

JEFFREY PAUL WHEELER
CURRICULUM VITAE

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EDUCATION

- Ph.D. (2008) **The University of Memphis**
Dissertation: *The Cauchy-Davenport Theorem and the Erdős-Heilbronn Problem for Finite Groups* (Combinatorial Number Theory with a nice dose of Algebra)
Supervisor: Paul Neville Balister
Committee: Béla Bollobás, James T Campbell, Tsz Ho Chan, Cecil Rousseau (5th most papers with Erdős), András Sárközy (most papers with Erdős)
- M.Sc. **The University of Tennessee**
Thesis: *The abc Conjecture* (Number Theory)
Supervisor: Pavlos Tzermias; **Committee:** David Anderson and Shashikant Mulay
- B.A. **Miami University (Oxford, Ohio)**
Major: Mathematics and Statistics, Minor: Social Work

ACADEMIC AREAS OF INTEREST

Combinatorics - including Graph Theory, Optimization and Operations Research - including Data Science and Project Management, Number Theory, and Algebra.

NOTABLE ACHIEVEMENTS

- 35 years of experience teaching college math
- teaching award finalist at every university at which I have regularly taught
- teaching award recipient at three major universities
- excellent history supervising undergraduate research
- consistent history of excellence in creating both academic and private-sector student projects
- mentoring acknowledged by Allegheny Mountain Section of the Mathematical Association of America
- proven quality research with papers in top journal in my field
- dynamic speaker (popular presenter for the Dietrich School's *College in High School Program*)
- extensive academic and private-sector network
 - eager to share their expertise with my students
 - greatly utilized to help my students get jobs and internships
- innovative and dynamic course developer that
 - enabled Pitt Math to be a player in the Data Science major
 - * the only required 1000-level courses for the Math emphasis are courses I designed
 - the Discrete Math class I designed remedied the time when the only proper Discrete Math class available at Pitt was the one offered in Computer Science
- innovative author with the first-of-its-kind survey text in Optimization (through CRC Press)
- exceptional academic pedigree
- guest of Trinity College, University of Cambridge four (4) times

POSITIONS HELD

2023-Present	(Full) Teaching Professor , Department of Mathematics, University of Pittsburgh
2021-2023	Senior Lecturer , Department of Mathematics, University of Pittsburgh
2016-2021	Lecturer II , Department of Mathematics, University of Pittsburgh
2018 (Fall)	Part Time Lecturer , College of Business Administration, University of Pittsburgh
2018-2019	Adjunct Faculty , College of Business Administration, University of Pittsburgh
2016-2020	Part Time Lecturer , Dept of Comp Sci, University of Pittsburgh
Aug 2016- Oct17	Mathematician , Compunetix Inc., Monroeville, PA
2013-2016	Lecturer , Department of Mathematics, University of Pittsburgh
2009-2013	Assistant Instructor , Department of Mathematics, University of Pittsburgh
2008–2009	Adjunct Professor of Operations Research , Tepper Bus School, Carnegie Mellon
2008–2009	Part-time Faculty , Department of Mathematics, University of Pittsburgh
2008 Fall	Adjunct Faculty , Dept of Mathematics and Computer Science, Duquesne University
2002–2008	Graduate Teaching Assistant , Dept of Mathematical Sciences, U of Memphis
2004–2005	Instructor , Dept of Math and Computer Science, Rhodes College, Memphis, TN
1998–2002	Graduate Teaching Assistant , Dept of Math, University of Tennessee, Knoxville
1996–1998	Graduate Teaching Assistant , Dept of Math & Stats, Miami University, Oxford, OH
1994–1996	Evening/Weekend Coordinator (Administration), Belmont Technical College
1990–1996	Lecturer , Belmont Technical College, St. Clairsville, OH

AWARDS

2024	Recipient	Meritorious Mentor Award Allegheny Mountain Section of the Mathematical Association of American (Central and Western PA, all of WV)
2019	Recipient	Tina and David Bellet Excellence in Teaching Award in the Dietrich School of Arts and Sciences at the University of Pittsburgh (over 1,000 faculty)
2018	Finalist	Bellet
2016	Finalist	Bellet
2015	Finalist	Bellet
2012	Recipient	Pitt's Lambda Sigma (a national honors society for second year students) chapter's inaugural Teacher of the Month (October)
2008	First Place	Math and Computer Science division of the 20th Annual Student Research Forum , University of Memphis
2005	Recipient	Graduate Assistant Teaching Award, University of Memphis
2002	Finalist	Dorothy & Edgar D. Graves Graduate Teaching Award , UTenn-Knoxville
2001	Recipient	Dorothy & Edgar D. Graves Graduate Teaching Award , UTenn-Knoxville
2000	Finalist	Dorothy & Edgar D. Graves Graduate Teaching Award , UTenn-Knoxville
1999	Finalist	Dorothy & Edgar D. Graves Graduate Teaching Award , UTenn-Knoxville
1998	Finalist	Graduate Teaching Award, Miami University*
1997	Finalist	Graduate Teaching Award, Miami University

*I returned to Miami to start graduate work, but left for Tennessee since MU did not have a PhD program. Though I could have completed a Master's, I chose not to since not having a Master's gave me one more sitting on the prelims at UTK.

WHAT MAKES ME A MATHEMATICIAN:***SUPERVISED AND COMMITTEED THESES, DISSERTATIONS AND MASTER'S EXAMS***

PhD Committee	Xiao Ma	2018	Supervisor: Richard Thompson (Info Sci)
PhD Committee	David Burnstein	2016	Supervisor: Jon Rubin (Math Bio)
MS Thesis Supervisor	Hiruni Pallage [†]	2019	<i>Optimization via Benders' Decomposition</i>
MS Thesis Supervisor	Emma Everett	2017	<i>Szemerédi's Regularity Lemma</i>
MS Thesis Supervisor	Ian Martiny [‡]	2015	<i>The $3n + 1$ Problem</i>
MS Thesis Supervisor	Corinne Brucato [§]	2013	<i>The Traveling Salesperson Problem</i>
BPhil Thesis Supervisor	Owen Spencer	2024	<i>The Max Cut Problem</i>
BPhil Thesis Supervisor	-open math problem Daniel Crawford	with 2020	applications in CompSci, Engineering, Telecommunications, etc <i>Geocomputation and Language Family Analysis</i>
MS Thesis Committee	Dan Juncos	2010	
MA Exam Committee	Matthew Cook	2019	
	Zayd Ghoggali	2013	
	Nadine Burt	2012	
Honors Thesis Committee	Tianke Li	2019	Supervisor: Bard Ermentrout

ACADEMIC VISITS

April 2024	Trinity College and Prof Imre Leader, Department of Pure Mathematics and Mathematical Statistics, University of Cambridge, Cambridge, England
April 2020	Invited to do research with Prof Imre Leader, Department of Pure Mathematics and Mathematical Statistics, University of Cambridge, Cambridge, England (postponed due to COVID)
June–July 2005	Trinity College and the Department of Pure Mathematics and Mathematical Statistics, University of Cambridge, Cambridge, England

[†]PhD, Mathematics, Central Michigan University[‡]“Top Presenter” at 2015 Dietrich School of A&S Grad Expo. CS PhD student, University of Colorado, Boulder.[§]Bellet Teaching Award recipient; tenure stream Math faculty at CCAC.

PUBLICATIONS

Books Authored

1. **An Introduction to Optimization with Applications in Data Science and Machine Learning**, December 2023, *CRC Press*, 500-ish pages. Optimization is used in a plethora of areas including analytics, data analysis, and machine learning. This work attempts to remedy the nonexistence of a suitable undergraduate survey mathematical textbook in this important area. My goal is to produce a text in optimization like what Rosen has written for Discrete Math: a thorough introduction of a wide range of topics with both some applications and mathematics. Table of Contents on the next page.

Up next: 1) Introduction to Graph Theory, 2) Mathematical Supplements for Undergraduates (working title), 3) Discrete Math

Book Contributions

2. **100 Years of Math Milestones, the Pi Mu Epsilon Centennial Collection**, Stephan Ramon Garcia and Steven J Miller, AMS 2019. I am officially credited with contributing a problem, but - though uncredited - I was solicited to have my IIME article (see below) used as the foundation of the chapter on the beautiful Mason-Strothers Theorem).

1. **Faith Across the Multiverse**, Andy Walsh, PhD, Hendrickson, 2018. Andy's approach in this work is to explain his faith through math, science, computer science, and superheroes - though a more apt description is that this book is an apology of science for church people. It is a very unique work and not for the small-minded. Andy has a PhD in Molecular Microbiology and Immunology from the Bloomberg School of Public Health at Johns Hopkins University and did a postdoc in Computational Biology at Carnegie Mellon. He is now the Chief Science Officer at Health Monitoring Systems where he develops statistical methods for public health surveillance (the CDC and state health agencies use his work). Andy is the smartest person I know, and I know a lot of smart people. When writing his book, Andy asked me to review his math and I did make acknowledged contributions to Chapter 2 on Optimization.

Papers

7. **The Mason-Strothers Theorem**; an article I was asked to write for the *100th anniversary edition of the Pi Mu Epsilon Journal* on "100 of the most exciting and influential mathematics problems"; (see also 2. in "Books") 2013.

6. **On the Inverse Erdős-Heilbronn Problem for Restricted Set Addition in Finite Groups**, with Suren M Jayasuriya[†] and Steven D Reich[†]. arXiv preprint arXiv:1210.6509. 2013

5. **Additive Properties of Pairs of General Sequences**, with Fabricio Benevides, Jonathan Hulan, Nathan Lemons, Cory Palmer, and Ago-Erik Riet, *Acta Arithmetica* 140 (2009), 105-118.

4. **The Erdős-Heilbronn Problem for Finite Groups**, with Paul Balister, *Acta Arithmetica* 139 (2009), 185-197.

3. **Sequences with a Constant Ratio**, with Jonathan Hulan in the *Pi Mu Epsilon Journal*. 2008

2. **The Cauchy-Davenport Theorem for Finite Groups**. This work was done independently of Gyula Károlyi's 2006 work, but never published. On *arXiv.org*. 2006

1. Master's Thesis **The abc Conjecture**. Included on the *ABC Conjecture Home Page* maintained by Abderrahmane Nitaj of the University of Caen, France. As high as the #4 document (until Shinichi Mochizuki's paper) when searching via Google the "abc Conjecture". **REUs exploring the abc Conjecture have regularly used my Master's Thesis as a text**. 2002

[†]Undergraduates at time of research.

–MY OPTIMIZATION TEXT TABLE OF CONTENTS–

Table of Contents for “*An Introduction to Optimization with Applications in Data Science and Machine Learning*” by Jeffrey Paul Wheeler, December 2023, 500+ pages, CRC Press.

- I) Part I: Preliminary Matters
 - 1) Preamble
 - 2) The Language of Optimization
 - 3) Computational Complexity
 - 4) Algebra Review
 - 5) Matrix Factorization
- II) Part II: Linear Programming
 - 6) Linear Programming
 - 7) Sensitivity Analysis
 - 8) Integer Linear Programming
- III) Part III: Nonlinear (Geometric) Programming
 - 9) Calculus Review
 - 10) A Calculus Approach to Nonlinear Programming
 - 11) Constrained Nonlinear Programming via Lagrange Multipliers and the KKT Conditions
 - 12) Optimization Involving Quadratic Forms
 - 13) Iterative Methods
 - 14) Derivative-Free Methods
 - 15) Search Algorithms
- IV) Part IV: Convexity and the Fundamental Theorem of Linear Programming
 - 16) Affine, Conical, and Convex Sets: the Geometry of Linear Programming
 - 17) The Fundamental Theorem of Linear Programming
 - 18) Convex Functions
 - 19) Convex Optimization
- V) Part V: Combinatorial Optimization
 - 20) An Introduction to Combinatorics
 - 21) An Introduction to Graph Theory
 - 22) Network Flows
 - 23) Minimum-Weight Spanning Trees and Shortest Paths
 - 24) Network Modeling and the Transshipment Problem
 - 25) The Traveling Salesperson Problem
- VI) Part VI: Optimization for Data Analytics and Machine Learning
 - 26) Probability
 - 27) Regression Analysis via Least Squares
 - 28) Forecasting
 - 29) Introduction to Machine Learning
- VII) Part VII: Appendices
 - 30) Techniques of Proof
 - 31) Useful Tools from Analysis and Topology

NEW COURSES DESIGNED AND INTRODUCED

1. **Math 1101 - an Introduction to Optimization**

Though a proper mathematics course, emphasis is given to providing students with the opportunity to develop a skill set and gain experience to make them more attractive to a non-academic employer. By design, the course introduces students to a breadth of different techniques: Linear Programming, Integer Programming, Nonlinear Programming, Convexity, and Combinatorial Optimization including network flow, minimum weight spanning trees, shortest paths, and the Traveling Salesperson Problem. The presentation of the students' written work is emphasized (STEM majors need a little help developing this skill) and at the end of the semester students present solutions to case projects. This has been a very popular course, attracts a large number of students from other departments, and I regularly receive thank you notices from former students writing how something from the class helped them secure a job or advance in their profession.

2. **Math 1103 - BIG Problems**

In this seminar course, students team together to address problems obtained from Business, Industry, and Government (BIG). Students dialogue with BIG representatives to fully understand the problems then develop a strategy for solving the problems. No prescribed solution techniques will be assumed; students draw upon their current mathematical, statistical, and computer knowledge to address the problems and most likely need to further deepen their current knowledge in these areas. Expectations on the students are

- dialogue with the client to fully understand the problem,
- provide a usable deliverable,
- prepare and deliver a professional presentation to the client,
- prepare a poster for the department's *MathFest*,
- prepare and deliver a technical presentation for the Department of Mathematics,
- present the math talk at a regional Mathematical Association of America meeting, and
- write an academic or technical paper (this has become optional).

The initial 2015 course was **one of only 30 nationwide** accepted into the Mathematical Association of America's (MAA) pilot PIC Math Program (Preparation for Industrial Careers in the Mathematical Sciences). The Spring 2016 BIG Problems class was **one of 50 nationwide** participating in the program's second year (only 17 returning classes). The student projects are listed in the "Undergraduate Research" section and for student testimonials, please see my website <http://www.pitt.edu/~jwheeler/BIG%20Problems.html>.

3. **Math 0480 - Applied Discrete Mathematics**

I have proposed this first or second year service course to fulfill a need in our department for a proper discrete mathematics course as well as giving mathematics, engineering, and science majors exposure to important and useful topics in Discrete Mathematics (counting, proofs, discrete probability, graphs and trees, modular arithmetic, linear programming, network flow, minimum weight spanning trees, shortest paths, and the Traveling Salesperson Problem). I have worked with ECE professor Steven Jacobs on course content.

4* **Math 1200 - First Steps in Research (Coming Soon!!)**

This course gets an asterisk as the other courses were my babies, but to this course I only contributed to the proposal. Calling from my BIG Problems experience I was heavily involved in the development of the course and very involved with the proposal. This is a *undergraduate research course* for our department.

NOTE: **Math 1101, 1103, and 0480 are key components of the interdisciplinary Data Science major (with School of Computer Information and Department of Statistics): both Math 1101 and 1103 are the only required upper-level courses to earn this degree with a math emphasis. Math 480 is an elective for this major.

WHAT MAKES ME AN EXCEPTIONAL EDUCATOR:

UNDERGRADUATE RESEARCH

–SUPERVISED OR CONTRIBUTED UNDERGRADUATE PAPERS–

1. **A Closed-form Expression for Counting the Number of Partitions of n into at most k Parts**, Annie Wang (to be submitted), Fall 2024.
2. Contributed to Engineering student Luke Sneeringer's paper **Zero-Knowledge Encryption in the Cloud: a Solution for the Remote File Storage**. Spring 2018
3. **On the Inverse Erdős-Heilbronn Problem for Restricted Set Addition in Finite Groups**, with Suren M Jayasuriya and Steven D Reich (Undergraduates at time of research). arXiv preprint arXiv:1210.6509. 2013

–UNDERGRADUATE RESEARCH PROJECTS THROUGH BIG PROBLEMS–

All projects required **data cleaning and analysis** and most incorporated some level of **machine learning**. Student work has been (expectations of student work are stated in the section 'New Courses Designed and Introduced'):

1. (Spring 2024) Determining an optimal starting lineup and batting order for the **Pittsburgh Pirates**. Analysis involved 3 years of every Major League pitch as well as web-scraping equal amounts of data from three other sources. The team presented their work to the Pirates' analytics team in their boardroom at PNC Park.
2. (Spring 2024) Forecasting coffee bean pricing for local organic and fair trade **19 Coffee**.
3. (Spring 2024) Glidepath analysis for retirement portfolio management.
4. (Spring 2024) Optimal investment strategy for employer-funded retirement programs.
5. (Spring 2023) Pitching strategies dependent upon specific pitcher versus batter for the **Pittsburgh Pirates**. Analysis involved 2.1+ million pitches.
6. (Spring 2023) Pricing analysis for local organic and fair trade **19 Coffee**.
7. (Spring 2022) Large-scale analysis for **CX-Energy** expansion from oil and gas to solar energy.
8. (Spring 2022) Pitching strategies dependent upon specific pitcher versus batter for the **Pittsburgh Pirates**. Analysis involved 2.1+ million pitches.
9. (Spring 2022) Predicting ratings for **WPXI Channel 11**.
10. (Spring 2021) Worked with large data sets to develop decline curves for oil and gas production for **CX-Energy**. The team's decline curves were an improvement upon the industry standard. The team also developed a program to assimilate various sets of data from multiple sources and present the client with the program and a user's manual.
11. (Spring 2021) Worked with large data to reinvent the shift for the outfield for the **Pittsburgh Pirates**.
12. (Spring 2021) Worked with large data to develop an analysis of aging players' performances based on the player's position for an **undisclosed Major League Baseball team**. The team presented their work to industry leader Sports Information Solutions.
13. (Spring 2020) Working with large data on a project for a **Major League Baseball organization**.
14. (Spring 2020) Imaging processing with machine learning a large data set for **Gecko Robotics**.
15. (Spring 2020) A team again tackled flight scheduling for **Republic Airways**.
16. (Spring 2019) Using Natural Language Processing and Machine Learning to have generate what is equivalent to a scouting report from sports reports for the **Pittsburgh Pirates**.
17. (Spring 2019) Determining an optimal number of sensors on an inspection robot for **Gecko Robotics**.
18. (Spring 2019) Pitching strategies dependent upon specific pitcher versus batter for the **Pittsburgh Pirates**. Analysis involved 2.1+ million pitches.
19. (Spring 2019) Scheduling flight crews for **Republic Airways**.

20. (Spring 2018) Leveraging machine learning to model hospital patient readmittance for **Craneware**.
21. (Spring 2018) predicting high-volume prescribers of life-saving medical devices for the Pittsburgh healthcare company **ZOLL** (Zoll had hired a student from the 2016 BIG course).
22. (Spring 2017) determined how to filter and modify bad data for the Pittsburgh analytics company **Health Monitoring Services**; the company hired one of the students.
23. (Spring 2017) used analytics to support sales at the Monroeville tech company **Compunetix**
24. (Spring 2016) answer “Can college statistics be used to predict Major League success?” for the **Pittsburgh Pirates**; the students presented in the organization’s board room to approximately 20 staff
25. (Spring 2015) Provide a program to help a **global courier service** predict the number of necessary aircraft at 125 airports.
26. (Spring 2015) Provided the great Pittsburgh charity **Global Links** with a means to determine the correct amount of needed shipping containers

–UNDERGRADUATE RESEARCH THROUGH CHAIRING UNDERGRADUATE MATHEMATICS SEMINAR AS WELL AS SUPERVISING UNDERGRADUATE PRESENTATIONS–

I developed the seminar with the goal of having an opportunity for undergrads to see talks that are accessible to them usually on material they would not see in a typical classroom. Its first year was 2014-2015, we had 247 audience members (an average of 11.2 per talk) and at this time I was responsible for arranging 15 of the 22 talks, including supervising 5 undergraduate presentations. Supervised undergraduate presentations have included

- Supervised Engineering undergrad Jonathan Kelly organizing his combinatorial findings into a coherent talk (with proof).
- Supervised undergrad Nathan Warkentin to give a talk (with proof) on the transcendental numbers.
- Supervised undergrad Derek Or to give a talk (with proof for $n = 2$) on the Frobenius Coin Problem (open for > 2 coins).

–UNDERGRADUATE RESEARCH PROJECTS THROUGH DIRECTED STUDIES–

I have supervised 39 directed studies/reading courses in my career; 33 at the University of Pittsburgh. At Pitt, my directed studies tend to attract excellent students from across campus including some of our department’s best students. I have supervised four (4) Culver Prize Winners[†] (top math major). Topics include

- Graduate Graph Theory
- Graduate Combinatorics
- Undergraduate Combinatorics
- Optimization
- Graph Theory
- Number Theory
- Galois Theory

This work has led to three (3) papers and numerous posters and presentations. A list follows:

[†]Jourdain Lamperski ’15 Op Research PhD student at MIT with a full fellowship now TS faculty in Pitt’s IE Department; Suren Jayasuria ’17 Elect and Comp Eng PhD, Cornell (Arizona State created a position for him); Stephen Reich ’13 Phd student in Algebra at Maryland; Richard Snyder ’13, recent Phd in Combinatorics from Memphis (student of Bollobás).

Asterik (*) represents student did not officially register for a directed study.

39	Ari Kalinsky	Fall 24	Industrial Engineering	Elevator Algorithms
38	Owen Spencer	Fall 24	Computer Science	Max Cut Problem
37	Annie Wang	Fall 24	Math	Closed-form for partitions of n into at most k parts
–	–	–	Paper	
36	Brendan White	Fall 24	Math (Stamp Scholar)	Mathematics of Voting Irregularities
35	John Hohman	Sp 24	CompSci/Data Science	Mathematical Theory of Communication
–	–	–	Posters (3)	Dept MathFest, MAA Sectional and National Meetings
34	Ari Kalisky	Sp 24	IE freshman	Tournaments and Social Choice
–	–	–	Poster	Dept MathFest
33	Annie Wang	Sp 24	Math	Closed-form for partitions of n into at most k parts
–	–	–	Poster	Dept MathFest
32	Marina Hildebrandt*	Sp 24	Computer Science	Max Cut Problem
–	–	–	Poster	Dept MathFest
31	Jen Wang	Su F 23	Painter Fellowship	
			Poster	Dept MathFest
			Presented	Dept Colloquium
30	Evan Hyzer	Sp 23	Math/Physics	Optimization
29	Dan Rudy	Sp 22	EconMathChemHispanic	I don't remember
28	Greg Wagonblast	Sp 22	Comp Engineering	Optimization
27	Kristian Stjerna	Sp 21	Computer Science	I don't remember
26	Teressa Chambers	Su 18	Math	Abstract Algebra
25	Mary Johnson	Su 17	Econ/Math	continued BIG project?
24	Daniel Marcinek	Su 17	Math	I don't remember
23	Brandon Meck	Sp 16	Math	I don't remember
22	Jennifer Nadeau	Sp 16	Math	Combinatorics and Graph Theory
–	My (NumbThy+AbAlg)		+ Directed Study	= Research Mathematician at NSA
21	Norman Sivi	Sp 15	Math	I don't remember
20	Joel Hammer	Fall 14	Math	I don't remember
19	Jourdain Lamperski	Fall 14	Math	Szemerédi Regularity Lemma
18	Colby Keller	Sp 14	Math/CS	I don't remember
17	Nathan Ong	Sp 14	CS/Math/Chinese	Additive Number Theory
16	Nathan Ong	Fall 13		
15	Alex Borland	Sp 13	AppMath/Econ/Hist	Self-complementary graphs
14	Rachel Chiquoine	Sp 13	Math	Self-complementary graphs
13	Richard Snyder	Sp 13	Philosophy/Math	Combinatorics
12	Xiao Ma	Fall 12	Info Sci PhD Candidate	Graph Theory
11	Steven Reich	Fall 12	Math	Additive Number Theory
10	Suren Jayasuria	Sp 12	Math/Philosophy	Additive Number Theory
7-9	no record*			other than my talley on my CV
4-6	Andrew Gibson	Memphis	Math	Number Theory, Combinatorics, Galois Theory
1-3	Stephen ??	BTC	??	Logic, Math History, Real Analysis

–UNDERGRADUATE RESEARCH THROUGH SUPERVISED STUDENT CONFERENCE ACTIVITY–

What follows is a list of students that I have taken to conferences, many of which gave presentations.

1. August 2024 One of my spring directed study students will present his work at the Mathematical Association of America national meeting.
2. 23 BIG Problems teams (Spring 2017 - Spring 2024) have presented at the **Mathematical Association of America Allegheny Mountain Section** Spring Meeting.

3. 21 BIG Problems teams (Spring 2018 - 2024) has presented a poster of their work at **Pitt Math's annual 'MathFest'**.
4. Spring 2024 Three (3) talented undergraduates under my supervision presented their research via a poster at the **Pitt Math 'MathFest'**.
5. December 2023 Jen Wang, an extremely talented undergraduate heading to a PhD program in Probability presented her work at the Undergraduate Research Colloquium Talks.
6. Summer 2023 I took 6 Pitt students (4 graduate and 2 undergraduate) to the Random Structures and Algorithms conference at Carnegie Mellon University.
7. Spring 2022 Graph Theory student Marina Hildebrandt researched and presented a poster at the **Pitt Math 'MathFest'** on the very important Math/CS *Max-Cut Problem*. Her work was outstanding and I anticipate it propelling her into a great graduate program.
8. 2019 Supervised Graham Zug to give a presentation on his work on the $3n + 1$ Problem at the **2019 Erdős Memorial Lecture Series** in Memphis. Graham participated in the student/young researcher session that I chaired. This is a world-class conference and every other presenter was a grad student or recent PhD.
9. Spring 2017 Supervised undergraduate Kevin Zhang (now at Google, Machine Learning) presenting his extended work on previous BIG project "Predicting MLB Success" at the MAA Allegheny Mountain Section Spring Meeting, Duquesne University.
10. Spring 2017 Supervised my MS student Emma Everett presenting "Szemerédi Regularity Lemma" at the MAA Allegheny Mountain Section Spring Meeting, Duquesne University.
11. 2015 Undergraduates Eric Bentley, Michael Garver, Chris Lindeman, and Joseph Molisani presented (posters) their BIG Problems results at the **MAA's national meeting 'MathFest'** in Washington, DC.
12. 2014 Grad student Woden Kusner to the 2014 **Erdős Memorial Lecture Series** at the University of Memphis. Woden presented a poster under my encouragement.
13. 2014 Supervised Junior math major Jourdain Lamperski's presentation of Szemerédi's Regularity Lemma to the **Pitt Math Club, the Allegheny Mountain MAA section, CMU Math Club**. Moreover, I took Jourdain to the 2014 **Erdős Memorial Lecture Series** at the University of Memphis where he presented a poster. Jourdain presented between two University of Cambridge graduate students and entertained questions from a Fields Medalist. Jourdain finished his PhD at MIT in 5 years and now has a TS position in Pitt's Industrial Engineering department.
14. 2012 Corinne Brucato (Masters student) to the 2012 **Erdős Memorial Lecture Series** at the University of Memphis. Corinne presented a poster.
15. 2011 Steve Reich and Richard Snyder to **EXCILL2: Extremal Combinatorics at Illinois, University of Illinois, Urbana-Champaign**
16. 2010 Chris Jones (graduate student), Suren Jayasuria, and David Hornbeck to 2010 **Erdős Memorial Lecture Series** at the University of Memphis.

–UNDERGRADUATE RESEARCH THROUGH STUDENT CLASS PRESENTATIONS–

I encourage talented students to give presentations in class or at seminars. Some notable student class presentations:

1. Recently on Computational Complexity and another on Dijkstra's Algorithm for finding shortest paths
2. Spring 2013 - Math 1310 (Graph Theory)
 - A student gave a clever alternate proof of Cayley's Theorem for Trees.
 - An engineering graduate student gave a presentation comparing the run-times of Kruskal's Algorithm versus Prim's Algorithm.
 - An application of Graph Theory to bell-ringing (this really was quite an involved presentation that may have been too much for the class, though the student that presented it was incredibly talented).
3. Fall 2012 - Math 1020 (Number Theory)
 - A talented student gave a 75 minute lecture on Ramanujan partition identities

4. Fall 2012 - Math 1020 (Number Theory)
A student presented the Bernoulli Numbers and their application.
5. Fall 2012 - Math 1020 (Number Theory)
A student presented the Catalan Numbers and their application.
6. Spring ?? - Abstract Algebra
Student presented how quaternions were used in animating part of *Toy Story 2*.
7. Spring 2011 - Math 1250 (senior level abstract algebra)
A student presented p -adic numbers and then used them to prove that $\sqrt{2}$ is irrational and also used them to prove that H_n , the n^{th} harmonic number, is not an integer for $n > 1$.
8. Spring 2011 Classical Number Theory Seminar
The above student, under my supervision, presented a recent paper (of someone else) to our Classical Number Theory Seminar establishing an relationship between some classic arithmetic functions.
9. Spring 2011 - Math 1250 (senior level abstract algebra)
A student presented a proof of a theorem that appeared in the “Prisoner of Benda” episode of *Futurama* (the “Brain Swap” episode with a proper theorem on permutations from abstract algebra together with a proof; Executive Producer Ken Keeler is a Harvard-educated Mathematics Ph.D.).
10. Spring 2010 - Math 1250 (senior level abstract algebra)
A student presented Lagrange’s original proof of the theorem that bears his name. The student read Lagrange’s original paper that was written in French.
11. Please also see the footnotes regarding my teaching at Memphis: presentations on Stirling Numbers and The Law of Quadratic Reciprocity.

ACADEMIC PROCREATION

Students with whom I have worked closely that have earned or are pursuing PhDs:

Name	Relationship	BA/BS Yr	On to...
Jen Wang	research,class,RSA Conference,supervised colloquium talk	2024	PhD student Probability UCSB
Claire Hickey	many undergrad classes; conference	2020	Math PhD student FSU
Hiruni Pallage	supervised her MS thesis	2019	Math PhD Central Michigan 2024
Teresa Chambers	class, directed study	2019	Math PhD Brown 2025
Ian Martini	supervised his MS thesis	2015	CS PhD candidate University of Colorado
Jourdain Lamperski	undergrad research, conferences, class	2015	PhD MIT, TS faculty in Pitt’s IE Dept
Rachel Chiquone [¶]	undergrad research	2014	PhD Emergency Management
Nathan Ong	student, research Postdoc LRDC	2014	PhD Machine Learning Pitt CS 2023 Pitt UC for Teaching and Learning
Stephen Reich	paper, conference	2013	Phd student in Algebra at Maryland <i>Jepoardy!</i> contestant 9 October 2019
Richard Snyder	directed study, conference	2013	Phd in Combinatorics, Memphis (Bollobás)
David Lewis	classes and discussions	2013?	Phd in Combinatorics, Memphis (Bollobás)
Suren Jayasuria	paper, conference	2012	Elect and Comp Eng PhD, Cornell (Arizona State created a position for him)
Andrew Gibson	student, research project and talk	Memphis	PhD Engineering work was used on a Mars rover

SPEAKERS

With the Department’s support, I have been responsible for excellent speakers in the Undergraduate Mathematics Seminar and my BIG Problems, Optimization, and Graph Theory classes. Regulars include:

[¶]Rachel liked my Optimization class so much, she did a master’s in traffic optimization, which led to a PhD in Emergency Management. She was heavily involved in the distribution of the initial COVID vaccines.

- Dan Fox, Director of Baseball Informatics for the Pittsburgh Pirates
- Samuel Ventura, Director of Hockey Research for the Buffalo Sabres.
- Michael Trick, Tepper School of Business CMU, used to schedule Major League Baseball and gives talks on the mathematics of scheduling.
- Some data cleaning, machine learning, forecasting, and Monte Carlo simulation experts.
- Interviewing seminar with some local managers as panelists. Lead by Pitt HR specialist in organizational behavior, Vice Chancellor Mark Burdsall.

I am well-connected in Pittsburgh and have had consultants, managers, analysts of all sorts, the NSA, etc. regularly give relevant presentations.

TEACHING EXPERIENCE (THROUGH FALL 2024)

Please feel free to read student evaluations from the University of Pittsburgh, the University of Memphis, and Rhodes College at ratemyprofessor.com

Pitt	Department of Mathematics:	
Grad:	Combinatorics (graduate)	5 sections
	Optimization (graduate)	1 section
	Algebraic Number Theory (graduate)	1 section
Jr/Sr:	★ Math Problems Business, Industry and Gov't (I designed & proposed this course)	10 sections
	★ Introduction to Optimization (I designed & proposed this course)	15 large sections
	Graph Theory	6 sections
	Combinatorics	3 sections
	Number Theory	3 sections
	Numerical Mathematical Analysis	1 section
	Numerical Linear Algebra	2 sections
	Abstract Algebra (senior level)	2 sections
	Abstract Algebra (sophomore level)	5 sections
	★ Applied Discrete Math (I designed & proposed this course)	4 large sections
Service:	Introduction to Theoretical Mathematics	3 sections
	Advanced Intro Linear Algebra	1 section
	Intro to Linear Algebra	2 sections
	Calculus III	3 large sections
	Honors 1-Variable Calculus	1 section
	Calculus II (course coordinator 4 times)	30 large sections
	Calculus I	16 large sections
	Business Calculus	3 large sections
Directed:	Graduate Directed Study - Combinatorics	1 offering/1 student
	Graduate Directed Study - Graph Theory	3 offerings/4 students
	Undergrad Directed Study - Additive Combinatorics	4 offerings/4 students
	Undergrad Dir Study - Enumerative Combinatorics	9 offerings/9 students
	Undergrad Directed Study - Graph Theory	3 offerings/3 students
	Undergrad Directed Study - Combinatorics	2 offerings/2 students
	Undergrad Directed Study - Optimization	4 offerings/4 students
	Undergrad Directed Study - Galois Theory	1 offering/1 student
	Undergrad Directed Study - Mathematical Theory of Communication	1 offering/1 student
	Undergrad Directed Study - Miscellaneous	2 offerings/2 students
ExtDept:	School of Computing and Information:	
	Discrete Structures for Computer Science	7 large sections
	College of Business Administration:	
	Intro to Applied Optimization and Simulation	1 section
	Dietrich School A&S First Year Programs:	
	FP 0001 (every Fall starting 2018)	7 sections
Carnegie Mellon Univ.	Optimization Models for Operations	1 MBA section
	Mathematical Models for Consulting	2 sections
	Additive Combinatorics (graduate course)	taught one week
Duquesne University	Calculus I	1 section

^{||}Teaching this course led to the College of Business Administration approving my BIG Problems class (Math 1103) for fulfilling a requirement for certification in Business Analytics.

University of Memphis	Foundations of Mathematics	1 large section
	Mathematical Experiences	1 section
	Elementary Calculus	2 sections
	College Algebra & Trigonometry	1 large section
	Calculus I	2 sections
	Honors Calculus I	1 section
	Calculus II	2 sections
	Discrete Structures	3 sections
	Introduction to Proofs/Fundamentals of Mathematics	2 sections
	<i>reading course:</i> Number Theory ¹	1 section
	<i>reading course:</i> Adv. Topics in Discrete Mathematics ²	1 section
	<i>reading course:</i> Galois Theory	1 section

Instrumental in leading a freshman from a D in Calc 1 to the Memphis Putnam Team. After some time off, he is now earning his Ph.D. in physics.

¹ For the final exam, the student presented a proof of one of the most beautiful results in mathematics: the Law of Quadratic Reciprocity.

² For the final exam, the student [a freshman] gave a presentation of the Stirling Numbers of the First and Second Kinds to a panel of faculty.

Additionally, at Memphis, I assisted in teaching special sections of Elementary Calculus and Honors Calculus II. I also taught 2 continuing education courses on ACT prep.

Rhodes College	Fall 2004	Applied Calculus
	Spring 2005	Calculus II
University of Tennessee	Finite Math	2 sections
	Precalculus	7 sections (including 1 large section)
	Business Calculus	recitation
	Calculus II	recitation
Miami University	Precalculus	1 section
	Calculus I	3 sections
Belmont Technical College	Intro to College Math I	4 sections
	Intro to College Math II	2 sections
	Prealgebra	15 sections
	Elementary Algebra I	16 sections
	Elementary Algebra II	12 sections
	Math Study Skills	1 section
	College Business Math	1 section
	Allied Health Math	1 section
	Tech Math I	1 section
	Engineering Math I	1 section
	Precalculus	4 sections
	Physics I	2 sections
	Physics II	1 section
	Engineering Chemistry	1 section
	Intro to Polymer Chemistry	1 section
	Engineering Mechanics I	1 section
	<i>reading course:</i> Calculus I	1 section
<i>reading course:</i> History of Mathematics	1 section	
<i>designed and taught:</i> Intro to Logic	1 section	

Additionally I taught at least 4 continuing education courses on site.

RESEARCH TALKS

- 25 Nov 8, 2019 **University of Pittsburgh** Colloquium
Additive Number Theory – An Introduction, Some Examples, and a Conjecture of Erdős.
- 24 Apr 6, 2019 **MAA Allegheny Mountain Section**
Minimizing the Number of Virtual Circuits in a Telecommunications Network via a Graph Coloring.
- 23 Jan 15, 2015 **Penn State University** Algebra and Number Theory Seminar
The Erdős-Heilbronn Problem for Finite Groups.
- 22 Nov 29, 2012 **University of Nebraska, Lincoln** Combinatorics Seminar
The Polynomial Method of Alon, Nathanson, and Rusza.
- 21 Oct 27, 2012 **Slippery Rock University** Algebra Gathering
The Polynomial Method of Alon, Nathanson, and Rusza.
- 20 Mar 13, 2012 **University of Illinois, Urbana-Champaign** Combinatorics Seminar
The Polynomial Method of Alon, Nathanson, and Rusza.
- 19 Jan 20, 2011 **Carnegie Mellon University** ACO Seminar
The Polynomial Method of Alon, Nathanson, and Rusza.
- 18 Nov 18, 2010 **University of Pittsburgh** Classical Number Theory Seminar
The abc Conjecture and the Polynomial Analogue of Fermat's Last Theorem.
- 17 Nov 4, 2010 **University of Pittsburgh** Research Highlights Seminar
The Polynomial Method of Alon, Nathanson, and Rusza.
- 16 Oct 22, 2009 **University of Pittsburgh** Algebra, Combinatorics, and Geometry Seminar
Proving the Erdős-Heilbronn Problem via the Polynomial Method of Alon, Nathanson, and Rusza.
- 15 Apr 15, 2009 **University of Tennessee, Knoxville** Colloquium
The Erdős-Heilbronn Problem for Finite Groups.
- 14 March 9, 2009 **Westminster College** Colloquium
"A Polynomial Analog of Fermat's Last Theorem"
- 13 Oct 30, 2008 **Carnegie Mellon University** ACO Seminar
The Erdős-Heilbronn Problem for Finite Groups.
- 12 Sept 25, 2008 **University of Pittsburgh** Algebra, Combinatorics, and Geometry Seminar
The Erdős-Heilbronn Problem for Finite Groups.
- 11 May 16-8 '08 **International Conf. on Interdisciplinary Math. Techniques [IMST 2008 -FIM XVI], Memphis**
The Erdős-Heilbronn Problem for Finite Groups.
- 10 Apr 25-6 '08 **46th Midwestern Conference on Graph Theory (MIGHTY XLVI)** West Virginia University
The Erdős-Heilbronn Problem for Finite Groups.
- 9 Feb 21, 2008 **Chat Yin Ho Memorial Conference on Combinatorics and Groups** University of Florida
The Erdős-Heilbronn Problem for Finite Groups.
- 8 Nov 27, 2007 **University of Illinois at Urbana-Champaign** Graph Theory and Combinatorics Seminar
The Erdős-Heilbronn Problem for Finite Groups
- 7 Nov 9, 2007 **University of Memphis** Combinatorics Seminar
Additive Properties of Two General Sequences.
- 6 Oct 27, 2007 **2007 Integers Conference** University of West Georgia
The Erdős-Heilbronn Problem for Finite Groups.
- 5 Mar 19, 2007 **Miami University**
The Erdős-Heilbronn Problem for Finite Groups.
- 4 Mar 16, 2007 **AMS Spring Central Section Meeting** Miami University
A Survey of the Cauchy-Davenport Theorem and the Erdős-Heilbronn Conjecture.
- 3 Nov 10, 2006 **University of Memphis** Combinatorics Seminar
The Erdős-Heilbronn Problem for Finite Groups.
- 2 Apr 3, 2006 **West Virginia University**
The Cauchy-Davenport Theorem for Finite Groups.
- 1 Feb 24, 2006 **University of Memphis** Combinatorics Seminar
The Cauchy-Davenport Theorem for Finite Groups.

INVITED/OTHER TALKS

- 26 Sept 2024 **University of Pittsburgh** College in High School Annual Teachers' Meeting
"The Trouble with Infinity"
- 25 Fall 2022 **University of Pittsburgh** Pitt Math Club
Fermat's Last Theorem for Polynomials
- 24 Ap 1 2023 **MAA Allegheny Mountain Section Meeting**, Edinboro University
Fermat's Last Theorem for Polynomials
- 23 Fall 2022 **University of Pittsburgh** Pitt Math Club
Fermat's Last Theorem for Polynomials
- 22 June 1 2021 **Invited speaker** at the MAA's national workshop
Preparation for Industrial Careers in Mathematics
- 22 April 1 2021 **University of Pittsburgh** Pitt Math Club
Fermat's Last Theorem for Polynomials
- 21 Nov 28 2018 **University of Pittsburgh** Pitt Math Club
The abc Conjecture and the Nature of Proof
- 20 Apr 7 2018 **MAA Allegheny Mountain Section Meeting**, Penn State University - Erie
"Being a Nerd is Cool, Which is Why I Take Series Seriously" (On interesting applications of math)
- 19 April, 2017 **MAA Allegheny Mountain Section Meeting**, Duquesne University
"Musings from Three Years of BIG Classes".
- 18 Jan, 2017 **University of Pittsburgh** Undergraduate Mathematics Seminar
"The abc Conjecture and the Polynomial Analogue of Fermat's Last Theorem".
- 17 Oct, 2016 **University of Pittsburgh** College in High School
"Why Take Series so Seriously?"
- 16 Nov, 2016 **University of Pittsburgh** Math Club
"The abc Conjecture and the Polynomial Analogue of Fermat's Last Theorem"
- 15 Nov 9, 2015 **University of Pittsburgh** Undergraduate Mathematics Seminar
"The abc Conjecture and the Polynomial Analogue of Fermat's Last Theorem"
- 14 Sept 15, 2015 **University of Pittsburgh** Math Club
"The abc Conjecture and the Polynomial Analogue of Fermat's Last Theorem"
- 13 Apr 8, 2014 **University of Pittsburgh** Math Club
"The abc Conjecture and the Polynomial Analogue of Fermat's Last Theorem"
- 12 April 5, '14 **MAA Allegheny Mountain Section Spring Meeting** Westminster College
"Assigning Value to the Valueless: Cauchy's Principal Value Method for Divergent Integrals and similar ideas for Divergent Series"
- 11 Oct 31, '13 **University of Pittsburgh** College in High School
"Assigning Value to the Valueless: Cauchy's Principal Value Method for Divergent Integrals and similar ideas for Divergent Series"
- 10 April 6, '13 **MAA Allegheny Mountain Section** Spring Meeting, Indiana University of Pennsylvania
"Fermat's Last Theorem for Polynomials"
- 9 Nov. 9, 2012 **University of Pittsburgh** College in High School
"Pitt Calc 2 Curriculum vs AP BC Exam Topics", a talk to 60 area high school teachers participating
- 8 Sept 20, 2012 **University of Pittsburgh** Math Club
"A Polynomial Analog of Fermat's Last Theorem"
- 7 March 13, 2012 **University of Illinois, Urbana-Champaign** Graduate Seminar
"A Polynomial Fermat's Last Theorem"
- 6 Nov 4, 2011 **University of Pittsburgh** College in High School
"The Trouble with Infinity" a talk to 60 area high school teachers participating in Pitt's *College in High School*
- 5 Apr 14, 2011 **Schenley High School**
"Pascal's Triangle and the Binomial Theorem," a talk to 30 area gifted high school students
- 4 April 20, 2011 **Carnegie Mellon University** Math Club
"The abc Conjecture and the Polynomial Analogue of Fermat's Last Theorem"
- 3 Nov 5, 2010 **University of Pittsburgh**
"Pascal's Triangle and the Binomial Theorem," a talk to 60 area high school teachers participating
- 2 Feb 1, 2010 **University of Pittsburgh** Mathematics Club
"A Polynomial Analog of Fermat's Last Theorem"
- 1 Sept 28, 2006 **University of Memphis** Undergraduate Mathematics Club [The Cantor Sect]
"A Polynomial Analog of Fermat's Last Theorem"

CONFERENCES ATTENDED

41. April 5-6 2024 MAA Allegheny Mountain Spring Section Meeting
40. July 2023 200 Years of Combinatorics at Trinity, **Trinity College, University of Cambridge**
39. Apr 2023 MAA Allegheny Mountain Section Meeting
- 36-8. Apr 2020-22 MAA Allegheny Mountain Section Meeting (virtual)
35. Sep 12-15, '19 Erdős Lecture Series, **University of Memphis.**
34. Apr 2019 MAA Allegheny Mountain Section Meeting, **Shepherdstown University.**
33. Apr 2018 MAA Allegheny Mountain Section Meeting, **Penn State University - Erie.**
32. Apr 2017 MAA Allegheny Mountain Section Spring Meeting, **Duquesne Univeristy.**
31. Sept 2015 MAA Mathfest Washington, DC.
30. June 2014 MAA PIC Math Workshop, BYU.
29. Sept 2014 MAA Allegheny Mountain Section Fall Meeting, **Penn State - Erie.**
28. March 26-28 2014 *Paul Erdős Memorial Lecture Series*, **University of Memphis**
27. Apr 4-5, 2014 MAA Allegheny Mountain Section Spring Meeting, **Westminster College**
26. Sept 21, 2013 MAA Allegheny Mountain Section Fall Meeting, **Slippery Rock University.**
25. Aug 1-3, 2013 *Combinatorics in Cambridge 2013*, in honor of Béla Bollobás 70th birthday, **The University of Cambridge, UK**
24. April 6, 2013 MAA Allegheny Mountain Section Spring Meeting, **Indiana University of Pennsylvania.**
23. Mar 16-18, 2013 EXCILL2: Extremal Combinatorics at Illinois, **University of Illinois, Urbana-Champaign.**
22. Nov 30-Dec 1, '12 *Workshop on Math in the City*, **University of Nebraska-Lincoln.**
21. Oct 27, 2012 *Algebra Gathering*, **Slippery Rock University**, Slippery Rock PA.
20. July 9-13, 2012 *Additive Combinatorics in Paris*, **Henri Poincaré Institute**, Paris, France
19. May 2012 *Paul Erdős Memorial Lecture Series*, **University of Memphis**
18. March 2011 *Paul Erdős Memorial Lecture Series*, **University of Memphis**
17. Mar 19-20, 2010 *Paul Erdős Memorial Lecture Series*, **University of Memphis**
16. May 16-18, 2008 International Conference on Interdisciplinary Mathematical Techniques [IMST 2008 -FIM XVI]; **The Univesity of Memphis**
15. April 25-26, 2008 46th Midwestern Conference on Graph Theory (**MIGHTY XLVI**); West Virginia University, Morgantown, WV
14. Mar 27-28, 2008 *Paul Erdős Memorial Lecture Series*, **University of Memphis**
13. Feb 21-24, 2008 *Chat Yin Ho Memorial Conference on Combinatorics and Groups*, the **University of Florida.**
12. January 6-9, 2008 **AMS/MAA Joint Meetings - 2008**, San Diego, California.
11. Oct 24-27, 2007 *Integers Conference - 2007*, **University of West Georgia**
10. May 4-5, 2007 31st *SIAM-SEAS Meeting*, **University of Memphis** – General Sessions Chair
9. April 21-22, 2007 *Random Combinatorial Structures*, **University of Nebraska-Lincoln**
8. March 23-24, 2007 *Paul Erdős Memorial Lecture Series*, **University of Memphis**
7. March 16-17, 2007 **AMS Spring Central Section Meeting**, Miami University
6. March 24-25, 2006 *Paul Erdős Memorial Lecture Series*, **University of Memphis**
5. Oct 21-23, 2005 **AMS Fall Central Section Meeting**, University of Nebraska-Lincoln
4. Feb 25-26, '05 *Paul Erdős Memorial Lecture Series*, **University of Memphis**
3. March 26-27, 2004 *Paul Erdős Memorial Lecture Series*, **University of Memphis**
2. March 8-12, 2004 35th **Southeastern International Conference on Combinatorics, Graph Theory, and Computing**, Florida Atlantic University
1. March 21-22, 2003 *Paul Erdős Memorial Lecture Series*, **University of Memphis**

NOTABLE NEWS APPEARANCES

- 9 January 2023 Online education news source *Public Source* regarding post-quarantine higher education. *College students and professors contend with hangover from virtual high school*, Emma Folts.
- January 2022 *KDKA Channel 2* tv sports, on the Steelers unlikely odds to make the playoffs. Due to NFL regulations, KDKA could not share the news clip with me but I do have my phone's crude recording on my LinkedIn site. (I will go there... the PSU prof has two brief statements - one is quoting *Dumb and Dumber*. The Pitt prof, me, is shown extensively as he explains well the assumptions and calculations of the probabilities.)
- 13 April 2018, student newspaper *The Pitt News*, on having class meet in Hemingways ('Cocktail Classrooms: Pitt professors bringing classrooms to the bars').
- April 2015, *University Times* and the *Pittsburgh Tribune Review*, very positive press on BIG work for Global Links.
- 25 Nov 2014, *Pittsburgh Tribune Review*, *Pittsburgh Post Gazette*, *Pittsburgh and Wheeling WV tv* (all of the stations), as well as *Stars and Stripes* and other military news sources on my dying father's visit to my class and what Pitt's *Veterans Service Center* did for him. (Search "dying vet gets to see son teach at Pitt".)
- Spring 2018, I was not personally part of the story, but one of the Pittsburgh papers cleverly ran an article after the buyout of Pitt basketball coach Kevin Stallings on what \$9.4 million could buy you in Oakland. The very first item was '99 tenured professors' and my picture was used.
- 16 April 2015 *TRIB Live* (Pittsburgh Tribune Review Newspaper's online site) "Pitt, Penn State faculty found to receive better-than-average pay". This was an article on the two schools tenure-stream faculty receiving wages "thousands of dollars higher than those paid at public research universities across the nation". At the time, Pitt's appointment-stream faculty was many thousands of dollars below the appointment-stream faculty at similar institutions and. laughably, the article featured a picture of me, an appointment stream faculty making well below average pay for the same position at other public research universities.

SERVICE

<u>PROFESSIONAL</u> ◇ member	North Allegheny School District Secondary Education Advisory Committee, Sept 2024 – present.
◇ Referee	-Journal of Combinatorial Theory, Series A, Elsevier -Punjab University Journal of Mathematics
◇ Reviewer	I have written numerous reviews for the American Mathematical Society's MathSciNet.
◇ Profession Textbook Reviewer	2023 CRC Press consulted me on the contents of upcoming "Graphs and Digraphs" 7 th edition
◇ MAA Ex Committee	I have served as an Executive Committee Member of the Allegheny Mountain Section of the Mathematical Association of America.
◇ Organizer and Chair , Student Talks and Poster Session	2019 <i>Paul Erdős Memorial Lecture Series</i> , University of Memphis. In addition to the ongoing posters, the last day of the conference was dedicated to 14 student talks.
◇ Organizer and Chair , Poster Session	2014 <i>Paul Erdős Memorial Lecture Series</i> , University of Memphis.
◇ Organizer and Chair , Poster Session	2012 <i>Paul Erdős Memorial Lecture Series</i> , University of Memphis.

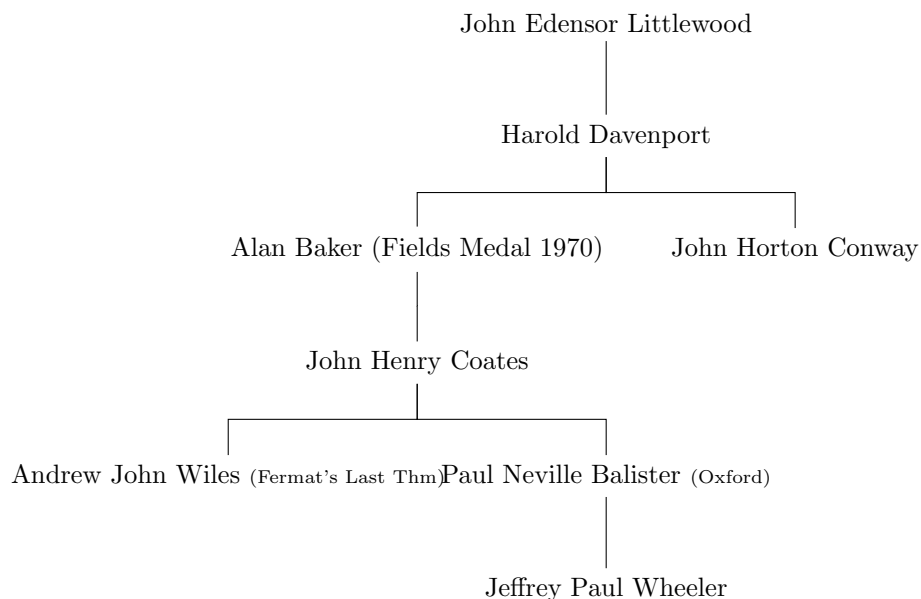
- UNIVERSITY
- ◇ Goldwater Scholarship selection committee AY 2018-19
 - ◇ Have regularly participated in FAST (Faculty Admission Support Team).
 - ◇ Have regularly participated in the Osher Program.
 - ◇ I was asked to review an Engineering grant proposal during 2011-2012.
- INTER-DEPART
- ◇ repeatedly collaborated with Steven Jacobs, Pitt ECE , on Math 480 Content.
 - ◇ On Xiao Ma's dissertation committee (Information Sciences).
 - ◇ Used to regularly teach CS 0441 - Discrete Structures for Computer Science.
 - ◇ Taught BUSQOM 1090 - Applied Optimization and Simulation for the College of Business Administration. This experience led to my BIG Problems class being approved to fulfill a capstone requirement for the College of Business Administration's Business Analytics Certification.
 - ◇ Worked with Engineering undergrad Luke Sneeringer on his paper "Zero-Knowledge Encryption in the Cloud: a Solution for the Remote File Storage".
- DEPARTMENTAL
- ◇ Colloquium Recruited four (4) speakers: Jerry Goldstein, Memphis (Fall 22); Ron Gould, Emory (Fall 23); Po-Shen Lo, Carnegie Mellon (Spring 24); and Imre Leader, University of Cambridge (Fall 24).
 - ◇ Grad Student Luncheon Po-Shen Lo, Carnegie-Mellon, discussed his teaching innovations with about 25 of our grad students before his colloquium presentation.
 - ◇ Chair Classical Undergraduate Mathematics Seminar 2014-2015.
 - ◇ Calc 2 Liaison Five years writing exams and supervising for Pitt's *College in High School* program (AY2013-AY2017)
 - ◇ Advise Students
 - ◇ MAA Liaison Department's Liaison to the MAA (many years... forgot which ones)
 - ◇ Calc 2 Course Coordinator Oversee teaching of Pitt's Calc 2. Includes writing and organizing the grading of the departmental final exam. This has been my responsibility four times.
 - ◇ Bus Calc Coordinator Oversee teaching of Pitt's Business Calc. Includes writing and organizing the grading of the departmental final exam. (Fall 2013)
 - ◇ Chair Classical Number Theory Seminar 2010-2011.
- UNDERGRADUATE
- ◇ Chair Undergraduate Mathematics Seminar 2014-present
 - ◇ Interviewing Seminar multiple offerings - see UGMS report for details
- COMMUNITY
- ◇ Marshall Township member Parks and Recreation Advisory Committee, Spring 24 – present.
 - ◇ Career Day Presenter Marshall Middle School, North Allegheny May 6, 2022
 - ◇ BIG Problems one team greatly helped the Pittsburgh charity Global Links. Received very positive press in the Pittsburgh Tribune Review and Pitt Chronicle.
 - ◇ College in High School serve local HS teachers
 - ◇ Puzzle Play (AY 2012) Visit elementary schools¹ and encourage problem solving through puzzle play.

¹ During 2011-12 I visited four classes at Hosack Elementary and North Allegheny's Marshall Elementary and engaged 75 students with puzzles.

ADDITIONAL INFORMATION

Most Papers with Paul Erdős[†]

1. András Sárközy (62 papers) - on my PhD committee (visiting Memphis for academic year)
2. András Hajnal (56 papers)
3. Ralph Faudree (50 papers) - at Memphis
4. Richard Schelp (42 papers) - at Memphis
5. Cecil C. Rousseau (35 papers) - on my PhD committee and at Memphis

Academic Genealogy

[†]Erdős Project website <http://www.oakland.edu/enp> list Erdos0p or Wikipedia

STUDENT COMMENT

I will close my CV with a photocopy of a kind thank you card from a previous student who sought me out before she graduated.

Dear Dr. Wheeler,

If I was smart I would have dropped your class the day I signed into it. You looked me in the eye and told me that if I did every practice problem, I might survive. And looking back on it, that moment is what makes you a ~~truly~~ truly phenomenal professor.

Within the first thirty seconds of meeting you, you made it impossible for me to accept mediocrity, and it is something I will never forget. After this initial encounter there were many ups and downs - hours spent at the MAC questioning why I would put myself through this torture. But in the end, I count your class as one of my

greatest successes. You took me from a scared first semester freshman to a confident college student, and I would be remiss if I didn't express my deep thanks. From time to time I have even sat in a lecture or two of yours just to see another side of math (and to see if I could figure out what Thomas Helgerman was always talking about.)

Again, thank you for all you do. I wish you all the best, and as always, hail to Pitt.

Sincerely,

Alex Cameron

Alexis Cameron