Santosha Pattanayak

CURRICULUM VITAE

Contact Information	Department of M IIT Kanpur Kanpur - 208016 India	athematics and Statistics	Phone: +91-512-2596402 E-mail: santosha@iitk.ac.in : santoshcu2@gmail.com Url: home.iitk.ac.in/~santosha	
Personal info	Nationality Date of Birth Marital Status Languages:	India 26th June, 1982 Single English, Oriya(mother tongue), Hindi(N	lational Language).	
Employment	Associate Professor (December 2018-) IIT Kanpur			
	Assistant Professor (December 2013-October 2018) IIT Kanpur			
	Visiting Professor (January 2017-July 2017) IIT Kanpur			
	Adjunct Professor (April 2015-) Chennai Mathematical Institute			
	Assistant Professor (August 2013-December 2013) NISER Bhubaneswar			
	Post Doctoral Fellow (August 2011-August 2013) Weizmann Institute of Science, Israel			
RESPONSIBILITIES	Regional Coordinator (UP) for Math Olympiad Programme.			
	Member of the problem committee for Simon Marais Mathematics Competition (Asia Pacific).			
Research Interests	Algebraic Geometry and Invariant Theory. Lie (super) Algebras and Representation Theory.			
Previous Education	Ph.D., Mathematics (May 2011) Chennai Mathematical Institute, India Thesis: Problems related to Invariant theory of Torus and finite groups.			
	M. Sc. in Mathematics; 2003 - 2005 University of Hyderabad, India Subject Area : Pure Mathematics			
Research Publications and Preprints	1. Projective normality of finite group quotients, with S.S. Kannan and Pranab Sardar, Proc. Amer. Math. Soc. 137(2009), no. 3, 863-867			
	2. Torus quoti semistable p 469-485.	ents of homogeneous spaces - minimal a points, with S.S. Kannan, Proc. Indian Ac	limensional Schubert varieties admitting cad. of Sci. Math. Sci. 119(2009), no. 4,	

- Projective normality of Weyl group quotients, with S.S. Kannan, Proc. Indian. Acad. Sci. Math. Sci. 121 (2011), no. 1, pp. 19-26.
- 4. Normality, Projective normality and EGZ theorem, with S.S. Kannan, INTEGERS: The Electronic Journal of Combinatorial Number Theory, Vol 11 (2011).
- On some standard algebras in Modular Invariant theory, J. Algebra Appl., Vol. 13, no. 1 (2014).
- 6. Torus Invariants of the Homogeneous Coordinate Ring of G/B-Connection with Coxeter Elements (With S.S. Kannan and B.N. Chary), Comm. Algebra, Vol. 42, no. 5 (2014).
- Minimal Schubert Varieties admitting semistable points for exceptional cases, Comm. Algebra, Vol. 42, no. 9 (2014)
- Projective Normality of G.I.T. quotient varieties modulo Finite Group, (with P. Goyal), Comm. Algebra, Vol. 45, no. 7 (2017).
- Torus quotients of Richardson varieties (With S. S. Kannan and S. Upadhyay), Comm. Algebra, Vol. 46, no. 3 (2018).
- 10. Torus quotients of Richardson varieties in orthogonal and symplectic Grassmannian (With Arpita Nayek), J. Algebra Appl. (2019).
- 11. Projective Normality of torus quotient of Grassmannian (With Arpita Nayek), Journal of Pure and Applied Algebra (2020).
- On Torus quotient of Schubert varieties (With B.N. Chary), International Journal of Mathematics, 32, no 3 (2021).
- 13. On the uniqueness of branching to fixed point Lie subalgebras, (With N Santosh), Forum Mathematicum- 2022-0128.
- 14. A note on Branching of $V(\rho)$ (with N Santosh), Journal of Algebra, Volume 594, 2022, 194-201.
- 15. Quotients of commuting schemes associated to symmetric pairs (with N Santosh), Submitted.
- 16. Weyl Modules for Toroidal Lie algebras (with Sachin Sharma and S. Mukherjee), Algebra and Representation Theory, Volume 26, 2023, 2605-2626.
- 17. On some central operators on classical Lie superalgebras (with Sachin Sharma and S. Mukherjee), Journal of pure and applied algebra, Volume 228, no 7, 2024.
- 18. Graded picture invariants and polynomial invariants for mixed tensor superspaces (with Preena Samuel), Submitted.
- 19. Projective Normality of torus quotient of orthogonal and symplectic Grassmannian (With Arpita Nayek). Preprint.
- 20. Mixed tensor invariants of the Lie color algebras (with Preena Samuel), Preprint.
- 21. On tensor products of typical representations of Lie superalgebras (with Abhishek Das), Submitted.
- 22. Subtorus quotient of Grassmannians, Preprint.
- 23. Topological K-theory of Peterson varieties, Preprint.
- INVITED TALKS Invited talks given at Aarhus University, Fields Institute, Toronto, Universite Laval, Quebec city, Canada, Hausdroff Institute of Mathematics, Bonn, Germany, Weizmann Institute of Science, Israel, University of Haifa, Israel, Ben Gurion University, Israel, Bar-Ilan University, Israel, IIT Madras, IIT Kanpur.

Teaching Experience	1. Taught Abstarct Algebra and currently teaching Lie algebras and Representation theory at IIT Kanpur, 2015.			
	2. Taught Abstract Algebra course in NISER, Bhubaneswar, August-December 2013.			
	3. Given a short course on Representation theory of Lie algebras at Ramanujan Institute of Advanced Studies in Mathematics, University of Madras, January-March 2009.			
	4. Tutor in Galois Theory course in the Annual Foundation School, Chennai Mathematical In- stitute, Chennai, December 2009.			
	5. Tutor in Modules over PID course in the Annual Foundation School, Chennai Mathematical Institute, Chennai, December 2009.			
	6. Taught a basic algebra course to High School teachers at Institute of Mathematics and appli- cations, Bhubaneswar, July-August 2008.			
	7. Taught basic algebra and calculus in the Rural Mathematics Talent search Program funded by NBHM at Institute of Mathematics and applications, Bhubaneswar, December 2008.			
Honors and Fellowships	1. Indo-US Postdoc Fellowship, 2016.			
	2. Young Scientist Award, 2015.			
	3. INSPIRE Faculty Award, 2012.			
	4. NBHM (National Board for Higher Mathematics) Research Fellowship, 2005.			
	5. CSIR (Council of Scientific and Industrial Research) Research Fellowship, 2005.			
	6. Qualified GATE (Graduate Aptitute Test in Engineering) with 99.54 percentile, 2005.			
	7. Gold medal in Honours Mathematics Olympiad, 2003.			
	8. Andhra Pradesh Mathematics Olympiad, 2004.			
	9. Regional Mathematics Olympiad, Orissa, 1999.			
Conferences and	1. Recent advances in classical algebraic Geometry, Krakow, Poland, 2022.			
Workshops	2. Geometry of Algebraic Varieties, CIRM, 2019.			
	3. Algebraic Groups: Geometry, actions and Structures, Lyon, 2018.			
	4. Varieties and Group actions, IMPAN, 2018			
	5. QGM, Aarhus University, 2016.			
	6. QGM, Aarhus University, 2015.			
	7. IMPANGA-15: A conference in Algebraic Geometry, Bedleow, Poland, 2015.			
	8. Trimester Program on the Interaction of Representation Theory with Geometry and Combi- natorics, HIM, Bonn, April 2011.			
	9. International Conference on Non-Commutative Rings Combinatorial Representation Theory, Pondicherry University, September 2010.			
	 ICM Satellite Conference on Buildings, Finite Geometries and Groups, Indian Statistical In- stitute (Bangalore), August 2010. 			
	11. International Congress of Mathematicians (ICM), Hyderabad, August 2010.			
	12. ICM Satellite Conference on Algebraic and Combinatorial Approaches to Representation The- ory, Indian Institute of Science (Bangalore), August 2010.			
	3. Summer School and Workshop on Affine Schubert Calculus, Fields Institute, Toronto, July 2010.			
	14. Lecture Series on Spectral Sequences and Applications by Prof. S. Ramanan, CMI Chennai, November, 2009.			

- 15. CAAG (Commutative Algebra and Algebraic Geometry) workshop, IIT Madras, July 2009.
- 16. Workshop on Principal Bundles in Geometry, CMI Chennai, February March, 2009.
- 17. RMS/SMF/IMSc Indo French Conference in Mathematics, December 2008.
- 18. Classification of Reductive Algebraic Groups II, ISI Bangalore, May 2008.
- 19. Workshop on Group Theory : Classification of Reductive Algebraic Groups I, ISI Bangalore, December 18, 2006 January 5, 2007.

TECHNICAL AND Algebraic Computation: Singular, CoCoA, McCauley, MAGMA, GAP. Others: Latex, Linux, HTML.