

# CURRICULUM VITAE OF DAVID RODRIGUEZ NACIN

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## PROFESSIONAL EMPLOYMENT

- 2017–present *Professor*, Mathematics Department, William Paterson University (WPU), Wayne, NJ
- 2012–2017 *Associate Professor*, Mathematics Department, William Paterson University (WPU), Wayne, NJ
- 2005–2012 *Assistant Professor*, Mathematics Department, William Paterson University (WPU), Wayne, NJ

## EDUCATION

**Rutgers, The State University of New Jersey** *New Brunswick, NJ*

Ph.D. *Structural Properties of Algebras Arising From Pseudoroots*, May 2005

Directed by Robert L. Wilson

B.A. Mathematics, summa cum laude, (4.0 GPA) May 1997

## RESEARCH INTERESTS

Non-commutative Algebra, Combinatorics, Experimental Mathematics, Recreational Mathematics

## PUBLICATIONS

### Articles

- D. Nacin, Fibonacci Convolutions, accepted for publication, *Mathematics Magazine*.
- D. Nacin, Van der Laan Sequences and a Conjecture on Padovan Numbers, *Journal of Integer Sequences* Volume 26(1): Article 23.1.2 (2023).
- D. Nacin, Kleinian KenKen, *The College Mathematics Journal* Volume 53(4): 253-264 (2022).
- T. Edgar and D. Nacin, A Visual Tour of Identities for the Padovan Sequence, *Math Intelligencer* Volume 44: 111–118 (2022).
- D. Nacin, Review: Games for Your Mind, *The American Mathematical Monthly*, 128(5): 476-478 (2021).
- D. Nacin, Puzzles, Parity Maps, and Plenty of Solutions, *The Mathematics of Various Entertaining Subjects: Research in Recreational Math*, Volume 3, 2019.
- A. Caicedo, D. Nacin, and B. Shelton Introducing Tribus, *Mathematics Magazine* 92(1):18 (2019).
- D. Nacin, A Minimal Non-Koszul  $A(\Gamma)$ , *Comm. in Algebra*, 46(3): 1243-1251 (2018).
- D. Nacin, On a Complex KenKen Problem, *The College Mathematics Journal*, 48(4): 274 (2017)

- D. Nacin, Properties of a minimal non-Koszul  $A(\Gamma)$ , *Contemporary Mathematics*, 592: 215-224 (2012).
- D. Nacin, Odd Sums, *Mathematics Magazine*, 82(1):64–65 (2009).
- D. Nacin, Structural Properties of the Graph Algebra  $K_3$ , *J. Pure and Appl. Algebra*, 212(3):541–549 (2008).
- D. Nacin, An Introduction to  $Q_n$  and its Graph Related Quotients, *Contemporary Mathematics*, 442: 171-178 (2007).
- D. Nacin, The Algebra  $P_n$  is Koszul, *Comm. in Algebra*, 35(4):1291-1306 (2007).

### Books

- D. Nacin, *Math Infused Sudoku*, American Mathematical Society, 2019.

### Mathematical Puzzles in Peer Reviewed Journals

- D. Nacin, Union Sudoku, *MAA Focus*, 42(6):41 (2023).
- D. Nacin, Consecutive Snowflakes, *Math Horizons*, 30 (2):2 (2022).
- D. Nacin, Knightdoku, *Math Horizons*, 28 (4):3 (2021).
- D. Nacin, Tribus, *MAA Focus*, 40(6):12 (2020).
- D. Nacin, Mean Latin Square, *MAA Focus*, 40(4):36 (2020).
- D. Nacin, Permutahedron Sum, *Math Horizons* 27(4):2 (2020).
- D. Nacin, Bishops and Kings, *MAA Focus*, 40(3):27 (2020).
- D. Nacin, Puzzle Page Parity Sudoku, *The New Jersey Mathematics Teacher*, 78(1):71 (2020).
- D. Nacin, Focus on Diamonds, *MAA Focus*, 40(1):39 (2020).
- D. Nacin, Tribus Puzzle, *Mathematics Magazine*, 92(5):338 (2019).
- D. Nacin, King's Sudoku, *MAA Focus*, 39(6):30 (2019).
- D. Nacin, Tribus Puzzle, *Mathematics Magazine*, 92(4):271 (2019).
- D. Nacin, MAA Focus on Sudoku, *MAA Focus*, 39(5):45 (2019).
- D. Nacin, Tribus Puzzle, *Mathematics Magazine*, 92(3):238 (2019).
- D. Nacin, Tribus Puzzle, *Mathematics Magazine*, 92(2):90 (2019).
- D. Nacin, Permanent Sudoku, *MAA Focus*, 39(3):45 (2019).
- D. Nacin, Square or Prime Differencedoku, *Math Horizons*, 26(4):2 (2019).
- D. Nacin, Knights and Kings, *MAA Focus*, 39(1):48 (2019).
- D. Nacin, Introducing Tribus, *Mathematics Magazine*, 92(1):18 (2019).
- D. Nacin, Bishop's Sudoku, *MAA Focus*, 38(6):36 (2018).
- D. Nacin, Determinant Sudoku, *MAA Focus*, 38(5):32 (2018).
- D. Nacin, Knightdoku Puzzle 1-4, *The College Mathematics Journal*, 49(4): 250,261,269,277,287, (2018).
- D. Nacin, Knights and Bishops, *MAA Focus*, 38(4):32 (2018).
- D. Nacin, Prime Sum and Difference Sudoku, *Math Horizons*, 25(4): 2, (2018).
- D. Nacin, Divisibilitydoku, *MAA Focus*, 37(5):25,26 (2017).
- D. Nacin, Dihedroku, *The College Mathematics Journal*, 48(4): 248,258,264,283 (2017).
- D. Nacin, Quotientdoku and Remainderdoku, *Math Horizons*, 25(1):2 (2017).
- D. Nacin, Meandoku, *MAA Focus*, 37(2):20 (2017).

D. Nacin, MAA 101th Anniversary CMJ Puzzles, *The College Mathematics Journal*, 47(4): 249,254,264,274 (2016).

D. Nacin, MAA 100th Anniversary CMJ Puzzles, *The College Mathematics Journal*, 46(4): 254,263,274,294 (2015).

D. Nacin, Permudoku Puzzle, *The College Mathematics Journal*, 45(4):307 (2014).

D. Nacin, Liedoku, *MAA Focus*, 33(5):29 (2013).

### Sequences

I am sole author of the following sequences.

D. Nacin, A204089–A204092, A206947–A206950, A206901, A206902, A208528, A208529, A208736–A208743, A208900–A208903, A209398–A209400, A209408–A209410, A209434–A209439, A209490–A209491, A282612–A282614, A282670, A282816–A282820, A283026–A283033, A287392–A287394, A287804–A287819, A287825–A287839, A321341, A321664, A324660–A324668, A324671–A324692, A328943, A329178, A329227, A329244, A327035 (130 Total), *The Online Encyclopedia of Integer Sequences*

### In Preparation

D. Nacin, Padovan Proofs in Pascal's Triangle

### Media Interviews

*William Paterson University Math Professor Publishes Book of Puzzles*, reporter Steve Sears, *Hometown News Zone 12*, 12/01/2019

*N.J. college prof made his own version of Sudoku and this one's for math lovers*, reporter Rob Jennings, *NJ.com*, 11/16/2019

*'Making Math Fun:' Professor David Nacin Publishes Book of Math-Infused Puzzles*, reporter Maria Daniels, *WP News*, 10/18/2019

*In this Version of Sudoku, Professor David Nacin Makes the Numbers Matter*, reporter Olivia Biel, *The Beacon*, 10/15/2019

## GRANTS, HONORS & AWARDS

Ubuntu Teaching Fellowship - WPUNJ, Spring 2023

Christie Lecturer – Northeast MAA Section Meeting, Fall 2021

Taylor & Francis Most Read Collection from the MAA for Introducing Tribus – 2019

William Paterson University – Sabbatical Award, Fall 2018 – Spring 2019

Blunden Lecturer – The Atlantic Universities Mathematics, Statistics and Computer Science conference, Fall 2015

Park City Math Institute – Full Financial Support Awarded: Undergraduate Faculty Program in Moduli Spaces, Summer 2015

Park City Math Institute – Full Financial Support Awarded: Undergraduate Faculty Program in Materials Science, Summer 2014

William Paterson University – Sabbatical Award, Fall 2011 – Spring 2012

William Paterson University – ART Award, 2006, 2007, 2008, 2010, 2012 and 2014

William Paterson University – CfR Fellowship, 2006, 2007, 2008 and 2009

MAA – NJ NExT Fellow, 2007–2008

MAA – Project NExT Fellow, 2005–2006

Rutgers University – Louis Bevier Dissertation Fellowship, 2004–2005

DIMACS – Graduate Support Award, Summers 2003 & 2004  
 Rutgers University – Teaching Excellence Award, 2000  
 Rutgers University – Minority Advancement Program Fellowship 1997-1999  
 Rutgers University – Minorities in Computer Science Excellence Award 1996

## TEACHING

### University Courses

William Paterson University Undergraduate Courses, History of Mathematics, Survey of Mathematics, Topology, Logic and Methods of Higher Mathematics, Advanced Calculus, Modern Algebra, Calculus I, Calculus II, College Algebra, Precalculus, Algebra, Trigonometry and Functions, Quantitative Methods I, Real Analysis, Advanced Discrete, Linear Algebra, Applied Algebra, Number Theory, Contemporary Mathematics, 2005–present

William Paterson University Graduate Courses, Topics in Linear Algebra, Discrete Mathematics, Cryptography and Number Theory, Graph Theory, Experimental Mathematics, 2020–present

Rutgers University, Introduction to Linear Algebra, Theory of Numbers, Combinatorial Theory, Theory of Probability, Introduction to Cryptography, Calculus I, Summer 1997–2005

### Capstones

1. *An Incorrect Proof of the Four Color Theorem*, Odete Ramalho
2. *Mathematics and Football*, Brian Russo
3. *Rootless Matrices*, Jeff Dwuyhaver
4. *Smith Numbers*, Valerie Ardrens
5. *Mathematical Magic*, David Weber
6. *Counting Train Track Layouts*, Beth Jacobs
7. *An Analogue of the  $3x + 1$  Problem*, Danielle Hughes
8. *Solving the Hilbert Series for the Path on  $n$  nodes*, Joseph Greco
9. *Braid Group Cryptography*, David Guerra
10. *The Probability of Relatively Prime Polynomials*, Cynthia Flim
11. *Groups That Sit Properly Inside Themselves*, Danielle Gasparro
12. *Wazir Circuits on an Obstructed Chessboard*, Natasha Davis
13. *Tropical Mathematics*, Jeff Fiscina
14. *Jump Home and Shift: A Permutation Operation*, Nicole Burchell
15. *Matroid Theory*, Daniel Thomas
16. *Polynomials Have Prime-Rich Images*, Samantha Parnes
17. *Combinatorial Games*, Lauren Sanchez
18. *The RSA Algorithm*, Michael Cemelli
19. *Heartless Poker*, Todd Vasy
20. *Solitaire Mancala*, Michelle Miller
21. *Group Theory and the Rubix Cube*, Kevin Bullen
22. *Introduction to Algebraic Coding Theory*, Michelle Ginart

23. *So You Think You Know Algebra*, Joseph DeGaetani
24. *The Subprime Fibonacci Sequence*, Vanessa Schiro
25. *Fair Tournament Games*, Christopher Icochea
26. *Cyclotomic Coefficients*, Kwang-Ho Lee
27. *Polygon Preserving Group Actions*, Sean Connolly
28. *Busses Bullies and Bijections*, Hubert Jorahua
29. *Group Actions on KenKen Solution Sets*, Summer Pirro
30. *The Sleeping Beauty Paradox*, Bernard Cerat
31. *Error Correcting Codes and Permutations*, Jenna Novak
32. *Globalization of Up-Down Permutation Using Disjoint Adjacent Switches*, Luis Nunez
33. *A Probabilistic Proof of a Lemma that is not Burnside's*, Ethan Christopher
34. *Solving a Classification Problem Using Tensorflow and Keras*, Anna Sand
35. *Constructing the Quaternion Group*, Sina Zakaria
36. *Group Actions and KenKen Puzzles*, Amina Zriek
37. *An OEIS Graph Theory Conjecture*, Michael Hernandez

### **Master's Thesis Projects**

*A Tale of Nine Kings* Luis Nunez

### **Reading Courses**

*Mathematics of Puzzles and Sequences*, Luis Nunez

*Advanced Python*, Luis Nunez

*Real Analysis in Python*, Stephen Essien

*Topics in Real Analysis*, Farah Salem Abdulhaq and Jennifer Kolb

*Group Theory and Music*, Laura Vasquez

*A Declarative Approach to Python*, Jafeth Meza

*Functional Programming in Python*, Kwasi Asare Bediako

*Number Theory*, David Guerra and Philip Nelson

*Advanced Cryptography*, David Guerra

*Mathematics of Music*, Jennetta George

*Topics in Algebra*, Susan Wendling

*Advanced Analysis of Transcendental Functions and Integral Calculus with Applications*, Ysaac Mendoza

*Braid Groups and Cryptography*, Joseph DiGaetanti and Cherilyn Ann Connor

### **Courses Developed**

*Math 2200 Python for Exploration*, Undergraduate

*Math 3110 Number Theory*, Undergraduate

*Math 5100 Mathematical Analysis*, Graduate

*Math 5200 Topics in Linear Algebra*, Graduate

*Math 5300 Probability Theory*, Graduate

*Math 5400 Applied Discrete, Graduate*

*Math 5600 Applied Algebra, Graduate*

*Math 5820 Experimental Mathematics, Graduate*

## **SERVICE**

### **Departmental**

*Advisor, Python Club, WPU, Fall 2021 – present*

*Member, Graduate Program Director, WPU, Spring 2020 – present*

*Member, Graduate Program Committee, WPU, Fall 2014 – present*

*Member, Tenure and Retention Committee, WPU, Fall 2020 – present*

*Member, Math Department Council, WPU, Fall 2010 – Spring 2011, Fall 2012 – Spring 2016, Fall 2017 – Spring 2018, Fall 2019 – present*

*Department Representative, AFT Local 1796, WPU, Fall 2012 – present*

*Advisor, Math Club and Activities, WPU, Fall 2008 – present*

*Coach, WPUNJ Problem Solving Group, Spring 2007 – present*

*Library Liason, WPU, Fall 2007 – present*

*AMS, MAA, & SIAM Representative, WPU, Fall 2007 – Summer 2010, Fall 2012 – present*

*Member, Retention and Tenure Committee, WPU, Fall 2010 – Spring 2011*

*Faculty Advisor, Garden State Undergraduate Mathematics Competition, March 2007, March 2008, March 2009, March 2010 and March 2011*

*Coordinator, Math Fair, WPU, Fall 2006 – Fall 2009*

*Member, Curriculum Committee, WPU, Fall 2006 – Spring 2007*

*Coordinator, Math Awareness Week, WPU, Fall 2005 – Spring 2008*

*Seminar Coordinator, WPU, Fall 2005 – Summer 2006 & Fall 2010 – Spring 2011*

*Recording Secretary, WPU, Fall 2005 – Summer 2006*

### **College and University**

*Freshman ASPIRE Summer Computer Science Track Instructor, WPU, Summer 2023*

*MaCS Scholars Program Summer Research Advisor, WPU, Summer 2023*

*Faculty Mentor, ASPIRE, WPU, Spring 2023 – present*

*Member, Learning Spaces Committee, Fall 2010 – Spring 2011, Fall 2012 – Spring 2016*

*Advisor, EGG Club, Fall 2008 – Spring 2010*

*Member, Student Retention Subcommittee, Spring 2009 – Spring 2010*

*Member, MAST Project Search Committee, Spring 2009*

### **Professional**

*Organizer and Presider – Recreational Mathematics Session, Fall 2020 MAA-NJ Fall Meeting, Fall 2020*

*Organizer and Presider – Recreational Mathematics Session, Fall 2019 MAA Joint NJ and Metro NY Meeting, Essex Community College, Newark, Fall 2019*

*Organizer and Presider – Recreational Mathematics Session, Spring 2019 MAA-NJ/MATYCNJ Joint Meeting, Raritan Valley Community College, Branchburg, Spring 2019*

*Textbook Reviewer, Elementary Number Theory and Its Applications, Pearson, 3/18/2019*

*Organizer and Presider – Recreational Mathematics Session, MAA-NJ Conference, Rowan Burlington Mt. Laurel Campus, Spring 2018*

*Reviewer*, Cambridge University Press, 2017 – present

*Organizer and Presider – Recreational Mathematics Session*, MAA-NJ Conference, The College of New Jersey, Spring 2017

*Organizer and Presider – Recreational Mathematics Session*, MAA-NJ Conference, William Paterson University, Spring 2016

*Assistant Editor*, “Online Encyclopedia of Integer Sequences”, 12/29/2013 – present

*Member*, Ph.D. Defense Committee, Rutgers University, Susan Durst, Spring 2013

*Consultant*, NJ-NExT, Spring 2011 – present

*Assistant Technical Editor*, “Calculus II for Dummies” by Mark Zegarelli, Spring 2008

*Co-organizer*, MAA-NJ Spring Meeting, April 2008

*Judge*, Undergraduate Poster Session, Joint Mathematics Meetings, New Orleans, January 2007

*Referee*, Mathematics Magazine, 2006 – present

## PRESENTATIONS

### Conferences

1. *Padovan, Parity Graphs for KenKen Puzzles*, MOVES Conference, Manhattan, (8/8/2022)
2. *Padovan, Pascal, and Proofs Without Words*, Christie Lecture, Fall 2021 MAA Northeast Section Meeting, (Virtual) (11/20/2021)
3. *Open Problems from the OEIS* Fall 2020 MAA New Jersey Meeting, (10/24/2020)
4. *The Plastic Ratio, the Monestary at Vaals, and van der Laan sequences* Fall 2019 MAA Joint Meeting of the New Jersey and Metro New York Sections, Newark, (10/26/2019)
5. *Padovan, Pascal, and Proofs Without Words*, MOVES Conference, Manhattan, (8/6/2019)
6. *Padovan, Pascal, and Proofs Without Words*, Mathfest 2019, Cincinnati, (8/4/2019)
7. *Padovan, Pascal, and Proofs Without Words*, Spring 2019 MAA-NJ/MATYCNJ Joint Meeting, Raritan Valley Community College, Branchburg, (4/13/2019)
8. *A Spectrum of Solutions for a Set of Cyclic Groupdoku*, Mathfest 2018, Denver, (8/03/2018)
9. *Kleinian KenKen*, Gathering for Gardner: G4G13, Atlanta, (4/11/2018)
10. *Puzzles and Graphs*, MAA-NJ Section Meeting, Rowan Burlington, Mt. Laurel Campus, (4/7/2018)
11. *Finite Group KenKen*, MOVES Conference, Manhattan, (8/8/2017)
12. *Finite Group KenKen*, Mathfest 2017, Chicago, (7/27/2017)
13. *KenKen Puzzles Over Small Groups*, MAA-NJ Section Meeting, The College of New Jersey, (3/26/2017)
14. *A New Type of Partition Puzzle*, MAA-NJ Section Meeting, William Paterson, 4/2016
15. *Recent Uniqueness Results for Complex Valued KenKen*, MAA-NJ Section Meeting, Kean University, 11/2015
16. *James Joseph Sylvester: On the 150th Anniversary of his Three Point Problem*, The Atlantic Universities Mathematics, Statistics and Computer Science conference, Wolfsville, Canada, 10/2015
17. *Liedoku for Abstract Algebra*, Mathfest 2014, Portland, 8/2014
18. *On a KenKen from Bitplayer*, Gathering for Gardner: G4G11, Atlanta, 3/2014
19. *A Complex Calcdoku Classification*, Mathfest 2013, Hartford, 8/2013
20. *On a complex valued Sudoku*, MOVES Conference, Manhattan, 8/2013
21. *Bit-Player Calcdoku*, Joint Mathematics Meetings, San Diego, 1/2013

22. *Unique KenKen Over the Complex Numbers*, Mathfest 2012, Madison, 8/2012
23. *A Minimal Non-koszul  $A(\Gamma)$* , Special Session in Noncommutative Birational Geometry, Representations and Cluster Algebras, Joint Mathematics Meetings, Boston, Upcoming, 1/2012
24. *Assessment Methods for Teaching the History of Mathematics Online*, Mathfest 2011, Lexington, 8/2011
25. *Peer Feedback and Other Forms of Assessment in On-line Courses: What Worked, What Didn't*, MAA-NJ Section Meeting, Essex County College, 04/2011
26. *Noncommutative Algebras Associated to Polynomials over Skew Fields*, Joint Mathematics Meetings, San Diego, 01/2008
27. *Noncommutative Vieta's Theorem and Graph Associated Algebras*, Joint Mathematics Meetings, New Orleans, 01/2007
28. *Graphs and Algebras*, MAA-NJ Section Meeting, Georgian Court University, 04/2006
29. *Partially Commuting Algebras and Their Connections to  $Q_n$ , Lie Algebras, Vertex Operator Algebras, and Their Applications*, North Carolina State University, 05/2005
30. *Properties of Graph Associated Algebras*, Joint Mathematics Meetings, Atlanta, 1/2005

### Seminars

1. *Padovan, Pascal, and Proofs Without Words*, ANT-CoG Seminar, UNC Greensboro, (3/19/2021)
2. *Padovan, Pascal, and Proofs Without Words*, Experimental Mathematics Seminar, Rutgers University, (3/4/2021)
3. *Padovan, Pascal, and Proofs Without Words* Occidental College Mathematics Seminar, Los Angeles CA, (10/22/2020)
4. *The Power of Padovan* Hofstra Mathematics Seminar, Hempstead NY, 9/18/2020
5. *The Power of Padovan Numbers* Math Department Seminar, WPU, (11/06/2019)
6. *A Spectrum of Solutions*, Math Department Seminar, WPU, (3/26/2018)
7. *A Complex KenKen Classification*, Experimental Mathematics Seminar, Rutgers University, (12/8/2016)
8. *KenKen Puzzles over Finite Abelian Groups*, Math Department Seminar, WPU, (11/23/2016)
9. *James Joseph Sylvester on the 150th Anniversary of his Four Point Problem*, Math Department Seminar, WPU, 11/2015
10. *Layered Graph Algorithms for Computational Non-commutative Algebra*, Noncommutative Algebra Seminar, Rutgers University, 12/2011
11. *Minimal Examples of Non-Koszul  $A(\Gamma)$* , Experimental Mathematics Seminar, Rutgers University, 12/2011
12. *A Minimal Non-koszul Example from a Class of Poset Algebras*, Noncommutative Algebra Seminar, Rutgers University, 9/2011
13. *The Mathematics of Lewis Carol*, Math Department Seminar, WPU, 3/2010
14. *A Distributive Lattice arising from the Exterior Algebra*, Noncommutative Algebra Seminar, Rutgers University, 10/2006
15. *Some Koszul Algebras Arising from Graphs*, Math Department Seminar, WPU, 03/2006
16. *A Lattice Based Proof that Exterior Algebras are Koszul*, Noncommutative Algebra Seminar, Rutgers University, 2/2005
17. *The Algebra  $S_n$*  Noncommutative Algebra Seminar, Rutgers University, 4/2004



18. *Some Examples of Koszul Algebras*, Noncommutative Algebra Seminar, Rutgers University, 03/2004
19. *The Virasoro Algebra*, Graduate Student Algebra Seminar, Rutgers University, 03/2000
20. *The Derivation Tower Problem, Everything We Know About Algebras When We Assume Nothing*,
21. *The Automorphism Tower Problem, How I Learned to Stop Worrying and Love  $\text{End}(V)$* , Graduate Student Pizza Seminars, Rutgers University, 98-05

### Outreach

1. *Partitions and Puzzles*, Westchester Area Math Circle, Manhattanville College, (4/27/2022)
2. *Padovan Patterns*, Westchester Area Math Circle, Manhattanville College, (4/20/2022)
3. *The History of Magic Squares*, Westchester Area Math Circle, Manhattanville College, (3/16/2022)
4. *Introduction to Magic Squares for All Ages*, Lawrence Middle School, (5/9/2022)
5. *Padovan, Pascal, and Proofs Without Words*, Math Club Presentation, UNC Greensboro, (3/19/2021)
6. *Padovan, Pascal, and Proofs Without Words*, Math Club Presentation, William Paterson University, (3/3/2021)
7. *MAA Fall Meeting Puzzle Competition*, Fall 2020 MAA-NJ Meeting, 10/24/2020
8. *Exploding Dots!*, Math Club Presentation, WPU, (10/13/2020)
9. *Joint MAA/AMS Puzzle Competition*, Fall 2019 MAA-NJ/Metro NY Joint Meeting, Essex Community College, Newark, (10/26/2019)
10. *A Visual Introduction to the Padovan Numbers*, Math Club Presentation, WPU, (10/24/2019)
11. *Skype Interview with Boston University Mathematics Class*, Online, (10/18/2019)
12. *The Mathematics of Paper Puzzles: Sudoku, KenKen, Kakuro, Maysu and More*, Spring 2019 MAA-NJ/MATYCNJ Joint Meeting, Raritan Valley Community College, Branchburg, (4/13/2019)
13. *Jacobsthal Numbers*, Math Circle, Manhattanville College, (4/3/2019)
14. *Padovan Patterns*, Math Circle, Manhattanville College, (3/20/2019)
15. *The 150th Anniversary of Hadamard Matrices*, Math Awareness Week, WPU, (4/26/2017)
16. *Puzzles Over Groups of Small Order*, Explorations 2017, WPU, (4/5/2017)
17. *Online Resources for Math Majors*, Math Major's Day, WPU, (3/30/2017)
18. *Weighing in on Gauss*, Math Club Presentation, WPU, (2/27/2017)
19. *Fast Cube Root Computations*, Math Club Presentation, WPU, (11/29/2016)
20. *Four Point Problems*, Math Fair, WPU, 11/15
21. *That Magic Square and a Number of Others*, Math Awareness Week, WPU, 4/14
22. *Triangular Numbers*, Math Fair, WPU, 11/13
23. *Steady States in a Division Game*, Math Club Presentation, WPU, 10/13
24. *Sumdoku and Number Puzzles*, Math Fair, WPU, 11/12
25. *The Mechanics of Grid Motion*, Math Club Presentation, WPU, 11/10
26. *Fermat Numbers, Factorizations, and Theorems*, Math Fair, WPU, 11/10
27. *The Josephus Problem*, Math Club Presentation, WPU, 10/10
28. *Algorithms for Sharing Candy*, Math Club Presentation, WPU, 9/10
29. *Polygonal Numbers Minicourse*, Admitted Student Day, WPU, 05/09
30. *Triangular Numbers*, Math Fair, WPU, 11/08
31. *Perfect Numbers Minicourse*, Admitted Student Day, WPU, 04/08

32. *Perfect Numbers in Ancient Greece*, Math Fair, WPU, 11/07
33. *The Life and Work of Paul Erdos*, Math Club Presentation, WPU, 10/07
34. *Fermat's Fabulous Factorable Figures*, Math Fair, WPU, 11/06
35. *The Subset-Sum Problem (and how to use it to transmit information)*, Math Awareness Month, WPU, 4/06

### Panels

1. *Pedagogy of Care: A Panel Discussion - Using Exam Wrappers to Support Student Reflection* Academic Affairs Conference, WPU, 5/17/23
2. *PCTI DCL STEM Academy Writing in the Sciences Panel*, WPU, 4/7/22, 4/8/22
3. *COSH & CTE Panel Discussion on Creating an Inclusive and Supportive Online Learning Environment* WPU, 3/22/22
4. *What I Wish I Knew Before My First Year of Teaching*, NJ-NExT Meeting, Essex County College, Newark NJ, 4/11
5. *Future Math and Science Teachers Spring Information Event*, WPU, 4/09, 4/10, 4/11
6. *Future Math and Science Teachers Fall Information Event*, WPU, 10/09, 10/10

## TECHNOLOGY

### Software

D. Nacin, *HiLGA: Hilbert Series of Layered Graph Algebras*, A Python library for experimentation with cohomology of graph algebras related to the pseudoroots of noncommutative polynomials.

### Computer Skills

*Expert User*, Python, Sage, Racket, Blackboard, LaTeX, Tegrity, Dia, YeD, C++, Mathematica

## PROFESSIONAL SOCIETIES

REC-SIGMAA Special Interest Group on Recreational Mathematics, 2018 – present  
 ARTS-SIGMAA Special Interest Group on Mathematics and the Arts, 2007 – present  
 RUME-SIGMAA Special Interest Group on Research in Undergraduate Education, 2007 – present  
 HoM-SIGMAA Special Interest Group on the History of Mathematics, 2007 – present  
 Pi Mu Epsilon National Honor Society, 2006 – present  
 Mathematical Association of America, 1998 – present  
 Latino Alumni Association of Rutgers University, 2005 – present  
 American Mathematical Society, 1997 – present