Publication List

Luis Núñez-Betancourt

Publications and Preprints

Published or accepted:

1. *"Bernstein's inequality and holonomicity for certain singular rings"* (with Josep Àlvarez Montaner, Daniel J. Hernández, Jack Jeffries, Pedro Teixeira, and Emily E. Witt), **Int. Math. Res. Not. IMRN**, to appear.

2. *"Nash blowups of toric varieties in prime characteristic"* (with Daniel Duarte and Jack Jeffries). **Collect. Math.**, to appear.

3. *"Regularity index of the generalized minimum distance function"* (with Carlos Espinosa-Valdéz, and Yuriko Pitones), accepted **J. Pure Appl. Algebra**.

4. *"Purity of monoids and characteristic-free splittings in semigroup rings"* (with Alessandro De Stefani and Jonathan Montaño), **Math. Z.**, 305 (2023), No. 2, Paper No. 31.

5. *"Bernstein-Sato theory for singular rings in positive characteristic"* (with Jack Jeffries and Eamon Quinlan Gallego), **Trans. Amer. Math. Soc.** 376 (2023), No. 7, 5123-5180.

6. *"Frobenius methods in combinatorics"* (with Alessandro De Stefani and Jonathan Montaño), **São Paulo J. Math. Sci.** 17 (2023), No. 1, 387-429.

7. *"Poincaré series of multiplier and test ideals"* (with Josep Àlvarez Montaner), **Rev. Mat. Iberoam.** 38 (2022), No. 6, 1993-2009.

8. *"F-thresholds and test ideals of Thom-Sebastiani-Type polynomials"* (with Delio Jaramillo and Manuel González Villa), **Proc. Amer. Soc.** 150 (2022), No. 9, 3739-3755.

9. *"Bernstein-Sato polynomials in commutative algebra"* (con Josep Àlvarez Montaner, and Jack Jeffries), **Commutative Algebra**, 1-76, Springer, Cham, [2021].

10. *"Functional equations, V-filtrations, and multiplier ideals of direct summands "* (with Josep Àlvarez Montaner, Daniel J. Hernández, Jack Jeffries, Pedro Teixeira and Emily E. Witt), **Commun. Contemp. Math.** 24 (2022), no. 10, Paper No. 2150083, 47 pages.

11. *"Connectedness of square-free Groebner Deformations"* (with Lilia Alanís-López and Pedro Ramírez-Moreno), **Proc. Amer. Math. Soc.** 150 (2022), No. 4, 1405-1419.

12. *"Nash blowups in prime characteristic"* (with Daniel Duarte), **Rev. Mat. Iberoam.** 38 (2022), No. 1, 257-267.

13. *"F-volumes"* (with Wágner Badilla-Céspedes and Sandra Rodríguez-Villalobos), **J. Algebra**, 595 (2022), 14-37.

14. *"Bounds for the minimum distance function"* (with Yuriko Pitones, and Rafael H. Villarreal), **An. Ştiinţ. Univ. "Ovidius" Constanţa Ser. Mat.**, (2021), No. 3, 229-242.

15. *"Higher Nash blowups of normal toric varieties in prime characteristic"* (with Daniel Duarte), **Tohoku Math. J.**, , (2) 73 (2021), No. 3, 449-462.

16. *"Splittings and symbolic powers of square-free monomial Ideals"* (with Jonathan Montaño), **Int. Math. Res. Not. IMRN**, (2021), No. 3, 2304-2320.

17. "Local cohomology and Lyubeznik numbers of *F*-pure rings" (with Alessandro De Stefani, and Eloísa Grifo), **J. Algebra**., Vol. 571, (2021), 316-338.

18. *"Q-Hilbert functions of multiplier and test ideals"*, (con Josep Àlvarez Montaner). Extended abstracts GEOMVAP 2019-geometry, topology, algebra, and applications; women in geometry and topology, $1 - 6$, **Trends Math. Res. Perspect. CRM Barc.**, 15, Birkhüser/Springer, Cham, (2021).

19. *"b-vectors of chordal graphs"* (with Luis Pedro Montejano), **J. Commut. Algebra**. Vol. 12 (2020), No. 4, 539-557.

20. *"Hilbert-Kunz multiplicities and F-thresholds"* (with Ilya Smirnov), **Bol. Soc. Mat. Mex. (3)**, Vol. 26 (2020), No. 1, 15–25.

21. *"Quantifying singularities with differential operators"* (with Holger Brenner, and Jack Jeffries), **Adv. Math.**, Vol. 358 (2019), No. 106843, 89 pp.

22. *"Connectedness and Lyubeznik numbers"* (with Sandra Spiroff and Emily E. Witt), **Int. Math. Res. Not. IMRN**, (2019), No. 13, 4233-4259.

23. *"Lyubeznik numbers and injective dimension of local cohomology modules"* (with Daniel J. Hernández, Felipe Pérez and Emily E. Witt), **Trans. Amer. Math. Soc.**, Vol. 371 (2019), No. 11, 7533-7557.

24. *"Cohomological dimension, Lyubeznik numbers, and connectivity in mixed characteristic"* (with Daniel J. Hernández, Felipe Pérez, and Emily E. Witt), **J. Algebra**, Vol. 514 (2018) 442–467.

25. *"Symbolic powers of ideals"* (with Hailong Dao, Alessandro De Stefani, Craig Huneke and Eloísa Grifo), Singularities and foliations. geometry, topology and applications, 387-432, **Springer Proc. Math. Stat.**, 222 (2018), Springer, Cham.

26. *"On the existence of F-thresholds and related limits"* (with Alessandro De Stefani and Felipe Pérez), **Trans. Amer. Math. Soc.**, Vol. 370 (2018), No. 9, 6629-6650.

27. *"Footprint and minimum distance functions"* (with Yuriko Pitones and Rafael Heraclio Villarreal), **Commun. Korean Math. Soc**, Vol. 33 (2018), No. 1, 85–101.

28. *"Local m-adic constancy of F-pure thresholds and test ideals for hypersurfaces with isolated singularities"* (with Daniel J. Hernández and Emily E. Witt), **Math. Proc. Cambridge Philos. Soc.**, Vol. 164 (2018), No. 2, 285-295.

29. *"F-thresholds of graded rings"* (with Alessandro De Stefani), **Nagoya Math. J.**, Vol. 229 (2018), 141-168.

30. *"D-modules, Bernstein-Sato polynomials, and F-invariants of direct summands"* (with Josep Àlvarez-Montaner and Craig Huneke), **Adv. Math.**, Vol. 321 (2017) 298-325.

31. *"Support of local cohomology over hypersurfaces and rings with FFRT"* (with Mel Hochster), **Math. Res. Lett.**, Vol. 24 (2017), 401–420.

32. *"Graph connectivity and binomial edge ideals"* (with Arindam Banerjee), **Proc. Amer. Math. Soc.**, Vol. 145 (2017), No. 2, 487-499.

33. *"On the hyperhomology of the small gobelin for codimension 2"* (with Xavier Gómez-Mont), **Bol. Soc. Mat. Mex. (3)**, Vol. 23 (2017), No. 2, 623-–651.

34. *"Frobenius Betti numbers and modules of finite projective dimension"* (with Alessandro De Stefani and Craig Huneke), **J. Commut. Algebra**, Vol. 9 (2017), No. 4, 455-490.

35. *"F-pure thresholds of homogeneous polynomials"* (with Daniel J. Hernández, Emily E. Witt and Wenliang Zhang), **Michigan Math. J.**, 65 (2016), No. 1, 57-87.

36. *"A survey on the Lyubeznik numbers"* (with Emily E. Witt and Wenliang Zhang), **ontemp. Math., 657, Aportaciones Mat.** Vol. 657 (2016), 154-181.

37. *"A sufficient condition for strong F-regularity"* (with Alessandro De Stefani), **Proc. Amer. Math. Soc.**, Vol. 144 (2016), No. 1, 21-29.

38. *"F-jumping and F-Jacobian ideals for hypersurfaces"* (with Felipe Pérez), **J. Pure Appl. Algebra**, Vol. 220 (2016), Issue 1, 292-318.

39. *"Properties of Lyubeznik numbers under localization and polarization"* (with Arindam Banerjee and Kohji Yanagawa), **J. Pure Appl. Algebra**, Vol. 219 (2015), No. 11, 4872-4888.

40. *"Generalized Lyubeznik numbers"* (with Emily E. Witt), **Nagoya Math. J.**, Vol. 215 (2014), 168-202.

41. *"Associated primes of local cohomology of flat extensions with regular fibers and Σ-finite D-modules"*, **J. Algebra**, Vol. 399 (2014), 770-781.

42. *"Lyubeznik numbers in mixed characteristic"* (with Emily E. Witt), **Math. Res. Lett.**, Vol. 20, (2013), No. 6, 1125-1143.

43. *"Local cohomology modules of polynomial or power series rings over rings of small dimension"*, **Illinois J. Math.**, Volume 57 (2013), No. 1, 279-294.

44. *"On certain rings of differentiable type and finiteness properties of local cohomology"*, **J. Algebra**, Volume 379 (2013), 1-10.

45. *"Local cohomology properties of direct summands"*, **J. Pure Appl. Algebra**, Vol. 216 (2012), Issue 10, 2137-2140.

46. *"Ideals with Larger Projective Dimension and Regularity"* (with Jesse Beder, Jason McCullough, Alexandra Seceleanu, Bart Snapp and Branden Stone), **J. Symbolic Comput.**, Vol. 46 (2011), Issue 10, 1105-1113.

Submitted:

47. *"Blowup algebras of determinantal ideals in prime characteristic"* (with Alessandro De Stefani and Jonathan Montaño), preprint available at arXiv:2109.00592 [math.CA].

48. *"Bernstein-Sato polynomial and related invariants for meromorphic functions"* (with Josep Àlvarez Montaner, Manuel González Villa and Edwin León-Cardenal). preprint available at arXiv:2112.08492 [math.CV].

49. *"Jumping numbers of F-pure submodules"* (with Alessandro De Stefani, Daniel J. Henández, and Emily E. Witt).

50. *"Ladder determinantal varieties and their symbolic blowups"* (with Alessandro De Stefani, Jonathan Montaño, Lisa Seccia, and Matteo Varbaro), preprint available at arXiv:2305.18167 [math.CA].