

LIST OF PUBLICATIONS

Publications in Journals and Edited Volumes:

1. (With Joydip Saha and Gaurab Tripathi) *Ideals of the form $\mathbb{A}^1(XY)$* ; Journal of Symbolic Computation 91(2019), pages 17–29. <https://doi.org/10.1016/j.jsc.2018.06.011>
2. (With Ranjana Mehta & Joydip Saha) *Betti numbers of Bresinsky's curves in \mathbb{A}^4* ; Journal of Algebra and its Applications 18(8), August 2019. <https://doi.org/10.1142/S0219498819501433>
3. (With Joydip Saha and Gaurab Tripathi) *Transversal Intersection of Monomial Ideals*; arXiv:1705.00488; Proceedings - Mathematical Sciences, 2019 (forthcoming).
4. (With Joydip Saha and Gaurab Tripathi) *Primary decomposition and normality of certain Determinantal ideals*; arXiv:1610.00926; Proceedings - Mathematical Sciences, 2019 (forthcoming).
5. (With Achintya Kumar Roy and Gaurab Tripathi) *Minimal graded free resolutions for monomial curves defined by almost arithmetic sequences*; Communications in Algebra 45(2), 2017, pp. 521-551.
6. (With Joydip Saha and Gaurab Tripathi) *Quadrics defined by skew-symmetric matrices*, International Journal of Algebra 11(8)(2017) 349 – 356. <https://doi.org/10.12988/ija.2017.7942>
7. (With Debasish Mukhopadhyay) *The Rees Algebra for Certain Monomial Curves*; Ramanujan Mathematical Society-Lecture Notes Series No.17, Proc. CAAG 2010, pp.199-218 (2013).
8. (With Philippe Gimenez and Hema Srinivasan) *Minimal Graded Free Resolutions for Monomial Curves defined by arithmetic sequences*; Journal of Algebra 388(2013) 294-310.
9. (With Debasish Mukhopadhyay) *On the Smoothness of Blowups for Certain Monomial Curves*; Beitrage zur Algebra und Geometrie, 53(2012), 89-95, Springer.
10. (With Philippe Gimenez and Hema Srinivasan) *Minimal Free Resolution for Certain Affine Monomial Curves*, A. Corso and C. Polini Eds, Commutative Algebra and its Connections to Geometry (PASI 2009), Contemp. Math., 555(2011), 87-95, Amer. Math. Soc.
11. (With A.K.Maloo) *Criterion for Complete Intersection of Certain Monomial Curves*; Advances in Algebra and Geometry, University of Hyderabad Conference 2001, edited by C. Musili, Hindustan Book Agency, 2003, pp. 179-184.
12. *A Minimal Free Resolution for Certain Affine Monomial Curves in \mathbb{A}^4* ; Communications in Algebra 31(6) (2003), pp. 2791-2809.
13. *A Gröbner basis for Certain Affine Monomial Curves*; Communications in Algebra 31(3) (2003), pp. 1113-1129.
14. (With D.P. Patil) *Minimal Set of Generators for the Derivation Module of Certain Monomial Curves*; Communications in Algebra 27(11) (1999), pp. 5619-5631.
15. (With D. Dey and N. Shrotiya) *R-hash: Hash Function Using Random Quadratic Polynomials Over $GF(2)$* , International JI. of Computer Science & Information Technology (IJCSIT), Vo.4, No.6, December 2012.
16. (With D. Dey and P.R. Mishra) *GB-hash: Hash Functions Using Gröbner Basis*, International Journal of Modern Engineering Research, Vol.2, Issue 2, 462-470 (March-April 2012).
17. (With D. Dey and P.R. Mishra) *HF-hash: Hash Functions Using Restricted HFE Challenge – 1*, International Journal of Advanced Science and Technology, 37, 129 – 140 (Dec.2011).

Publications in Conference Proceedings and Newsletters:

1. (With Ranjana Mehta & Joydip Saha) *Unboundedness of Betti numbers of curves*; ACM Communications of Computer Algebra 52(3), Issue 205, September 2018; proceedings of ISSAC 2018.
2. (With Joydip Saha and Gaurab Tripathi) *Gröbner bases for $\mathbb{A}^1(XY)$* . XV Encuentro de Álgebra Computacional y Applications, EACA 2016. Edited by Jónathan Heras & Ana Romero, Univ. Rioja, SPAIN, pp. 149 - 152 (2016). ISBN 978-84-608-9024-9; <https://dialnet.unirioja.es/servlet/libro?codigo=655785>.
3. *Betti Numbers of Certain Affine Monomial Curves*, EACA-2006 (Sevilla), F.-J.Castro Jimenez and J.-M. Ucha Enriquez Eds., 171-173. ISBN: 84-611-2311-5.

4. *Prime Numbers*; Mathematics Newsletter, Ramanujan Mathematical Society 15(3), 62 – 67, December 2005.

Articles communicated:

1. (With Joydip Saha and Gaurab Tripathi) *Transversal Intersection and Sum of Polynomial Ideals*. arXiv:1611.04732; communicated to Journal of Symbolic Computation.
2. (With Ranjana Mehta & Joydip Saha) *Numerical Semigroups generated by concatenation of two arithmetic sequences*, arXiv:1802.02564 [math.AC] 2018; ; communicated to Journal of Symbolic Computation.
3. (With Ranjana Mehta & Joydip Saha) *Moh's examples of algebroid space curve*, arXiv:1807.04909[math.AC]; communicated to Journal of Symbolic Computation.
4. (With Amogh Parab and Kshiteej Sheth) *Gröbner bases for the defining ideal of the Rational Normal Curve*. Preprint 2019.
5. (With Joydip Saha and Gaurab Tripathi) *Regular Sequences from Determinantal Conditions*. arXiv:1703.01756. Preprint 2018.

Posters:

1. (With Ranjana Mehta and Joydip Saha) *Unboundedness of Betti numbers of curves*. Poster presented at ISSAC 2018.
2. (With Joydip Saha and Gaurab Tripathi) *Primary Decomposition of certain Determinantal Ideals*. Poster presented at MEGA 2017.
3. (With Ranjana Mehta) *On the unboundedness of Betti numbers of curves: An approach through Computer Algebra*. Poster presented in COCOA 2016.
4. (With Joydip Saha and Gaurab Tripathi) *Betti numbers of sum of determinantal ideals*. Poster presented in COCOA 2016.
5. (With Amogh Parab and Kshiteej Seth) *Gröbner bases of Rational Normal Curves*. Poster presented in COCOA 2016.
6. (With Achintya Kumar Roy and Gaurab Tripathi) *Minimal graded free resolutions for monomial curves defined by arithmetic sequences*. Poster presented in COCOA 2016.

Video Lectures and Lecture Notes:

1. **e-PG Pathshala:** I am the content writer for the course in Linear Algebra, published as a part of the MHRD initiative e-PG Pathshala. The video lectures with pertinent notes are available on the website.