forms, Automorphic Representations

Publications

- (Joint with E. M. Baruch) *Newforms of half-integral weight: The minus space of $S_{k+1/2}(\Gamma_0(8M))$* , to appear in Israel Journal of Mathematics.
- (Joint with E. M. Baruch) *Newforms of half-integral weight: The minus space counterpart*, on arXiv.
- (Joint with E. M. Baruch) *Hecke algebras, new vectors and newforms on $\Gamma_0(m)$* , to appear in Mathematische Zeitschrift.
- (Joint with N. Kumar) *A note on the Fourier coefficients of half-integral weight modular forms*, Arch. Math. (Basel) **102** (2014), no. 04, 369–378.
- *Hecke operators in half-integral weight*, J. Théor. Nombres Bordeaux **26** (2014), no. 01, 233–251.
- *Explicit applications of Waldspurger's Theorem*, LMS J. Comp. Math. **16** (2013), 216–245.
- *On Shimura's decomposition*, Int. J. Number Theory **9** (2013), no. 06, 1431–1445.
- *Eigenforms of Half-Integral Weight*, PhD thesis, University of Warwick, July 2012.
- (Joint with B. Sury) *Some vanishing sums involving binomial coefficients in the denominator*, Albanian J. Math. **2** (2008), no. 1, 27–32.

Conference Proceedings

- *Newforms of half-integral weight*, WINJ10 Conference proceedings, October 2017, 95–104.
- *Minus space of half-integral weight forms* Proceedings of the 10th Fukuoka Symposium on Number Theory, 2016.

- *Hecke algebras, new vectors and characterization of the new spaces*, RIMS Kôkyûroku 1973, November 2015, 55–63.
- *Hecke algebras, new vectors and new spaces*, WINJ8 Proceedings, October 2015, 90–100.

Journal reviewer experience

- Research in Mathematical Sciences
- Mathematische Zeitschrift
- Proceedings of the Royal Society of Edinburgh

Academic Visits

- May 07–11, 2014: Technion - Israel Institute of Technology.
- February 25–March 02, 2013: University of Luxembourg.
- December 08–22, 2012: Technion - Israel Institute of Technology.

Teaching and Public outreach

- **Lecturer**, Linear Algebra II, Tokyo Institute of Technology, Fall 2018.
- **Speaker** at *Global Seminar*, Meizen High School Fukuoka as a part of *JSPS Science Dialogue Program*, October 2015.
- **Lecturer**, Topics in Number Theory, University of Warwick, Fall 2013.
- **Teaching Assistant**, Topics in Number Theory, University of Warwick, Fall 2011.
- **Teaching Assistant**, Analysis II, University of Warwick, Spring 2011.
- **Supervisor** of undergraduate first and second year Mathematics students, University of Warwick, 2008–2012.
- **Mathematics Helpline Assistant** for students in class X and XII, St. Stephen's College, January–March 2005.
- **Private tuition** for middle school students in India, 2000–2002.

External Fundings and Awards

- **FY2018 Grant-in-Aid for Early-Career Scientists** as a Principal Investigator; Project number: 18K13396, Research area: Algebra, Budget: 3,300,000 JPY, Period: 2018/04/01–2022/03/31.
- **FY2014 JSPS Postdoctoral Fellowship for Foreign Researchers** and **FY2014 Grant-in-Aid for JSPS fellows**, awarded by JSPS, under host researcher Professor Masanobu Kaneko; Project number: 14F04319, Research area: Algebra, Budget: 2,300,000 JPY, Period: 2014/04/25–2017/03/31.
- **INSPIRE Faculty award**, by Indian National Science Academy (INSA). This is a tenure-track position with research and travel grant for 5 years which I had to decline to take up the JSPS.
- **Technion Postdoctoral Fellowship**, awarded by Technion - Israel Institute of Technology for a period of 12 months which I had to decline to take up the JSPS.
- **Best Talk Award**, awarded by London Mathematical Society during Graduate Student Meeting 2011.
- **Warwick Impact Award** under Professor Samir Siksek, Research area: Number Theory, covers stipend and travel grants for the academic year 2011–2012.
- **Warwick Postgraduate Research Scholarship**, awarded by University of Warwick, covers stipend and fees for the period 2008–2011.
- **Overseas Research Students Award (ORS) and University of Nottingham Scholarship 2008**, awarded by University of Nottingham, covers stipend and tuition fees for three years. I had to decline this to join PhD program at University of Warwick.

- **Junior Research Fellowship**, awarded by Indian Statistical Institute, covers stipend and contingency grant for 2007–2008.
- **Certificate of Junior Research Fellowship in Mathematical Sciences**, awarded by the Council of Scientific and Industrial Research Fellowship Scheme of the Government of India, 2007.
- **NBHM M. Sc. Scholarship** awarded by the National Board for Higher Mathematics, Government of India for the period 2005–2007.
- **Dr. Ram Behari Award** and **Dr. B. R. Katyal Scholarship** for being the best student in B. Sc. (Honours) Mathematics at St. Stephen's College, 2005.
- **Merit Scholarship** under the National Scholarship Scheme of the Government of India for excelling in the CBSE public examination, 2000.

Seminar and Conference Talks

Talks outside Japan

- June 25, 2017: **Poster presentation** at the conference Automorphic forms on reductive groups and their covers: In honour of Solomon Friedberg", ETH Zurich.
- October 24–25, 2017: **Invited lecture series** at Department of Mathematics, POSTECH, Korea.
- April 07, 2016: **Invited speaker** at *Explicit Methods in Number Theory: Conference in Honour of John Cremona's 60th Birthday*, University of Warwick.
- December 12, 2014: **Invited speaker** at China-Indo Conference on Theoretical and Computational aspects of Elliptic curves, BICMR, Beijing.
- June 14, 2013: **Invited speaker** at *WaNDS Number Theory Seminar*, University of Nottingham.
- March 07, 2013: **Invited speaker** at *Oberseminar*, MPIM Bonn.
- February 28, 2013: **Invited speaker** at *Algebra and Number Theory Seminar*, University of Luxembourg.
- January 22, 2013: **Invited speaker** at *Number Theory Seminar*, University of Cologne.
- December 12, 2012: **Invited speaker** at *Number Theory Seminar*, Tel Aviv University.
- November 15, 2012: **Invited speaker** at *Number Theory Seminar*, University of Oxford.
- August 09, 2012: Contributed talk in *Building Bridges: 1st EU-US conference on Automorphic Forms and related topics* in RWTH, Aachen.
- June 18, 2012: Contributed talk in *CNTA XII* in Lethbridge.
- April 02, 2012: **Invited Speaker**, *ISI Colloquium*, Indian Statistical Institute, Bangalore.
- February 22, 2012: **Invited Speaker**, *Bristol Heilbronn Seminar*, "On Shimura Decomposition and Tunnel-like Formulae".
- November 18, 2011: London Mathematical Society Graduate Student Meeting 2011.
- July 13, 2011: **Invited Speaker**, *Foundations of Computational Mathematics 2011*, Budapest, "Eigenforms of half-integral weight and some applications".
- April 18, 2011: *British Mathematical Colloquium 2011*, Leicester.
- April 15, 2011: *Young Researchers in Mathematics 2011*, Warwick.
- January 26, 2011: *Warwick Postgraduate Open day*, "Congruent Number Problem and Shimura Correspondence".
- January 13, 2011: *MAGIC Postgraduate Student Conference*, University of Reading.
- November 15, 2010: *Warwick Number Theory Seminar*, "Eigenforms of half-integral weight".
- January 10, 2009: *Warwick Number Theory Seminar*, "Some vanishing sums involving binomial coefficients in the denominator".

Talks within Japan

- July, 19, 2018: **Invited speaker** at 2018, Kanazawa University.
- June, 9, 2018: Speaker at *WINJ11 Workshop*, Rikkyo University.
- March 23, 2018: **Invited speaker** at *Automorphic forms/representations on covering groups*, Okayama University.
- March 13, 2018: **Invited speaker** at *Analytic Number Theory Seminar*, RIKEN, Wako.
- February 22, 2018: Speaker at *11th Young Mathematicians Conference on Zeta Functions*, Ehime University.
- January 17, 2018: Speaker at *RIMS Workshop on Modular forms and Automorphic Representation*, RIMS Kyoto.
- June 3, 2017: Speaker at *WINJ10 Workshop*, Waseda University.
- May 19, 2017: **Invited speaker** at *Waseda Number Theory seminar*, Waseda University.
- April 27, 2017: Speaker at Mathematics Colloquium, Tokyo University of Science, Noda.
- February 21, 2017: **Invited speaker** at *The 10th Young Mathematicians Conference on Zeta Functions*, Nagoya University.
- December 16, 2016: Speaker at Mathematics Colloquium, Sophia University.
- August 08, 2016: Speaker at *10th Fukuoka Number Theory Workshop*, Kyushu University.
- July 15, 2016: **Invited speaker** at *Analytic Number Theory Seminar*, Nagoya University.
- May 29, 2016: Speaker at *APU Multiple Zeta and Modular seminar*, APU Beppu.
- November, 2015: **Poster presentation** at a conference on “Zeta Functions of Several Variables and Applications”, Nagoya University.
- May 30, 2015: Speaker at *WINJ8 Workshop*, Sophia University.
- May 1, 2015: **Invited speaker** at *Waseda Number Theory seminar*, Waseda University.
- February 21, 2015: **Invited speaker** at *Workshop on Computational Number Theory with Implementations 2015*, Kyushu University.
- February 3, 2015: **Invited speaker** at *RIMS Workshop on Modular forms and Automorphic Representations*, RIMS Kyoto.
- January 9, 2015: Speaker at *Algebra seminar*, Kyushu University.
- September 12, 2012: **Invited speaker** at *Number Theory Seminar*, Kyushu University.

Languages

- **Native:** Bengali, English, Hindi
- **Intermediate:** Japanese (cleared JLPT N4)
- **Beginner:** German

Other Skills and Activities

- Working knowledge of MAGMA, Sage, C++.
- **Magazine Articles:**
 - Brillante 2, Office for the Promotion of Gender Equality, Kyushu University, 2016
 - JSPS Quaterly, No. 54, published by JSPS, Winter 2015
- **Postgraduate Certificate in Transferable Skills**, University of Warwick, 2009–2012.
- **Hostel President** at the Indian Statistical Institute in the year 2007. It is an elective office. The post involves managing an annual budget, organizing various sports tournaments and cultural programme as a part of the social activities at the institute and meetings to solve problems faced by students in the hostel.
- **Hostel Secretary** at the Indian Statistical Institute in the year 2006. It is an elective office.

Referees

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