

Contact Information

Address: Department of Mathematics
 Indian Institute of Science
 CV Raman Road, Devasandra Layout
 Bangalore 560012, Karnataka, India
 Telephone: +91-9867145104
 E-mail: r.venkatmaths@gmail.com

Personal Data

Date of Birth: May 4, 1987
 Place of Birth: Rasipuram, Tamilnadu, India
 Nationality: Indian
 Marital status: Married

Education and Research Experience

2004 – 2007	B.Sc (Mathematics)	Thiruvalluvar Govt. Arts College
2007 – 2009	M.Sc (Mathematics)	Bharathidasan University, India
2009 – 2011	Ph.D (JRF, Mathematics)	TIFR, Mumbai, India
2011 – 2013	Ph.D (SRF, Mathematics)	IMSc, Chennai, India
Feb – July (2013)	Postdoctoral Fellow	TIFR, Mumbai, India
Aug – Dec (2013)	Postdoctoral Fellow	IMSc, Chennai, India
Jan – June (2014)	Postdoctoral Fellow	CRM, UdeM, Montreal, Canada
July 2014 – Jan 2015	Postdoctoral Visiting Scientist	TIFR, Mumbai, India
Feb – Aug 2015	Postdoctoral Fellow	MPIM, Bonn, Germany
Sep 2015 – August 2016	Postdoctoral Fellow	Weizmann Institute of Science, Israel
September 2016 – April 2017	Assistant Professor	IIT Madras, Chennai, India
May 2017 – to date	Assistant Professor	IISc, Bangalore, India

Dissertation Adviser: Dr. Sankaran Viswanath

Dissertation Title: Unique Factorization Of Tensor Products For Kac-Moody Algebras

Publications

1. (with Sankaran Viswanath) *Unique factorization of tensor products for Kac-Moody algebras. Advances in Mathematics*, 231(6), 3162–3171, 2012.
2. (with Sankaran Viswanath) *Chromatic Polynomials Of Graphs From Kac-Moody Algebras. J. Algebraic Combin.* 41(4), 1133–1142, 2015.

3. (with Vyjayanthi Chari) *Demazure Modules, Fusion Products And Q-Systems. Commun. Math. Phys.* 333, 799–830, 2015.
4. *Fusion Product Structure of Demazure Modules. Algebr. Represent. Theory.* 18(2), 307–321, 2015.
5. (with Deniz Kus) *Twisted Demazure modules, fusion product decomposition and twisted Qsystems. Represent. Theory.* Volume 20, Pages 94–127, 2016.
6. (with Vyjayanthi Chari, Peri Shereen, Jeffrey Wand) *A Steinberg Type Decomposition Theorem For Higher Level Demazure Modules. J. Algebra.* 455, 314–346, 2016.
7. (with G. Arunkumar, Deniz Kus) *Root multiplicities for Borchers algebras and graph coloring. ArXiv:1612.01320.*

In Preparation

1. (with G. Arunkumar, Reif Shifra) *Unique factorization of tensor products for Borchers algebras.*
2. (with Krishanu Roy) *Maximal closed subroot systems of affine root systems.*

Invited talks

- Seminar, Periyar University, Salem, March, 2017.
- Colloquium, Indian Institute of Technology-Madras, Chennai, November, 2016.
- Combinatorics Seminar, Institute of Mathematical Sciences, Chennai, November, 2016.
- Combinatorics Seminar, Institute of Mathematical Sciences, Chennai, October, 2016.
- Lie Theory and Representation Theory Workshop, University of Cologne, Germany, August, 2016.
- Representation Theory Conference, Uppsala university, Sweden, June, 2016.
- Seminar, Indian Institute of Science, Bangalore, March, 2016.
- Algebra Seminar, University of Haifa, Haifa, Israel, January, 2016.
- Bar Ilan-Algebra Seminar, Bar Ilan University, Ramat Gan, Israel, November, 2015.

- Algebra and Representation Theory Seminar, The Weizmann Institute of Science, Rehovot, Israel, November, 2015.
- Representation Theory Seminar, University of Cologne, Germany, April, 2015.
- Conference on Infinite Dimensional Lie Theory and its Applications, HRI, Allahabad, India, December, 2014.
- ICM Satellite Conference on Representation Theory and Related Topics in the City of Daegu, Korea, August 2014.
- Colloquium, Tata Institute of Fundamental Research, Mumbai, July 2014.
- Aspects of Mathematics, a two day mathematics program, IMSc, Chennai, June, 2014
- Combinatorics Seminar, IMSc, Chennai, June, 2014
- Algebraic Combinatorics Seminar, LaCIM, UQAM, Montreal, Canada, February 2014
- Representation Theory Seminar, University of Ottawa, Canada, February 2014
- Colloquium, Tata Institute of Fundamental Research, Mumbai, July 2013
- Representation Theory Seminar, IMSc, Chennai, May 2013
- Colloquium Talk, Indian Institute of Technology, Bombay, April 2013
- International Conference on Algebraic and Combinatorial Approaches to Representation Theory, University of California, Riverside, May 2012

Invitations and Visits

- Visited Periyar University, Salem under UGC SAP Visiting Scheme for two days to give lectures to M.Sc and M.Phil Students. (March 7–8, 2017)
- Conference on Combinatorics: Challenges and Applications, Tel Aviv University, Israel. (January 17–21, 2016)
- Visit to University of Cologne, Germany for the purpose of research collaboration with Dr. Deniz Kuz. This visit was partially supported by *The Weizmann Institute of Science, Israel*. (December 1–22, 2015)
- Conference on the Interaction of Representation Theory with Geometry and Combinatorics, Hausdorff Institute for Mathematics, Bonn, Germany. (March 27–31, 2015)

- Spring School on Characters of Representations and Modular Forms, Max Planck Institute for Mathematics, Bonn, Germany. (March 23–27, 2015)
- Visit to University of California, Riverside for the purpose of collaboration with Prof. Vyjayanthi Chari. This visit was supported by *Abel Visiting Scholar Program, International Mathematical Union*. (November 1–December 31, 2013)
- Visit to University of California, Riverside for the purpose of collaboration with Prof. Vyjayanthi Chari. This visit was supported by *NBHM travel grant*. (November 1, 2012–January 31, 2013)
- Visit to University of California, Riverside to participate in the conference on *Algebraic and Combinatorial Approaches to Representation Theory* and for the purpose of collaboration with Prof. Vyjayanthi Chari. This visit was supported by IMSc travel grant. (May 15–June 16, 2012)
- Visit to Tata Institute of Fundamental Research, Mumbai for the purpose of collaboration with Prof. C.S. Rajan and to participate in ATM Workshop in *Representation Theory of Finite Groups of Lie Type : Deligne–Lusztig*. (November 5–December 17, 2011)

Awards and Fellowships

Recipient for the Outstanding Doctoral Thesis Awards, Homi Bhabha National Institute, India. Three awards was given for Mathematical Sciences for the years 2005–2015.

Recipient for the award of a travel grant to attend the ICM 2014 given by NBHM, India.

Recipient for the Abel Visiting Scholar Program–2013, International Mathematical Union, Germany.

Gold Medal from the Bharathidasan University, September 2009. (One award is made each year for the first rank holder in the M.Sc. Mathematics examination of Bharathidasan University)

M.A./M.Sc. Scholarship from the National Board for Higher Mathematics, India, 2008.

Junior Research Fellowship and Lectureship from the Council of Scientific and Industrial Research, India, 2008.

Junior Research Fellowship from the National Board for Higher Mathematics, India, 2008.

Teaching Experience

- Was a tutor in MTTS–2009 program and taught Linear algebra.
- Was a tutor in MTTS–2011.
- Was a tutor in topology course (at TIFR), fall 2011.
- Was a resource person in MTTS–2012 and taught Algebra for Level I students.
- Was a resource person in MTTS–2017 and taught Algebra for Level O students.

Major areas of research interest

Representation theory of infinite dimensional Lie algebras. The topics in which I work include: Kac–Moody algebras, Current algebras, Weyl groups.

References

1. Professor Maria Gorelik

Address: Department of Mathematics
Faculty of Mathematics and Computer Science
The Weizmann Institute of Science
234, Herzl Street, Rehovot 76100, Israel

Telephone: +972-8-9343112

E-mail: maria.gorelik@weizmann.ac.il

URL: <http://www.wisdom.weizmann.ac.il/~gorelik/>

2. Professor Sankaran Viswanath

Address: Department of Mathematics
The Institute of Mathematical Sciences
IV Cross Road, CIT campus
Taramani, Chennai–600113
Tamilnadu, India

Telephone: 91–44–2254 3214

E-mail: svis@imsc.res.in

URL: <http://www.imsc.res.in/~svis/>

3. Professor Vyjayanthi Chari

Address: Department of Mathematics
University of California-Riverside
900 University Ave.
Riverside, CA 92521
Telephone: 1-951-827-6463
E-mail: vyjayanthi.chari@ucr.edu
URL: <http://mathdept.ucr.edu/faculty/chari.html>

4. Professor Gadadhar Misra

Address: Department of Mathematics
Indian Institute of Science
CV Raman Road, Devasandra Layout
Bangalore 560012
Karnataka, India
Telephone: +91-80 2293 2712
E-mail: gm@math.iisc.ernet.in
URL: <http://www.math.iisc.ernet.in/gm/>