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. Carraquillo-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/1507.06019.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](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](https://arxiv.org/pdf/1502.04061.pdf)

19. “Universal Cycles for 2- and 3-Partitions of [n],” *Congressus Numerantium* 225, 181-188, 2016, (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](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 Seiben*). [https://arxiv.org/pdf/1502.04076.pdf](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 Petitio*). [https://arxiv.org/pdf/1201.5097.pdf](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](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](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](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](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](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](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](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](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](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](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](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](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](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](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](https://arxiv.org/pdf/math/0510394.pdf)

39. “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](https://arxiv.org/pdf/math/0507271.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. “Sierpinski gasket graphs and some of their properties,” *Australasian Journal of Combinatorics*, 35, 181--192, 2006. (With Alberto Teguia**).

42. “Euler’s formula and random geometric graphs,” *The Mathematical Scientist* 27, 8—15, 2002 (with Jacob Benfield*).

43. “On the domination number of a random graph,” *Electronic Journal of Combinatorics* 8, Paper R37, 13 pages, 2001 (with Ben Wieland*).

44. “Cover pebbling thresholds for the complete graph,” *Electronic Notes in Discrete Mathematics*, 22, 301—304, 2005. (With Nathaniel Watson* and Carl Yerger*).

45. “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*).
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. “Formulas 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 Erdös-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. “e-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 Wallsstrom*).

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 Prengaman*).

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*, 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*, 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](https://arxiv.org/pdf/math/0509564.pdf) and [https://arxiv.org/pdf/math/0409321.pdf](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](http://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](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](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](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](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](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](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](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](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](https://arxiv.org/pdf/1509.08876.pdf)