

PUBLICATION LIST

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- (1) *Lattice equilateral triangles in the half-plane model of Hyperbolic Geometry*, under review
- (2) *Bisecting binomial coefficients (II)*, under review
- (3) *Apollonius “circle” in Spherical Geometry*, to appear
- (4) *Random triangles in planar regions containing a fixed point*, under review
- (5) *Apollonius “circle” in Hyperbolic Geometry*, under review
- (6) *Ehrhart polynomial for lattice squares, cubes and hypercubes*, under review
- (7) *Bisecting binomial coefficients*, with T. Martinsen and P. Stănică, *Discrete Applied Mathematics*, **227**(2017), pp. 70-83
- (8) *Gaussian Integers and Unit Fractions*, with K. Bradford, *Acta Math. Univ. Comenianae*, **LXXXVI** (2017), pp. 127-141
- (9) *New parametrization of $A^2 + B^2 + C^2 = 3D^2$ and Lagrange’s four-square theorem*, *An. Științ. Univ. Al. I. Cuza Iași. Mat. (N.S.)*, vol. **62**(3) (2016), pp. 823-833
- (10) *The signum equation for Erdős-Surányi sequences*, with Dorin Andrica, vol. **15A** (2015): *Proceedings of Integers 2013: The Erdos Centennial Conference*
- (11) *A geometric reduction of the Erdős-Straus conjecture*, with Kyle Bradford, *Advanced Modeling and Optimization*, **17**(1) (2015), pp. 41-54
- (12) *Equilateral triangles in \mathbb{Z}^4* , *Vietnam J. Math.* vol. **43**(3) (2015), pp. 525-539
- (13) *On a conjecture on the number of polynomials with coefficients in $[n]$* , with Dorin Andrica, Sneha Chaubey, and Alexandru Zaharescu, *Bull. Math. Soc. Sci. Math. Roumanie*, vol. **58**(106) (2015), pp. 19-31
- (14) *Some unexpected Connections between Analysis and Combinatorics*, with Dorin Andrica, *Mathematics without boundaries: survey in pure mathematics*, Themistocles M. Rassias and Panos Pardalos, Editors, Springer (2014)
- (15) *On polynomials with coefficients in $[n]$* , with Dorin Andrica, *An. St. Univ. Ovidius Constanta*, Vol. **22**(1), 2014, 13-23
- (16) *Primes of the form $\pm a^2 \pm qb^2$* , with Jeff Patterson, *Stud. Univ. Babes-Bolyai Math.* **58** (2013), No. 4, pp. 421-430
- (17) *Estimations of the Rate of Interest for an Annuity Certain*, with R. Stephens, *Journal of Financial and Economic Practice*, **13**(2)(2013), pp. 84-97

- (18) *Lattice Platonic Solids and their Ehrhart polynomial*, Acta Math. Univ. Comenianae, **82**(1) (2013), pp. 147-158
- (19) *Ehrhart's polynomial for equilateral triangles in \mathbb{Z}^3* , Australas. J. Combinatorics, **55** (2013), pp. 189-204
- (20) *Things to do with a broken stick*, with Gabriel Prajitura, International Journal of Geometry, vol. **2**(2) (2013), pp. 5 - 30
- (21) *Cubes in $\{0, 1, \dots, n\}^3$* , with Rodrigo Obando, Integers, vol. **12A** (2012) (John Selfridge Memorial Issue), Art. A9
- (22) *Regular octahedrons in $\{0, 1, \dots, n\}^3$* , Fasc. Math., **48** (2012), pp. 49-59
- (23) *Moments and the Range of the Derivative*, with Richard Stephens, Real Analysis Exchange, **37**(1) (2012), pp. 1-17
- (24) *Half domination arrangements in regular and semi-regular tessellation type graphs*, Advanced Modeling and Optimization, **14**(1) (2012), pp. 233-245
- (25) *Regular tetrahedra with integer coordinates of their vertices*, Acta Math. Univ. Comenianae, **80**(2) (2011), pp. 161-170
- (26) *On the Erdos-Straus conjecture*, with A. Wilson, Revue Roumaine de Mathematique Pures et Appliques, **56**(1) (2011), pp. 21-30
- (27) *Platonic solids in \mathbb{Z}^3* , with A. Markov, J. Number Theory, **131** (2011), pp. 138-145
- (28) *On positivity of bivariate polynomials*, Gazeta Matematica (Seria A), Anul XXVIII(CVII) **3-4** (2010), pp. 134-136
- (29) *Certain Binomial Sums with recursive coefficients*, with E. Kilic, Fibonacci Quart., **48**(2) (2010), pp. 161-167
- (30) *On independent sets in purely atomic probability spaces with geometric distribution*, with A. Stancu, Acta Math. Univ. Comenianae, **79**(1) (2010), pp. 31-38
- (31) *Introduction to the Prisoners vs. Guards Puzzle*, with T. Howard and D. Woolbright, Journal of Integer Sequences, **12** (2009), Art. 09.1.3
- (32) *A characterization of regular tetrahedra in \mathbb{Z}^3* , J. Number Theory, **129** (2009), pp. 1066-1074
- (33) *k-Dependence and domination in king's graph*, with D. Pritkin and S. Wright, Amer. Math. Monthly, **115**(9), (2008), pp. 820-836
- (34) *Twin problems on non-periodic functions*, Crux Mathematicorum with Mathematical Mayhem, **34**(7) (2008), pp. 424-429
- (35) *A characterization of all equilateral triangles in \mathbb{Z}^3* , with Ray Chandler, Integers, **8** (2008), Art. A19
- (36) *Minimal Niven numbers*, with F. Luca, P. Stanica and H. Fredricksen, Acta Arith., **132** (2008), pp. 135-159

- (37) *Counting all equilateral triangles in $\{0, 1, 2, \dots, n\}^3$* , *Acta Math. Univ. Comenianae*, **77**(1) (2008), pp. 129-140
- (38) *Remarks on a sequence of minimal Niven numbers*, with F. Luca, P. Stanica and H. Fredrickson, *Proceedings of the International Workshop, SSC (2007) (Sequences, Subsequences and Consequences)* Springer, pp. 162-168
- (39) *A proof of two conjectures related to Erdős-Debrunner inequality*, with P. Stanica and C. L. Frenzen, *J. Inequal. Pure and Appl. Math*, **8**(3) (2007), Art. 68
- (40) *A parametrization of equilateral triangles having integer coordinates*, *Journal of Integer Sequences*, **10** (2007), Art. 07.6.7
- (41) *Heron triangles with two fixed sides*, with F. Luca and P. Stanica, *J. Number Theory*, **126**(1) (2007), pp. 52-67
- (42) *Extreme values for the area of rectangles with vertices on concentric circles*, with P. Stanica, *Elemente der Mathematik*, **62** (2007), pp. 40-43
- (43) *Simultaneous Translational and Multiplicative Tiling and Wavelet Sets in \mathbb{R}^2* , with Yang Wang, *Indiana Univ. Math. J.*, **55**(6) (2006), pp. 1935-1949
- (44) *On ring homomorphisms of $C(\mathbb{R})$ whose range consists of smooth functions*, *Gazeta Matematica, A series*, **4**, 2006
- (45) *Effective Asymptotics for Some Nonlinear Recurrences and Almost Doubly-Exponential Sequences*, with P. Stanica, *Acta Math. Univ. Comenianae. (N.S.)* **73**(1) (2004), pp. 75-87
- (46) *A new construction of wavelet sets*, *Real Anal. Exchange* **28**(2) (2003), pp. 593-609
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- (48) *Rank-one perturbations of diagonal operators*, *Integral Equations and Operator Theory*, **39** (2001), pp. 421-440
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- (50) *On subwavelet sets*, with C. M. Pearcy, *Proc. Amer. Math. Soc.*, **126** (1998), pp. 3549-3552
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- (53) *On the structure of operators and wavelets*, thesis, Texas A&M University, (1997)
- (54) *On power bounded operators*, *Proc. Amer. Math. Soc.*, **125** (1997), pp. 1435-1441
- (55) *Jordan decomposition and factorization for nonnegative operator-valued functions*, *Rev. Roumaine Math. Pures Appl.*, **37** (1992), pp. 691-699.

- (56) *Joint spectral properties for permutable linear transformations*, with F.-H. Vasilescu, J. Reine Angew. Math. **426** (1992), pp. 23-45

Future work/projects

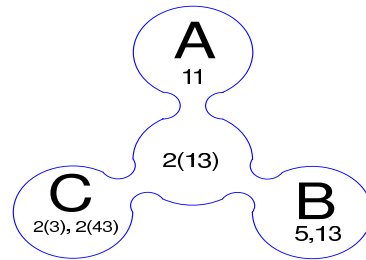
- (1) *Regular lattice tetrahedrons and their Ehrhart polynomial*, in progress
- (2) *On the maximum length of a regular simplex in $[0, 1]^n$* , in progress
- (3) *“Problems from the Monthly”, Mathematics Problems for Undergraduates and not only*, a textbook
- (4) *Counting equilateral triangles in $\{0, 1, 2, \dots, n\}^4$* , with Ray Chandler
- (5) *Regular tetrahedrons in \mathbb{Z}^4* , continuation of previous work
- (6) *Identities related to the Erdős-Straus conjecture*, undergraduate project
- (7) *Torricelli’s law and Platonic solids*, undergraduate project
- (8) *Archimedean solids and half-domination arrangements*, undergraduate project
- (9) *Differential Equations, lecture notes*, ejionascu.ro/textbooks/diffeqbook.pdf
- (10) *Lecture Notes in Number Theory*, */notes/ntbook.pdf
- (11) *Wavelets sets in \mathbb{R}^n associated with non-expansive dilation matrices*
- (12) *The basics of calculus with emphasis on transcendental functions* */notes/calclnotes.pdf
- (13) *Lecture Notes in Discrete Mathematics*, */notes/dmln.pdf
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- (15) *Putnam Training Problems and Solutions*
- (16) *Lecture Notes in Abstract Algebra*

Published Proposed Problems or Solutions

- (1) *Proposed Problem 4293, Crux Mathematicorum with Mathematical Mayhem*, **43**(10) (2017)
- (2) *Proposed Problem 459, Gazeta Matematica, Seria A, vol. 114, no. 1-2* (2017), p. 34
- (3) *Solution to Problem 1088, The College Math. J.*, **48**(5) (2017), p. 373
- (4) *Solution to Problem 1084, with John Zacharias, The College Math. J.*, **48**(4) (2017), p. 297
- (5) *Proposed Problem 1099, with K. Apple, The College Math. J.*, **48**(2) (2017), p. 139
- (6) *Proposed Problem 11949, Amer. Math. Monthly*, **123**(10) (2016), p. 1051
- (7) *Proposed Problem 1088, The College Math. J.*, **47**(5) (2016), p. 369
- (8) *Proposed Problem 4002, with K. Apple, Crux Mathematicorum with Mathematical Mayhem*, **42**(1) (2016)
- (9) *Proposed Problem 1085, The College Math. J.*, **47**(4) (2016), p. 301
- (10) *Solution to Problem 1055, The College Math. J.*, **3** (2016), pp. 226-227
- (11) *Proposed Problem 1303 and solution, with R. Stephens, Π ME Journal*, (2015) (issue 2), pp. 224-225
- (12) *Proposed Problem 11873, Amer. Math. Monthly*, **122**(10) (2015), p. 1010

- (13) *Solution to Problem 1288*, Π *ME Journal*, **2**(2014), p. 4
- (14) *Proposed Problem 11693*, *Amer. Math. Monthly*, **120**(2) (2013), p. 174
- (15) *Proposed Problem 11663*, *Amer. Math. Monthly*, **119**(8) (2012), p. 699
- (16) *Proposed Problem 11643*, *Amer. Math. Monthly*, **119**(5) (2012), p. 426
- (17) *Solution of problem 947*, with R. Stephens, *The College Math. J.*, **2** (2012), p. 176
- (18) *Solution of problem 955*, *The College Math. J.*, **3** (2012), pp. 263-264
- (19) *Solution to Problem 11366*, *Amer. Math. Monthly*, **117**(3) (2010), pp. 280-281
- (20) *Solution to Problem 1204*, Π *ME Journal*, (2010) (issue 1), pp. 3-4
- (21) *Proposed Problem 11443*, *Amer. Math. Monthly*, **116**(6) (2009), pp. 548
- (22) *Solution of problem 878*, *The College Math. J.*, **3** (2009), p. 218

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Three classes of integers