

REU Publications:
(REU/undergraduate authors indicated by a * and graduate students by a **)

A. Research Publications of Undergraduate Students with Advisor

1. "Introducing three best known Goppa codes," Submitted (by [Jan L. Carrasquillo-López*](#), [Axel O. Gómez-Flores*](#), [Christopher Soto*](#), [Fernando Piñero](#)). <https://arxiv.org/pdf/2010.07278.pdf>
2. "First lexicographic occurrences of permutation statistics," under preparation for *Discrete Mathematics and Theoretical Computer Science, 2020* (with Zewei Li*; all through, "with" indicates that Godbole is a co-author).
3. "Graph Universal Cycles of Combinatorial Objects", under revision at *Advances in Applied Mathematics*, (with [Amelia Cantwell*](#), [Juliann Geraci*](#), and [Cristobal Padilla*](#)).
4. "The Expected Number of Distinct Consecutive Patterns in a Random Permutation," submitted to *Pure Mathematics and Applications*, (with [Austin Allen](#), [Dylan Cruz Fonseca*](#), [Veronica Dobbs*](#), [Egypt Downs*](#), [Evelyn Fokuoh](#), [Sebastián Papanikolaou Costa*](#), [Christopher Soto*](#), [Lino Yoshikawa*](#)), 2020, <https://arxiv.org/pdf/2011.12179.pdf>.
5. "Generalizations of the No-Three-in-a-Line Problem," *Geombinatorics* **29**, 21–23, 2019 (with [Dustin LaFollette*](#)).
6. "Threshold Progressions in a Variety of Covering and Packing Contexts," under revision at *Journal of Combinatorics* (with [Thomas Grubb*](#), [Kyutae \(Paul\) Han*](#), and [Bill Kay**](#)). <https://arxiv.org/pdf/1803.09601.pdf>
7. "Covering Arrays for Equivalence Classes of Words," *Journal of Combinatorial Designs* **27**, 506–521, 2019 (with [Joshua Cassels*](#)). <https://arxiv.org/pdf/1803.06507.pdf>
8. "Expected Number of Distinct Subsequences in Randomly Generated Binary Strings," *Discrete Math and Theoretical Computer Science*, Paper 10, 10 pages, 2018 (with [Yonah Biers-Ariel*](#) and [Elizabeth Kelley*](#)). <https://arxiv.org/pdf/1704.08661.pdf>
9. "Finite Representability of Integers as 2-Sums," *Integers: Electr. J. Comb. Number Theory*, **18B**, PaperA3, 12 pages, 2017 (with [Zach Higgins*](#) and [Zoe Koch*](#)). <https://arxiv.org/pdf/1705.05198.pdf>
10. "Universal Cycles of Restricted Words," *Journal of Combinatorial Mathematics and Combinatorial Computing*, **106**, 153–173, 2018, (with [Kaeli Gardner*](#)). <https://arxiv.org/pdf/1711.07029.pdf>
11. "Some Results on Superpatterns for Preferential Arrangements," *Advances in Applied Mathematics* **81**, 202–211, 2016 (with [Yonah Biers-Ariel*](#) and [Yiguang Zhang*](#)). <https://arxiv.org/pdf/1603.01736.pdf>
12. "On the Longest Common Pattern Contained in Two or More Random Permutations," *Journal of Combinatorics* **7**, 531–541, 2016 (with [Michael Earnest*](#) and [Yevgeniy Rudoy*](#)). <https://arxiv.org/pdf/1402.0137.pdf>
13. "Poisson Approximations for the Number of kl -Scans," In: [Glaz J.](#), [Koutras M.](#) (eds) *Handbook of Scan Statistics*. Springer, New York, NY, 2018, 8 pages (with [Katherine Grzesik*](#) and [Heather Shappell*](#)).
14. "The Total Acquisition Number of the Randomly Weighted Path," *Discussiones Mathematicae, Graph Theory* **37**, 919–934, 2017 (with [Elizabeth Kelley*](#), [Emily Kurtz*](#), [Pawel Pralat](#), and [Yiguang Zhang*](#)). <https://arxiv.org/pdf/1507.06019.pdf>
15. "Preferential Arrangement Superpatterns," *Electronic Notes in Discrete Mathematics* **54**, 9–14, 2016 (with [Yonah Biers-Ariel*](#) and [Yiguang Zhang*](#)).
16. "Bounds on the Maximum Number of Minimum Dominating Sets," *Discrete Mathematics* **339**, 1537–1542, 2016, (with [Samuel Connolly*](#), [Zachary Gabor*](#), [Bill Kay**](#), and [Tom Kelly*](#)). <https://arxiv.org/pdf/1308.3210.pdf>

17. "Universal and Overlap Cycles for Posets, Words, and Juggling Patterns," *Graphs and Combinatorics*, **32**, 1013—1025, 2016, (with Adam King*, Amanda Laubmeier*, and Kai Orans*).
<https://arxiv.org/pdf/1405.5938.pdf>
18. "The Number of Seymour Vertices in Random Tournaments and Digraphs," *Graphs and Combinatorics* **32**, 1805—1816, 2016, (with Zach Cohn*, Elizabeth Harkness*, and Yiguang Zhang*.)
<https://arxiv.org/pdf/1502.04061.pdf>
19. "Universal Cycles for 2- and 3-Partitions of $[n]$," *Congressus Numerantium* **225**, 181-188, 2015, (with Amanda Elks* and Steven McInturff*).
20. "The Location of the First Ascent in a 123-Avoiding Permutation," *Integers: Electronic Journal of Combinatorial Number Theory* **15**, Paper # A13, 2015 (with Samuel Connolly* and Zachary Gabor*).
<https://arxiv.org/pdf/1401.2691.pdf>
21. "Universal and Near-Universal Cycles of Set Partitions," *Electronic J. Combinatorics*, Paper P4.48, 15 pages, 2015 (with Zach Higgins*, Elizabeth Kelley*, and Bertilla Sieben*).
<https://arxiv.org/pdf/1502.04076.pdf>
22. "Sharp Concentration of Hitting Size for Random Set Systems," *Graphs and Combinatorics* **31**, 638-648, 2015 (with Jessie Jamieson*, Will Jamieson*, and Lucia Petito*.)
<https://arxiv.org/pdf/1201.5097.pdf>
23. "Covering Array Bounds Using Analytical Techniques," *Congressus Numerantium* **222**, 65—73, 2015, (with Ruyue (Julia) Yuan* and Zoe Koch*). <https://arxiv.org/pdf/1405.2844.pdf>
24. "Logarithmic Representability of Integers as k -Sums," *Integers: Electronic Journal of Combinatorial Number Theory* **15A**, Article #A5, 2015 (with Samuel Gutekunst*, Vince Lyzinski**, and Yan Zhuang*). <https://arxiv.org/pdf/1302.1808.pdf>
25. "Pattern Avoidance in Ordered Set Partitions," *Annals of Combinatorics* **18**, 429—445, 2014, (with Adam Goyt, Jennifer Herdan*, and Lara Pudwell). <https://arxiv.org/pdf/1212.2530.pdf>
26. "Universal Cycles of Complementary Classes," *Congressus Numerantium*, **216**, 33—38, 2014 (with Beverly Tomlinson* and Michele Champlin*). <https://arxiv.org/pdf/1303.3323.pdf>
27. "Maximum Number of Minimum Dominating and Minimum Total Dominating Sets," *Utilitas Mathematica* **94**, 269—274, 2014, (with Jessie Jamieson* and William Jamieson*).
28. " t -covering Arrays Generated by a Tiling Probability Model," *Congressus Numerantium*, **218**, 111—116, 2013, (with Michael Donders*). <https://arxiv.org/pdf/1011.0351.pdf>
29. "Shattering Thresholds for Random Systems of Sets, Words, and Permutations," *Pure Mathematics and Applications* **24**, 125—142, 2013, (with Samantha Pinella* and Yan Zhuang*).
<https://arxiv.org/pdf/1301.6371.pdf>
30. "Covering n -Permutations with $(n+1)$ -Permutations," *Electronic Journal of Combinatorics*, Paper P6, 13 pages, 2013 (with Bill Kay**, Kathryn Hawley* and Taylor Allison*).
<https://arxiv.org/pdf/1203.5433.pdf>
31. "Sharp threshold asymptotics for the emergence of additive bases," *Integers: Electronic Journal of Combinatorial Number Theory*, Paper A14, 2013, 17 pages (with Changmou Lim*, Nicholas Triantafillou*, and Vince Lyzinski**). <https://arxiv.org/pdf/1110.1745.pdf>
32. "Omnibus sequences, coupon collection, and missing word counts," *Methodology and Computing in Applied Probability* **15**, 363—378, 2013, (with Sunil Abraham*, Greg Brockman*, and Stephanie Sapp*.) <https://arxiv.org/pdf/0905.4517.pdf>
33. "On Universal Cycles for new classes of combinatorial structures," *SIAM J. Discrete Math.*, **25**, 1832—1842, 2011 (with Antonio Blanca*). <https://arxiv.org/pdf/1008.2251.pdf>
34. "Competition between discrete random variables, with applications to occupancy problems," *J. Statistical Planning and Inference* **140**, 2204-2212, 2010, (with D. Betsy Sinclair* and Julia Eaton*).
<https://arxiv.org/pdf/0806.1007.pdf>

35. "Universal Cycles of Classes of Restricted Words," *Discrete Mathematics*, **310**, 3303—3309, 2010 (with Arielle Leitner*). <https://arxiv.org/pdf/0808.1309.pdf>
36. "The lexicographical first occurrence of a I-II-III pattern," *Lecture Notes of the London Mathematical Society* **376**, 213—219, 2010 (with Torey Burton* and Brett Kindle*). <https://arxiv.org/pdf/0801.1876.pdf>
37. "Partial covering arrays and a generalized Erdős-Ko-Rado property," *J. Combinatorial Designs*, **18**, 155-166, 2010 (with Patricia Carey*). <https://arxiv.org/pdf/math/0512139.pdf>
38. "Threshold and complexity results for the cover pebbling game," *Discrete Mathematics* **309**, 3609-3624, 2009 (with Nathaniel Watson* and Carl Yerger*). <https://arxiv.org/pdf/math/0510394.pdf>
39. "Improved Pebbling Bounds," *Discrete Mathematics* **308**, 2301—2306, 2008. (With Melody Chan*). <https://arxiv.org/pdf/math/0510045.pdf>
40. "Distribution of the total happiness level under a random matching," *Congressus Numerantium* **192**, 151—160, 2008, (with Hamilton Scott* and Jennifer Woodell*).
41. "Universal cycles of discrete functions," *Congressus Numerantium* **189**, 121—128, 2008 (with Britni LaBounty-Lay* and Ashley Bechel*). <https://arxiv.org/pdf/0805.1672.pdf>
42. "Domination cover pebbling: graph families," *Journal of Combinatorial Mathematics and Combinatorial Computing*, **64**, 255-271, 2008. (With James Gardner*, Alberto Teguia**, Annalies Vuong*, Nathaniel Watson*, and Carl Yerger*). <https://arxiv.org/pdf/math/0507271.pdf>
43. "Probabilistic extensions of the Erdős-Ko-Rado theorem," *Methodology and Computing in Applied Probability*, **8**, 357—371, 2006. (with Anna Celaya* and Mandy Schleifer*). <https://arxiv.org/pdf/math/0509382.pdf>
44. "Sierpinski gasket graphs and some of their properties," *Australasian Journal of Combinatorics*, **35**, 181--192, 2006. (With Alberto Teguia**). <https://arxiv.org/pdf/math/0509259.pdf>
45. "Cover pebbling thresholds for the complete graph," *Electronic Notes in Discrete Mathematics*, **22**, 301—304, 2005. (With Nathaniel Watson* and Carl Yerger*).
46. "An improved upper bound for the pebbling threshold of the n -path," *Discrete Mathematics* **275**, 367—373, 2004 (with Adam Wierman*, Julia Salzman*, and Michael Jablonski*).
47. "Even 2×2 Submatrices of a Random Zero-One Matrix," *Graphs and Combinatorics* **20**, 457 – 466, 2004 (with Joseph Johnson*).
48. "Euler's formula and random geometric graphs," *The Mathematical Scientist* **27**, 8—15, 2002 (with Jacob Benfield*).
49. "On the domination number of a random graph," *Electronic Journal of Combinatorics* **8**, Paper R37, 13 pages, 2001 (with Ben Wieland*).
50. "Cliques and independent neighbor sets in random graphs," *Congressus Numerantium* **153**, 113-128, 2001 (with Dan Ramras* and Sam Greenberg*).
51. "Contributions to the problem of Zarankiewicz," *Journal of Statistical Planning and Inference* **95**, 197—208, 2001 (with Heidi Graziano*).
52. "Random Sidon sequences," *Journal of Number Theory* **75**, 7--22, 1999 (with Svante Janson, Nick Locantore*, and Rebecca Rapoport*).
53. "On the size of a random sphere of influence graph," *Advances in Applied Probability* **31**, 596—609, 1999, (with Tae Chalker*, Pawel Hitczenko, Josh Radcliff* and Otto Ruehr).
54. "Improved upper bounds for the reliability of d -dimensional consecutive k -out-of- $n:F$ systems," *Naval Research Logistics* **45**, 219--230, 1998 (with Laura Potter* and Jessica Sklar*).
55. "Generalized k -matches," *Statistics and Probability Letters* **38**, 167--175, 1998 (with Chris McLaren* and Jonathan Herzog*).
56. "Sign-balanced covering matrices," *Discrete Mathematics* **190**, 79--93, 1998 (with Laura Potter* and Erik Sandquist*).

57. "Computational aspects of a new test for multinomial probabilities," in *Dimension Reduction, Computational Complexity, and Information*, Sanford Weisberg, ed., pp. 169–173, Computing science and Statistics **30**, Interface Foundation of North America, Fairfax Station, 1998, (with Matt Gregas*).
58. "If rooks could kill: vertex degrees in random bipartite graphs," in *Proceedings of the 8th Quadrennial International Conference on Graph Theory 2*, 445--450, New Issues Press 1998 (With Ben Lamorte* and Jessica Sklar*).
59. "Threshold functions for the bipartite Turán property," *Electronic Journal of Combinatorics* **4**, Paper R-18, 15 pages, 1997 (with Ben Lamorte* and Erik Sandquist*).
60. "Formulæ and recursions for the joint distribution of success runs of several different lengths," *The Annals of the Institute of Statistical Mathematics* **49**, 141--153, 1997 (with Robert Weishaar* and Stavros Papastavridis).
61. "Palindromes in random letter generation: Poisson approximations, rates of growth, and Erdős-Rényi laws," *Athens Conference on Applied Probability and Time Series, Volume 1: Applied Probability*, C. Heyde, Yu V. Prohorov, R. Pyke, and S.T. Rachev, eds., pp. 99--115, Lecture Notes in Statistics **114**, Springer Verlag, New York, 1996 (with Debashis Ghosh*).
62. " t -covering arrays: upper bounds and Poisson approximations," *Combinatorics, Probability and Computing* **5**, 105-118, 1996 (with Daphne Skipper* and Rachel Sunley*).
63. "General upper bounds for covering numbers," *Ars Combinatoria* **42**, 211--221, 1996 (with Sandra Thompson* and Eric Vigoda*).
64. "Compound Poisson approximations for word patterns under Markovian hypotheses," *Journal of Applied Probability* **32**, 877-892, 1995 (with Mark Geske*, Andrew Schaffner*, Allison Skolnick* and Garrick Wallstrom*).
65. "Reliability analysis of a software redundancy system," *Interstat* **1**, June 1995 (with Nicholas Locantore* and Gomathi Sadhasivan**).
66. "The asymptotic lower bound on the diagonal Ramsey numbers: A closer look," in *Discrete Probability and Algorithms*, D. Aldous, P. Diaconis, J. Spencer and J. M. Steele, eds., pp. 81-94, *IMA Volumes in Mathematics and its Applications* **72**, Springer Verlag, New York, 1995 (with Daphne Skipper* and Rachel Sunley*).
67. "A Poisson approximation for the number of k -matches," *Statistics and Probability Letters* **21**, 1-8, 1994 (with Patrick Burghardt* and Amy Pregelmann*).
68. "Discriminating between sequences of Bernoulli and Markov-Bernoulli trials," *Communications in Statistics A* **23**, 2787-2814, 1994 (with Sharyn Campbell* and Stephanie Schaller*).
69. "Improved Poisson approximations for word patterns," *Advances in Applied Probability* **25**, 334-347, 1993 (with Andrew Schaffner*).
70. "Exact and approximate runs distributions," *Communications in Statistics A* **21**, 2151-2167, 1992 (with Michelle Gornowicz*).
71. "Contributions to the coupon collector problem," in *Proceedings of the 6th NCUR Conference 2*, Robert Yearout, ed., pp. 1009-1013, University of North Carolina, Asheville, 1992 (with Robert Weishaar* and Mark Geske*).
72. "Poisson approximations in reliability," in *Proceedings of the 6th NCUR Conference 2*, Robert Yearout, ed., pp. 1032-1035, University of North Carolina, Asheville, 1992 (with Laurel Deegan*).
73. "On the Markov-binomial distribution and its Poisson limit," Technical Report No. 139, Department of Statistics and Applied Probability, University of California, Santa Barbara, 12 pp., 1990 (with Candace N. McLean*).

B. Solo Research Publications by Students

74. Jayadev Athreya* and Lukasz Fidkowski* (2000). Number theory, balls in boxes, and the asymptotic uniqueness of maximal discrete order statistics. *Integers, Electronic Journal of Combinatorial Number Theory*, **A3**, 5 pp. (electronic).
75. Nathaniel Watson* and Carl Yerger* (2006). Cover pebbling numbers and bounds for certain families of graphs, *Bull. Inst. Combin. Appl.* **48**, 53-62. <https://arxiv.org/pdf/math/0509564.pdf> and <https://arxiv.org/pdf/math/0409321.pdf>
76. Anne Shiu* and Carl Yerger* (2009). Rabbits Redux: The cube root of four and the Fibonacci sequence, *Mathematical Spectrum* **41**, 81—85.
77. Annalies Vuong* and Ian Wyckoff* (2004). Conditions for Weighted Cover Pebbling of Graphs; www.arxiv.org/math/0410410.pdf
78. Glenn Hurlbert, Toby Johnson*, Josh Zahl* (2009). On Universal Cycles for Multisets, *Discrete Math* **309**, 5321—5327. <https://arxiv.org/pdf/math/0701488.pdf>
79. Jay Brantner*, Greg Brockman*, Bill Kay*, Emma Snively* (2009). Contributions to Seymour's Second Neighborhood Conjecture, *Involve* **2**, 387—395. <https://arxiv.org/pdf/0808.0946.pdf>
80. Greg Brockman*, Bill Kay*, Emma Snively* (2010). On Universal Cycles of Labeled Graphs, *Electronic Journal of Combinatorics*, **17**, Paper #R4. <https://arxiv.org/pdf/0808.3610.pdf>
81. Greg Brockman*, Bill Kay* (2008). Elementary Techniques for Erdos-Ko-Rado-like Theorems, <http://arxiv.org/abs/0808.0774>
82. Yevgeniy Rudoy* (2013). An Inductive Approach to Constructing *Universal Cycles* on the k -Subsets of $[n]$. *Electronic Journal of Combinatorics*, **20**, 18 pp. <https://arxiv.org/pdf/1209.4662.pdf>
83. Michael Earnest* and Samuel Gutekunst* (2013). Permutation Patterns in Latin Squares, *Australasian J. Combinatorics* **59**, 218—228. <https://arxiv.org/pdf/1402.3336.pdf>
84. Samuel Hopkins* and Morgan Weiler* (2016). Pattern Avoidance in Poset Permutations, *Order* **33**, 299—310. <https://arxiv.org/pdf/1208.5718.pdf>
85. Chris Coscia* and Jonathan Dewitt* (2016). Locally Convex Words and Permutations, *Electronic Journal of Combinatorics* **23**, Paper P2.10. <https://arxiv.org/pdf/1410.7818.pdf>
86. Chris Coscia*, Jonathan Dewitt*, Fan Yang*, Yiguang Zhang* (2018). Best and worst case permutations for random online domination of the path, *Discrete Mathematics and Theoretical Computer Science* **19(2)**, Paper 2. <https://arxiv.org/pdf/1509.08876.pdf>