Publications

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1. Parity of 3-regular partition numbers and Diophantine equations (with Mircea Merca and Cristian-Silviu Radu), submitted.

2. Combinatorial proofs of inequalities involving the number of partitions with parts separated by parity (with Amanda Welch), to appear in *Ramanujan J.*

3. Partitions with an exact number of parts (with Mircea Merca), to appear in *Ramanujan J.*

4. The inclusion-exclusion principle and recurrences for partition numbers (with Mircea Merca), *Politehn. Univ. Bucharest Sci. Bull. Ser. A Appl. Math. Phys.* 87 (2025), no. 1, 97–106.

5. Elementary Symmetric Partitions (with George Beck, Mircea Merca and Bruce Sagan), *Ann. Comb.* (2024) online first.

6. Linear dependencies among cubic partition numbers (with Mircea Merca), *Mediterr. J. Math.* 22 (2025), no. 1, Paper No. 32, 24 pp.

7. Jacobi's cubic analog of the pentagonal number theorem and representations of $24n + 5$ as a sum of two squares (with Mircea Merca), *Rev. R. Acad. Cienc. Exactas Fís. Nat. Ser. A Mat. RACSAM* 119 (2025), no. 2, Paper No. 37, 13 pp.

8. Truncated theta series related to the Jacobi triple product identity (with Brooke Feigon), *Discrete Math.* 348 (2025), no. 2, Paper No. 114319, 17 pp.

9. Partitions and elementary symmetric polynomials - an experimental approach (with George Beck and Mircea Merca), *Ramanujan J.* 66 (2025), no. 2, Paper No. 34, 22 pp.

10. Mock theta functions and related combinatorics (with Hannah Burson, Amanda Folsom, Chi-Yun Hsu, Isabella Negrini and Boya Wen), *Research directions in number theory* (2024) 133–169, Assoc. Women Math. Ser., 33, Springer, Cham.

11. Generalizations of POD and PED partitions (with Amanda Welch), *Discrete Math.* 347 (2024), no. 11, Paper No. 114150, 16 pp.

12. Partitions enumerated by self-similar sequences (with George Beck), in *New Frontiers in Number Theory and Applications* (2024) 51–96, Trends in Mathematics, Guàrdia, J., Minculete, N., Savin, D., Vela, M., Zekhnini, A. (eds), Birkhäuser, Cham.

13. Plane partitions and divisors (with Mircea Merca), *Symmetry* (2024), 16(1), Paper No. 5, 13pp.

14. Combinatorial proofs of Merca's identities involving the sum of different parts congruent to r modulo m in all partitions of n, *Integers* 24 (2024), Paper No. A15, 14 pp.

15. Durfee rectangle identities via symmetric functions (with Mircea Merca), *Mediterr. J. Math.* 21 (2024), no. 1, Paper No. 27, 10 pp.

16. Hook length biases and general linear partition inequalities, (with Hannah Burson, William Craig, Amanda Folsom, and Boya Wen), *Res. Math. Sci.* 10 (2023), no. 4, Paper No. 41, 36 pp.

17. 6-regular partitions: new combinatorial properties, congruences, and linear inequalities (with Mircea Merca), *Rev. R. Acad. Cienc. Exactas Fís. Nat. Ser. A Mat. RACSAM* 117 (2023), no. 4, Paper No. 159, 23 pp.

18. Hook length and symplectic content in partitions (with Tewodros Amdeberhan and George Andrews), *J. Combin. Theory Ser. A* 200 (2023), Paper No. 105794, 24 pp.

19. Congruences modulo 4 for number of 3-regular partitions (with Mircea Merca), *C. R. Math. Acad. Sci. Paris* 361 (2023), 1577–1583.

20. Hook length bias in odd versus distinct partitions (with Hannah Burson, William Craig, Amanda Folsom, and Boya Wen), *Sém. Lothar. Combin.* 89B (2023), Art. 39, 12 pp. 05A17.

21. 4-Regular partitions and the pod function (with Mircea Merca), *Quaest. Math.* 46 (2023), no. 10, 2027–2051.

22. On the number of parts in all partitions enumerated by the Rogers-Ramanujan identities (with Amanda Folsom), accepted to the Proceeding of the Subbarao Symposium.

23. Mock theta functions and related combinatorics (with Hannah Burson, Amanda Folsom, Chi-Yun Hsu, Isabella Negrini and Boya Wen), accepted to the Proceedings of WIN5.

24. Beck-type companion identities for Franklin's identity (with Amanda Welch), *Contrib. Discrete Math.* 18 (2023), no. 1, 53–65.

25. New combinatorial interpretations for the partitions into odd parts greater than one (with Mircea Merca), *Taiwanese J. Math.* 27 (2023), no. 1, 1–21.

26. PED and POD partitions: combinatorial proofs of recurrence relations (with Amanda Welch), *Discrete Math.* 346 (2023), no. 3, Paper No. 113259, 20 pp.

27. Dyson's crank and unimodal compositions (with Mircea Merca), *Rev. R. Acad. Cienc. Exactas Fís. Nat. Ser. A Mat. RACSAM* 116 (2022), no. 4, Paper No. 182, 12 pp.

28. Refinements of Beck-type partition identities (with Tewodros Amdeberhan and George Andrews), *Discrete Math.* 345 (2022), no. 12, Paper No. 113110, 14 pp.

29. Almost 3-regular overpartitions (with Mircea Merca), *Ramanujan J.* 58 (2022), no. 3, 957–971.

30. Beck-type identities: new combinatorial proofs and a modular refinement (with Amanda Welch), *Ramanujan J.* 58 (2022), no. 3, 943–955.

31. On a Partition Identity of Lehmer (with Hannah Burson, Amanda Folsom, Chi-Yun Hsu, Isabella Negrini and Boya Wen), *Discrete Math.* 345 (2022), no. 10, Paper No. 112979, 17pp.

32. Generalizations of Stanley's Theorem: Combinatorial Proofs and Related Inequalities (with Mircea Merca), *Mediterr. J. Math.* 19 (2022), no. 1, Paper No. 20, 14 pp.

33. Alignments of permutations: their number, mean number, and total number of cycles (with Mircea Merca), *Rev. R. Acad. Cienc. Exactas Fís. Nat. Ser. A Mat. RACSAM.* 116 (2022), article 13, 15pp.

34. Beck-type identities for Euler pairs of order r (with Amanda Welch), *Transcendence in algebra, combinatorics, geometry and number theory,* 141–161, Springer Proc. Math. Stat., 373, Springer, Cham, 2021.

35. Combinatorial Proof of the Minimal Excludant Theorem (with Mircea Merca), *Int. J. Number Theory* 17 (2021), no. 8, 1765–1779.

36. Beck-type companion identities for Franklin's identity via a modular refinement (with Amanda Welch), *Discrete Mathematics*, 344 (8) (2021) 112480, 11 pp.

37. Combinatorial proofs of two theorems related to the number of even parts in all partitions of n into distinct parts (with Mircea Merca), *Ramanujan J.* 54 (2021), no. 1, 107–112.

38. The r-Stirling numbers of the first kind in terms of the Möbius function (with Mircea Merca), *Ramanujan J.* 55 (2021), no. 2, 593–608.

39. Minimal Excludant and colored partitions (with Mircea Merca), *Sém. Lothar. Combin.* 84B (2020), Art. 23, 12 pp.

40. Quasisymmetric Power Sums (with Zajj Daugherty, Angela Hicks, Sarah Mason and Elizabeth Niese), *J. Combin. Theory Ser. A* 175 (2020), 105273, 37 pp.

41. Bisected Theta Series, Least r-Gaps in Partitions, and Polygonal Numbers (with Mircea Merca), *Ramanujan J.*, 52 (2020), no. 2, 433–444.

42. On identities of Watson type (with Mircea Merca), *Ars Math. Contemp.* 17 (2019), no. 1, 277–290.

43. A Combinatorial proof of an Euler identity type theorem of Andrews (with Richard Bielak), *Ann. Comb.* 23 (2019), no. 3-4, 511–525.

44. On lacunary recurrences for Fibonacci numbers (with Mircea Merca), *Miskolc Math. Notes*, Vol. 20 (2019), No. 2, pp. 767–772.

45. Almost partition identities (with George E. Andrews), *Proc. Natl. Acad. Sci.* USA 116 (2019), no. 12, 5428–5436.

46. Jacobi's Four and Eight Squares Theorems and Partitions into Distinct Parts (with Mircea Merca), *Mediterr. J. Math.* 16 (2019), no. 2, Art. 26, 15 pp.

47. Quasisymmetric Power Sums (with Zajj Daugherty, Angela Hicks, Sarah Mason and Elizabeth Niese), Proceedings of the 30$^{\text{th}}$ Conference on Formal Power Series and Algebraic Combinatorics (Hanover), *Séminaire Lotharingien de Combinatoire* 80B (2018), Article #25, 12 pp.

48. Combinatorial Proofs of Two Truncated Theta Series Theorems (with Mircea Merca, Donny Passary, and Ae Ja Yee), *J. Combin.Theory Ser. A*, 160 (2018), 168–185

49. Euler-Riemann zeta function and Chebyshev-Stirling numbers of the first kind (with M. Merca), *Mediterr. J. Math.* 15 (2018), no. 3, Art. 123, 10 pp.

50. Finite differences of Euler's zeta function (with Mircea Merca), *Miskolc Math. Notes* 18 (2017), no. 2, 639–642.

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52. Inequalities involving the generating function for the number of partitions into odd parts (with Mircea Merca), *Quaest. Math.* 40 (2017), no. 3, 319–332

53. New convolutions for the number of divisors (with Mircea Merca), *J. Number Theory* 170 (2017), 17–34

54. Padovan numbers as sums over partitions into odd parts (with Mircea Merca), *J. Inequal. Appl.* 2016, Paper No. 1, 14 pp.

55. Stability of coefficients in the Kronecker product of a hook and a rectangle (with William T. Hallahan), *J. Phys. A: Math. Theor.* 49 (2016), no. 5, 055203 (21pp)

56. Explicit construction of Ramanujan bigraphs (with B. Feigon, R. Ganapathy, J. Kool, K. Maurischat and Amy Wooding). In *Women in Numbers Europe: Research Directions in Number Theory*, Association for Women in Mathematics Series, Springer Verlag, September 2015, 1–16, ISBN 978-3-319-17986-5.

57. Schur positivity in a square (with Rosa Orellana), *Elec. Journal of Combinatorics*, Vol 21, Issue 3 (2014), #P3.46, 1-36.

58. Connections: Graphs through Number Theory, *CMS Notes*, Vol. 44, No 4, Sept. 2012, 16–17.

59. Powers of the Vandermonde determinant, Schur functions and recursive formulas, *J. Phys. A: Math. Theor.* 45, No. 31 (2012)

60. Powers of the Vandermonde determinant, Schur functions, and the dimension game, 23rd International Conference on Formal Power Series and Algebraic Combinatorics (FPSAC 2011), Proceedings of the conference held in Reykjavik, June 13–17, 2011. *Discrete Mathematics & Theoretical Computer Science Proceedings (DMTCS)*, 87–98.

61. Ramanujan bigraphs associated with SU(3) over a p-adic field (with D. Ciubotaru), *Proc. Amer. Math. Soc.* 139, 6 (2011), 1939–1953.

62. Colour visualization of Blaschke product mappings (with D. Ghisa), *Complex Var. Elliptic Equ.* 55 (2010), no. 1-3, 201–217.

63. Global mapping properties of rational functions (with D. Ghisa), *Progress in analysis and its applications*, 13–22, World Sci. Publ., Hackensack, NJ, 2010.

64. Color visualization of Blaschke self-mappings of the real projective plane (with D. Ghisa), *Rev. Roumaine Math. Pures Appl.* 54 (2009), no. 5–6, 375–394.

65. A mathematical analysis of some indices used to classify ammonite shells, Lethaia Seminar, *Lethaia*, Vol. 40, 2007, 197–198.

66. A Combinatorial Interpretation for the Coefficients in the Kronecker Product $s_{(n-p,p)} * s_\lambda$ (with R. Orellana), *Séminaire Lotharingien de Combinatoire* 54A, 2006, Article B54Af.

67. Determinants Associated to Zeta Matrices of Posets (with S. Frechette and J. Little), *Linear Algebra and its Applications* 411, 2005, 364-370.

68. On the Kronecker Product $s_{(n-p,p)} * s_\lambda$ (with R. Orellana), refereed abstract, on CD-ROM: FPSAC (Formal Power Series and Algebraic Combinatorics) 2005, Taormina, Italy.

69. On the Kronecker Product $s_{(n-p,p)} * s_\lambda$ (with R. Orellana), *Elec. Journal of Combinatorics*, Vol 12, 2005, R28, 1-26.

70. Hecke Operators for GL_n and Buildings (with T. Shemanske and J. Rhodes), *Acta Arithmetica* **112**, 2004, 131-140.

71. Ramanujan Type Graphs and Bigraphs, Dynamical systems and differential equations (Wilmington, NC, 2002), *Discrete and Continuous Dynamical Systems*, 2003, suppl., 78–82.

72. A Simple Proof of Rolle's Theorem for Finite Fields (with J. Roberts), *The American Mathematical Monthly*, Vol. 109 (1), 2002, 72-74.

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Non-refereed Publications

75. James G. Arthur: AMS 2017 Leroy P. Steele Prize for Lifetime Acheivement, James Cogdell and Freydoon Shahidi, Guest Editors. Contributions by David Vogan, Ngô Bào Châu, Robert Langlands, Colette Mœglin, Jean-Loup Waldspurger, Eric Friedlander, and Cristina Ballantine, *Notices Amer. Math. Soc.* 65 (2018), no. 6, 637–645.

76. Rolle's Theorem over Local Fields (with. T. Shemanske), preprint

77. Math Mom, *The Funnel* (the news magazine of the German-American Fulbright Commission), Number 1, Volume 42, Winter 2005, 16–17.

Translations

78. Early Cretaceous microfacies and algae from the central - eastern sectors of the Moesian Carbonate Platform, by Ovidiu Dragastan, Ion Stefan Popescu, Aida Popescu, *Acta Paleontologica Romaniae*, Vol. 5, 2005, 141–162 (translation from Romanian into English).