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### Employment

Aug 2021 – Present	Kutztown University of Pennsylvania, Pennsylvania, USA. Professor of Mathematics.
Jan 2024 – May 2024	Interim Department Chair of Mathematics.
Aug 2018 – Aug 2021	Associate Professor of Mathematics.
Aug 2013 – Aug 2018	Assistant Professor of Mathematics.
Jul 2017 – Aug 2017	Instructor, Summer Program at the Easton Site, Johns Hopkins University Center for Talented Youth, USA.
May 2015 – Jul 2015	Part-time Instructor of Mathematics, The Chinese University of Hong Kong, Hong Kong.
Sep 2008 – Jun 2013	Instructor and Graduate Teaching Assistant, California Institute of Technology, California, USA.

### Education

Sep 2008 – Jun 2013	Ph.D. in Mathematics, California Institute of Technology, California, USA. (Advisor: Richard M. Wilson; Dissertation: <i>Diagonal forms, linear algebraic methods and Ramsey-type problems.</i> )
Sep 2004 – Jun 2008	B.Sc. in Mathematics with First Class Honors, Chinese University of Hong Kong, Hong Kong.

### Awards and Recognition

Aug 2023	Carlson R. Chambliss Faculty Research Award, by Kutztown University of Pennsylvania, for meritorious original research work.
Mar 2023	Editors' Choice Award 2023, by <i>Discrete Mathematics</i> , for the article "Covering systems with odd moduli" (Volume 345, Issue 8, article 112936) selected by editors as one of the outstanding papers published in <i>Discrete Mathematics</i> in 2022.

- Nov 2020 Early Career Teaching Award, by the Eastern Pennsylvania and Delaware (EPaDel) Section of the Mathematical Association of America (MAA), for people who are recognized as extraordinarily successful in their teaching, have effectiveness in teaching undergraduate mathematics that can be documented, have had influence in their teaching beyond their own classrooms, and foster curiosity and generate excitement about mathematics.
- Dec 2019 Excellence in Teaching Award, by the National Society of Leadership and Success.
- Nov 2018 40 under Forty Award, by Reading Eagle, for people who lead by example, have contributed to their organization's growth and success, serve the community and seek to grow personally and professionally, and live or work within Berks County, Pottstown, Southern Schuylkill County, Northern Lancaster County, Northern Chester County, and Eastern Lebanon County.
- Aug 2017 John P. Schellenberg Award for Excellence in Teaching and Learning, by Kutztown University of Pennsylvania, for a Kutztown University faculty member who embodies those qualities most closely associated with the Center for the Enhancement of Teaching.
- Jun 2012 Scott Russell Johnson Prize for Excellence in Graduate Teaching, by California Institute of Technology.
- Jun 2010 Apostol Award for Excellence in Teaching in Mathematics, by California Institute of Technology.

## SCHOLARLY GROWTH

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### Co-Founding and Chief Editor of a Peer-Reviewed Journal

(Started on Mar 31, 2020)

*Communications on Number Theory and Combinatorial Theory (CONTACT)*

An open access journal in pure mathematics that features double-blind review process, based on the Kutztown University Research Commons.

### Publications in Peer-Reviewed Research Journals

(***Kutztown University students*** are bold, italicized, underlined.)

1. (Accepted on Apr 9, 2024)  
“Nonisomorphic two-dimensional algebraically defined graphs over  $\mathbb{R}$ ,”  
Brian G. Kronenthal, Joe Miller, Alex Nash, Jacob Roeder, Hani Samamah, and Tony W. H. Wong,  
to appear in the *Journal of Graph Theory*.
2. (Accepted on Dec 22, 2023)  
“Arithmetic progressions of integers that are relatively prime to their digital sums,”  
Ryan Blau, Joshua Harrington, Sarah Lohrey, Eliel Sosis, Tony W. H. Wong,  
to appear in the *Rocky Mountain Journal of Mathematics*.
3. (Published on Jul 30, 2024)  
“Arithmetic progressions of  $b$ -Niven numbers,”  
Helen Grundman, Joshua Harrington, and Tony W. H. Wong,  
*Rocky Mountain Journal of Mathematics* **54** (2024), 723-733.
4. (Published on Jun 26, 2024)  
“Residue sums of Dickson polynomials over finite fields,”  
Thomas Brazelton, Joshua Harrington, Matthew Litman, and Tony W. H. Wong,  
*Journal of Number Theory* **264** (2024), 1-26.
5. (Published on Jun 3, 2024)  
“Generalized impartial two-player pebbling games on  $K_3$  and  $C_4$ ,”  
Kayla Barker, Mia DeStefano, Eugene Fiorini, Michael Gohn, Joe Miller, Jacob Roeder, and  
Tony W. H. Wong,  
*Journal of Integer Sequences* **27** (2024), Article 24.5.8.
6. (Published on May 16, 2024)  
“Every arithmetic progression contains infinitely many  $b$ -Niven numbers,”  
Joshua Harrington, Matthew Litman, and Tony W. H. Wong,  
*Bulletin of the Australian Mathematical Society* **109** (2024), 409-413.

7. (Published in Aug 2023)  
 “Sums of distinct polynomial residues,”  
 Carrie Finch-Smith, Joshua Harrington, and Tony W. H. Wong,  
*Integers -- Electronic Journal of Combinatorial Number Theory* **23** (2023), A63.
  
8. (Published in Apr 2023)  
 “On  $k$ -fold super totient numbers,”  
 Joshua Harrington, Melea Roman, Andrew Vincent, and Tony W. H. Wong,  
*International Journal of Number Theory* **19** (2023), 655-666.
  
9. (Published in Mar 2023)  
 “Wombat --- An efficient stableswap algorithm,”  
 Jen Hounq Lie, Wing Hong Tony Wong, and Alex Yin-ting Lee,  
*MARBLE 2022: Mathematical Research for Blockchain Economy* (2023), 233-251.
  
10. (Published on Jan 30, 2023)  
 “Sum index and difference index of graphs,”  
 Joshua Harrington, Eugene Henninger-Voss, Kedar Karhadkar, Emily Robinson, and Tony  
 W. H. Wong,  
*Discrete Applied Mathematics* **325** (2023), 262-283.
  
11. (Published on Jan 15, 2023)  
 “Probabilistic chip-collecting games with modulo winning conditions,”  
 Joshua Harrington, Xuwen Hua, Xufei Liu, Alex Nash, Rodrigo Rios, and Tony W. H. Wong,  
*Discrete Applied Mathematics* **324** (2023), 93-98.
  
12. (Published on Nov 3, 2022)  
 “On the girth of three-dimensional algebraically defined graphs with multiplicatively  
 separable functions,”  
 Alex Kodess, Brian G. Kronenthal, and Tony W. H. Wong,  
*Electronic Journal of Combinatorics* **29** (2022), Article P4.21.
  
13. (Published on Nov 1, 2022)  
 “The edge-distinguishing chromatic number of petal graphs, chorded cycles, and spider  
 graphs,”  
**Grant Fickes** and Tony W. H. Wong,  
*Electronic Journal of Graph Theory and Applications* **10** (2022), 393-414.
  
14. (Published on Oct 26, 2022)  
 “Arithmetic progressions of  $b$ -prodigious numbers,”  
 Michael Gohn, Joshua Harrington, Sophia Lebiere, Hani Samamah, Kyla Shappell, and  
 Tony W. H. Wong,  
*Journal of Integer Sequences* **25** (2022), Article 22.8.7.

15. (Published on Sep 1, 2022)  
“Cycles and girth in pebble assignment graphs,”  
Eugene Fiorini, Griffin Johnston, Max Lind, Andrew Woldar, and Tony W. H. Wong,  
*Graphs and Combinatorics* **38** (2022), Article 154.
16. (Published in Aug 2022)  
“Covering systems with odd moduli,”  
Joshua Harrington, Yewen Sun, and Tony W. H. Wong,  
*Discrete Mathematics* **345** (2022), Article 112936.
17. (Published in Jul 2022)  
“On the properties of Fibotomic polynomials,”  
Cameron Byer, Tyler Dvorachek, Emily Eckard, Joshua Harrington, Lindsey Wise, and  
Tony W. H. Wong,  
*Advances in Applied Mathematics* **138** (2022), Article 102344.
18. (Published on Jun 3, 2021)  
“On binomial coefficients associated with Sierpiński and Riesel numbers,”  
Ashley Armbruster, Grace Barger, Sofya Bykova, Tyler Dvorachek, Emily Eckard, Joshua  
Harrington, Yewen Sun, and Tony W. H. Wong,  
*Integers -- Electronic Journal of Combinatorial Number Theory* **21** (2021), A61.
19. (Published on May 18, 2021)  
“Characterizing winning positions in the impartial two-player pebbling game on complete  
graphs,”  
Eugene Fiorini, Max Lind, Andrew Woldar, and Tony W. H. Wong,  
*Journal of Integer Sequences* **24** (2021), Article 21.6.4.
20. (Published on Jan 15, 2021)  
“Two dependent probabilistic chip-collecting games,”  
Joshua Harrington, Kedar Karhadkar, Madeline Kohutka, Tessa Stevens, and Tony W. H.  
Wong,  
*Discrete Applied Mathematics* **288** (2021), 74-86.
21. (Published on Jan 15, 2021)  
“On the domination number of permutation graphs and an application to strong fixed  
points,”  
Theresa Baren, Michael Cory, Mia Friedberg, Peter Gardner, James Hammer, Joshua  
Harrington, Daniel McGinnis, Riley Waechter, and Tony W. H. Wong,  
*Discrete Applied Mathematics* **288** (2021), 20-34.
22. (Published in 2020)  
“The edge-distinguishing chromatic number of spider graphs with three legs or bounded leg  
lengths,”  
**Grant Fickes** and Tony W. H. Wong,  
*Journal of Combinatorial Mathematics and Combinatorial Computing* **113** (2020), 165-181.

23. (Published on Mar 16, 2020)  
 “Nimber sequences of Node-Kayles games,”  
 Sierra Brown, Spencer Daugherty, Eugene Fiorini, Barbara Maldonado, **Diego Manzano-Ruiz**, Sean Rainville, Riley Waechter, and Tony W. H. Wong,  
*Journal of Integer Sequences* **23** (2020), Article 20.3.5.
24. (Published in Feb 2020)  
 “On super totient numbers and super totient labelings of graphs,”  
 Joshua Harrington and Tony W. H. Wong,  
*Discrete Mathematics* **343** (2020), Article 111670.
25. (Published in Jan 2020)  
 “Building matrices with prescribed size and number of invertible submatrices,”  
 Sin Tsun Edward Fan and Tony W. H. Wong,  
*European Journal of Combinatorics* **83** (2020), Article 103016.
26. (Published on Nov 8, 2019)  
 “Primes and perfect powers in the Catalan triangle,”  
**Nathaniel Benjamin**, **Grant Fickes**, Eugene Fiorini, Edgar Jaramillo Rodriguez, Eric Jovinelly, and Tony W. H. Wong,  
*Journal of Integer Sequences* **22** (2019), Article 19.7.6.
27. (Published on May 20, 2019)  
 “An investigation on partitions with equal products,”  
 Byungchul Cha, Adam Claman, Joshua Harrington, Ziyu Liu, Barbara Maldonado, **Alexander Miller**, Ann Palma, Tony W. H. Wong, and Hongkwon (Vin) Yi,  
*International Journal of Number Theory* **15** (2019), 1731-1744.
28. (Published on Aug 22, 2018)  
 “A probabilistic take-away game,”  
 Tony W. H. Wong and **Jiao Xu**,  
*Journal of Integer Sequences* **21** (2018), Article 18.6.3.
29. (Published on Feb 19, 2017)  
 “Paired many-to-many disjoint path covers of hypertori,”  
 Brian Kronenthal and Tony W. H. Wong,  
*Discrete Applied Mathematics* **218** (2017), 14-20.
30. (Published in Jun 2014)  
 “Integrality of relative BPS state counts of toric del Pezzo surfaces,”  
 Michel van Garrel, Tony W. H. Wong, and Gjergji Zaimi,  
*Communications in Number Theory and Physics* **7** (2013), 671-687.
31. (Published in May 2014)  
 “Diagonal forms and zero-sum (mod 2) bipartite Ramsey numbers,”  
 Tony W. H. Wong,  
*Journal of Combinatorial Theory, Series A* **124** (2014), 97-113.

32. (Published in Jan 2014)  
 “Diagonal forms of incidence matrices associated with  $t$ -uniform hypergraphs,”  
 Richard M. Wilson and Tony W. H. Wong,  
*European Journal of Combinatorics* **35** (2014), 490-508.
33. (Published on Jul 16, 2013)  
 “Algebraic techniques in designing quantum synchronizable codes,”  
 Yuichiro Fujiwara, Vladimir D. Tonchev, and Tony W. H. Wong,  
*Physical Review A* **88** (2013), 012318.
34. (Published on Mar 15, 2007)  
 “Intersecting families in the alternating group and direct product of symmetric groups,”  
 Cheng Yeaw Ku and Tony W. H. Wong,  
*Electronic Journal of Combinatorics* **14** (2007), #R25.

### Editor-Reviewed Publications

1. (Published in Sep 2023)  
 Integer sequence “A364237” related to zero-sum free permutations,  
 Anna Coleman, Joshua Harrington, Maggie X. Lai, Philip Thomas, and Wing Hong Tony Wong,  
*On-Line Encyclopedia of Integer Sequences (OEIS)*, URL: <https://oeis.org/A364237>.
2. (Published in Jun 2023)  
 “Mentoring students virtually in undergraduate research,”  
 Elizabeth A. Donovan, Brian G. Kronenthal, Jan Rychtář, Dewey Taylor, Lesley W. Wigglesworth, and Wing Hong Tony Wong,  
*Expanding Undergraduate Research in Mathematics: Making UR More Inclusive* (2023),  
 131-142.
3. (Published in Mar 2023)  
 Integer sequence “A361315” related to two-person impartial  $(3;1,1)$ -pebbling games on complete graphs,  
 Gabrielle Demchak, Eugene Fiorini, Michael J. Herrera, Samuel Murray, Rhaldni Sayaman, Brittany Shelton, and Wing Hong Tony Wong,  
*On-Line Encyclopedia of Integer Sequences (OEIS)*, URL: <https://oeis.org/A361315>.
4. (Published in Aug 2021)  
 Integer sequences “A339999,” “A346537,” “A346563,” and “A346657” related to numbers that are divisible by the product of their nonzero digits,  
 Michael Gohn, Joshua Harrington, Sophia Lebiere, Hani Samamah, Kyla Shappel, and Wing Hong Tony Wong,  
*On-Line Encyclopedia of Integer Sequences (OEIS)*, URL: <https://oeis.org/A339999>,  
<https://oeis.org/A346537>, <https://oeis.org/A346563>, and <https://oeis.org/A346657>.

5. (Published in Jul-Sep 2021)  
Integer sequences “A346197,” “A346401,” and “A347637” related to two-person impartial  $(k+1, k)$ -pebbling games on complete graphs,  
Kayla Barker, Mia DeStefano, Eugene Fiorini, Michael Gohn, Joe Miller, Jacob Roeder, and Wing Hong Tony Wong,  
*On-Line Encyclopedia of Integer Sequences (OEIS)*, URL: <https://oeis.org/A346197>,  
<https://oeis.org/A346401>, and <https://oeis.org/A347637>.
6. (Published in Jan 2021)  
Integer sequence “A340631” related to two-person impartial pebbling games on complete graphs,  
Eugene Fiorini, Max C. Lind, Andrew Woldar, and Wing Hong Tony Wong,  
*On-Line Encyclopedia of Integer Sequences (OEIS)*, URL: <https://oeis.org/A340631>.
7. (Published in Jun-Oct 2019)  
Integer sequences “A308853,” “A309088,” “A309089,” “A309257,” “A309258,” “A309259,” “A309344,” and “A309345” related to the determinants and transversals of Latin squares,  
Alvaro R. Belmonte, Eugene Fiorini, Peterson Lenard, Froylan Maldonado, Sabrina Traver, and Wing Hong Tony Wong,  
*On-Line Encyclopedia of Integer Sequences (OEIS)*, URL: <https://oeis.org/A308853>,  
<https://oeis.org/A309088>, <https://oeis.org/A309089>, <https://oeis.org/A309257>,  
<https://oeis.org/A309258>, <https://oeis.org/A309259>, <https://oeis.org/A309344>, and  
<https://oeis.org/A309345>.
8. (Published in Jul 2018)  
Integer sequences “A316945,” “A316946,” and “A317254” related to the partitions of integers with equal products,  
Byungchul Cha, Adam Claman, Joshua Harrington, Ziyu Liu, Barbara Maldonado, **Alexander M. Miller**, Ann Palma, Wing Hong Tony Wong, and Hongkwon V. Yi,  
*On-Line Encyclopedia of Integer Sequences (OEIS)*, URL: <https://oeis.org/A316945>,  
<https://oeis.org/A316946>, and <https://oeis.org/A317254>.
9. (Published in Jul 2018)  
Integer sequences “A316533,” “A316629,” “A316632,” “A316781,” and “A317367” related to the Sprague-Grundy values of Node-Kayles games,  
Sierra Brown, Spencer Daugherty, Eugene Fiorini, Barbara Maldonado, Sean E. Rainville, Riley S. Waechter, and Wing Hong Tony Wong,  
*On-Line Encyclopedia of Integer Sequences (OEIS)*, URL: <https://oeis.org/A316533>,  
<https://oeis.org/A316629>, <https://oeis.org/A316632>, <https://oeis.org/A316781>, and  
<https://oeis.org/A317367>.
10. (Published in Aug 2017)  
Integer sequences “A291341” and “A291342” related to the game of Col,  
Diego Manzano-Ruiz and Wing Hong Tony Wong,  
*On-Line Encyclopedia of Integer Sequences (OEIS)*, URL: <https://oeis.org/A291341>,  
<https://oeis.org/A291342>.



11. (Published in Feb 2016) – Invited Publication by the Chief Editor  
 “Flow Free on a torus,”  
 Brian Kronenthal and Wing Hong Tony Wong,  
*Math Horizons* **23.3** (2016), 2.
12. (Published in Dec 2015)  
 Integer sequences “A265919” and “A265920” related to a probabilistic chip collecting game,  
 Wing Hong Tony Wong and Jiao Xu,  
*On-Line Encyclopedia of Integer Sequences (OEIS)*, URL: <https://oeis.org/A265919>,  
<https://oeis.org/A265920>.

### Articles Submitted to Peer-Reviewed Research Journals

1. (Submitted in Feb 2024)  
 “Paired  $(n-1)$ -to- $(n-1)$  disjoint path covers in bipartite transposition-like graphs,”  
 Anna Coleman, Gabrielle Fischberg, Charles Gong, Joshua Harrington, and Tony W. H. Wong,  
 submitted to the *Discrete Applied Mathematics*.

### Research with Undergraduate Students

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|---------------------|---|
| May 2019 – Jul 2024 | Research mentor of the Research Experiences for Undergraduates (REU), sponsored by the National Science Foundation (NSF), at Moravian College, Bethlehem, PA. |
| May 2018 – Jul 2018 | Research mentor of the Research Experiences for Undergraduates (REU), sponsored by the National Science Foundation (NSF), at                                  |
| Sep 2016 – May 2019 | Grant Fickes (Graduated in May 2019).   |
| May 2016 – May 2017 | Diego Manzano-Ruiz (Matriculated in Sep 2015).  |
| Jul 2015 – Dec 2016 | Jiao Xu (Graduated in Spring 2017).   |

### Grants and Fellowships

#### External

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| Apr 2022 – Present | Senior Personnel: Research Experiences for Undergraduates (REU), sponsored by the National Science Foundation (NSF) for conducting summer research in mathematics for three years at Moravian University. My role is a co-organizer and a research mentor. (\$364,440) |
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- Aug 2020 – Present Senior Personnel: Scholarships in Science, Technology, Engineering, and Mathematics (S-STEM) Program, sponsored by the National Science Foundation (NSF)  
for providing financial support to incoming students to Kutztown University majoring in mathematics or computer science. My focus in this grant project is on recruitment. (\$999,758)
- May 2020 – Aug 2020 Principal Investigator (PI): National Research Experience for Undergraduates Program (NREUP), sponsored by the National Science Foundation (NSF) through the Mathematical Association of America (MAA)  
for conducting a ten-week summer research program for four underrepresented minority undergraduate students in the local region. (\$25,322)
- Apr 2018 – Jun 2020 Principal Investigator (PI): Dolciani Mathematics Enrichment Grant, sponsored by the Mathematical Association of America (MAA)  
for running **weekly training sessions** in mathematics at Northwest Middle School, Reading, PA. (\$5000)
- Jan 2015 – May 2015 Principal Investigator (PI): Inquiry-Based Learning (IBL) Project Grant for developing a new course “Discrete Mathematics,” sponsored by the Educational Advancement Foundation (EAF) through the Academy for Inquiry-Based Learning (AIBL). (\$1500)
- Oct 2014 Travel Grant  
to the conference on “Challenges of Identifying Integer Sequences,” sponsored by the National Science Foundation (NSF) through the Center for Discrete Mathematics and Theoretical Computer Science at Rutgers University (DIMACS). (Approx. \$700)
- Sep 2008 – Jun 2011 Sir Edward Youde Memorial Fellowship for Overseas Studies for pursuing my graduate studies in mathematics at California Institute of Technology,  
sponsored by Sir Edward Youde Memorial Fund Council. (Approx. \$36,300 per year for three years)

Internal

- Kutztown University Bringing Experiences About Research in Summer (KU BEARS)
- May 2022 – Aug 2022 for working with Mr. Samuel Murray in Summer 2022. (\$2000)
- May 2020 – Aug 2020 for working with Mr. Peter Kanjorski in Summer 2020. (\$2000)
- May 2017 – Aug 2017 for working with Mr. Grant Fickes in Summer 2017. (\$2000)
- May 2016 – Aug 2016 for working with Mr. Diego Manzano-Ruiz in Summer 2016. (\$2000)

	Professional Development Committee – Travel Assistance for Scholarly Presentations at Professional Meetings
Jul 2024	MathFest, Indianapolis, IN. (\$1000)
Jul 2023	Mathematics of Various Entertaining Subjects (MOVES) Conference, New York, NY. (\$1000)
Jun 2022	The 3rd International Conference on Mathematical Research for Blockchain Economy, Vilamoura, Portugal. (\$1000)
Oct 2019	Joint Mathematics Meetings, Denver, CO. (\$1000)
Nov 2018	Joint Mathematics Meetings, Baltimore, MD. (\$1000)
Nov 2017	Joint Mathematics Meetings, San Diego, CA. (\$1000)
Apr 2017	The Second Malta Conference in Graph Theory and Combinatorics, Qawra, Malta. (\$1050)
Nov 2015	Joint Mathematics Meetings, Seattle, WA. (\$1050)
Nov 2014	Joint Mathematics Meetings, San Antonio, TX. (\$1000)
May 2014	SIAM Conference on Discrete Mathematics, Minneapolis, MN. (\$900)
Jan 2017 – May 2017	Grant Writing Fellowship at Kutztown University of Pennsylvania for writing an external grant proposal in Spring 2017. (One course release)

## Conferences Organized

### Outside Kutztown University of Pennsylvania

Jan 2–6, 2024	Special Session on Covering Systems of the Integers and Their Applications, Joint Mathematics Meeting, San Francisco, CA. <b>Co-Organizer</b> (with Drs. Joshua Harrington and Matthew Litman), preparation work from Apr to Sep 2023.
Sep 29–30, 2018	Special Session on Graph Theory, Fall Eastern Sectional Meeting of the American Mathematical Society (AMS), University of Delaware, Newark, DE. <b>Co-Organizer</b> (with Drs. Sebastian Cioabă, Brian Kronenthal, and Felix Lazebnik), preparation work from Apr to Sep 2018.

### At Kutztown University of Pennsylvania

Apr 1, 2017	Spring Meeting of the Eastern Pennsylvania and Delaware (EPaDel) Section of the Mathematical Association of America (MAA). <b>Co-Chief Organizer</b> (with Dr. Brian Kronenthal), preparation work from Oct 2016 to Apr 2017.
Apr 10–11, 2015	Pennsylvania State System of Higher Education – Mathematics Association (PASSHE-MA) Conference. <b>Co-Chief Organizer</b> (with Dr. Brian Kronenthal), preparation work from Oct 2014 to Apr 2015.

## **Invited Scholarly Presentations at Conferences, Seminars, Colloquia, or Webinars**

- Aug 2024 Panel Discussion, MathFest, Indianapolis, IN.  
“Nurturing Equity, Inclusion, Diversity, and Belonging in Undergraduate Research: Strategies and Insights.”
- Mar 2024 Chambliss Lecture, Kutztown University of Pennsylvania, Kutztown, PA.  
“Get a taste of mathematical research.”
- Apr 2023 Discrete Math and Combinatorics Seminar, University of South Carolina, Online.  
“From super totient numbers to the sum and difference indices of graphs.”
- Sep 2020 Mathematical Association of America Webinar, Online.  
“Challenges and success of conducting an NREUP online.”
- Feb 2020 Mathematics and Computer Science Colloquium, La Salle University, Philadelphia, PA.  
“A fun brainteaser and more!”
- Oct 2019 Plenary Talk, Series on Exploring Combinatorics And Number Theory (SECANT), Cedar Crest College, Allentown, PA.  
“Characterization of super totient numbers and applications in graph labeling.”
- Mar 2019 Mathematics Colloquium, Albright College, Reading, PA.  
“On John Conway’s wizard problem.”
- Feb 2019 Millersville University and Franklin & Marshall College Joint Math Colloquium, Millersville University of Pennsylvania, Millersville, PA.  
“From Conway’s puzzle to integer partitions with equal products.”
- Jul 2017 Research Experiences for Undergraduates (REU), Lafayette College, Easton, PA.  
“Games of vertex coloring.”
- Jul 2016 Research Experiences for Undergraduates (REU), Muhlenberg College, Allentown, PA.  
“An integer sequence arising from chip collecting.”
- Dec 2013 Discrete Mathematics Seminar, University of Delaware, Newark, DE.  
“A problem on matroid theory by Dominic Welsh.”

## **Scholarly Presentations at National / International Conferences**

- Aug 2024 MathFest, Indianapolis, IN.  
“Impartial Two-Player Pebbling Games.”

- Jan 2024 Joint Mathematics Meetings (JMM), San Francisco, CA.  
“Arithmetic progressions and integers divisible by the sum of their digits.”
- Aug 2023 Mathematics of Various Entertaining Subjects (MOVES) Conference, National Museum of Mathematics, New York, NY.  
“Probabilistic chip-collecting games with modulo winning conditions.”
- Aug 2022 Mathematics of Various Entertaining Subjects (MOVES) Conference, National Museum of Mathematics, New York, NY.  
“An impartial two-player pebbling game on complete graphs.”
- Jul 2022 The 3rd International Conference on Mathematical Research for Blockchain Economy, Vilamoura, Portugal.  
“Wombat --- An efficient stableswap algorithm.”
- Jan 2021 Joint Mathematics Meetings (JMM), Online.  
“Two dependent versions of probabilistic chip-collecting games.”
- Jan 2020 Joint Mathematics Meetings (JMM), Denver, CO.  
2 presentations:  
“Super totient numbers and the super totient index of graphs” and  
“Factorization of prime powers with the same sum.”
- Aug 2019 Mathematics of Various Entertaining Subjects (MOVES) Conference, National Museum of Mathematics, New York, NY.  
“On a mathematical riddle by John Conway.”
- May 2019 The 7<sup>th</sup> Biennial Canadian Discrete and Algorithmic Mathematics (CanaDAM) Conference, Simon Fraser University, Vancouver, Canada.  
“The edge-distinguishing chromatic number of petals, chorded cycles, and spider graphs with up to four legs.”
- Jan 2019 Joint Mathematics Meetings (JMM), Baltimore, MD.  
“A probabilistic chip-collecting game.”
- Jun 2018 SIAM Conference on Discrete Mathematics, University of Colorado, Denver, CO.  
“Vertex disjoint paths covers of rectangular grids, tori, and hypertori.”
- Jan 2018 Joint Mathematics Meetings (JMM), San Diego, CA.  
“Several variations of vertex coloring games.”
- Aug 2017 Mathematics of Various Entertaining Subjects (MOVES) Conference, National Museum of Mathematics, New York, NY.  
“Graph coloring games, Col, and nimbbers.”
- Jun 2017 The Second Malta Conference in Graph Theory and Combinatorics, Qawra, Malta.  
“Games of vertex coloring.”

- Jun 2017 The 6<sup>th</sup> Biennial Canadian Discrete and Algorithmic Mathematics (CanaDAM) Conference, Ryerson University, Toronto, Canada.  
“Graph coloring games and ‘nimbers’.”
- Jan 2017 Joint Mathematics Meetings (JMM), Atlanta, GA.  
“When ‘Flow Free’ is played on a torus.”
- Jun 2016 SIAM Conference on Discrete Mathematics, Atlanta, GA.  
“Diagonal forms of incidence matrices arising from bipartite graphs and applications to zero-sum Ramsey problems.”
- Jan 2016 Joint Mathematics Meetings (JMM), Seattle, WA.  
“Diagonal forms and zero-sum (mod 2) bipartite Ramsey numbers.”
- Aug 2015 Mathematics of Various Entertaining Subjects (MOVES) Conference, National Museum of Mathematics, New York, NY.  
“Paired many-to-many disjoint path covers of cuboids.”
- Jan 2015 Joint Mathematics Meetings (JMM), San Antonio, TX.  
“Constructing matroids with fixed parameters.”
- Oct 2014 DIMACS Conference on Challenges of Identifying Integer Sequences, DIMACS Center, Rutgers University, New Brunswick, NJ.  
“Diagonal forms of some integer matrices.”
- Jun 2014 SIAM Conference on Discrete Mathematics, Minneapolis, MN.  
“On the number of bases in a matroid.”
- Jan 2013 Joint Mathematics Meetings (JMM), San Diego, CA.
- Jun 2012 SIAM Conference on Discrete Mathematics, Halifax, Canada.
- Sep 2011 European Conference on Combinatorics, Graph Theory and Applications, Budapest, Hungary.

### **Scholarly Presentations at Regional Conferences**

- Apr 2024 Spring Meeting of the Eastern Pennsylvania and Delaware (EPaDel) Section of the Mathematical Association of America (MAA), Albright College, Reading, PA.  
“Pebbling games with two players.”
- Apr 2023 Spring Meeting of the Eastern Pennsylvania and Delaware (EPaDel) Section of the Mathematical Association of America (MAA), Penn State Brandywine, Media, PA.  
“ $k$ -fold super totient numbers.”

- Jan 2022 Series on Exploring Combinatorics And Number Theory (SECANT), Cedar Crest College, Online.  
“Sums of distinct polynomial residues.”
- Jan 2021 Series on Exploring Combinatorics And Number Theory (SECANT), Cedar Crest College, Online.  
“On the properties of Fibotomic polynomials, II.”
- Nov 2020 Fall Meeting of the Eastern Pennsylvania and Delaware (EPaDel) Section of the Mathematical Association of America (MAA), Online.  
“Two new notions on graph labeling.”
- Mar 2020 Mid-Atlantic Seminar On Numbers (MASON) IV, Gettysburg College, Gettysburg, PA.  
“Integer partitions with equal products.”
- Nov 2019 Fall Meeting of the Eastern Pennsylvania and Delaware (EPaDel) Section of the Mathematical Association of America (MAA), DeSales University, Center Valley, PA.  
“A bijective proof for the probability in a random walk game.”
- Mar 2019 Spring Meeting of the Eastern Pennsylvania and Delaware (EPaDel) Section of the Mathematical Association of America (MAA), King’s College, Wilkes-Barre, PA.  
“Connected permutation graphs with maximum domination number.”
- Nov 2018 Series on Exploring Combinatorics And Number Theory (SECANT), Cedar Crest College, Allentown, PA.  
“A two-person random walk game.”
- Nov 2018 Fall Meeting of the Eastern Pennsylvania and Delaware (EPaDel) Section of the Mathematical Association of America (MAA), West Chester University of Pennsylvania, West Chester, PA.  
“On an unconventional graph coloring problem.”
- Oct 2018 Pennsylvania State System of Higher Education Mathematics Association (PASSHE-MA) Conference, East Stroudsburg University of Pennsylvania, East Stroudsburg, PA.  
“An integer sequence derived from a probabilistic game.”
- Sep 2018 Fall Eastern Sectional Meeting of the American Mathematical Society (AMS), University of Delaware, Newark, DE.  
“The edge-distinguishing chromatic number of spider graphs with three legs or bounded leg lengths.”

- Mar 2017 Pennsylvania State System of Higher Education Mathematics Association (PASSHE-MA) Conference, Indiana University of Pennsylvania, Indiana, PA.  
“A further exploration related to the Game of Col.”
- Nov 2016 Jointly-Organized Fall Meeting of the Eastern Pennsylvania and Delaware (EPaDel) and New Jersey (NJ) Sections of the Mathematical Association of America (MAA), Villanova University, Villanova, PA.  
“A two-person graph coloring game.”
- Nov 2015 Fall Meeting of the Eastern Pennsylvania and Delaware (EPaDel) Section of the Mathematical Association of America (MAA), Delaware Valley University, Doylestown, PA.  
“Playing ‘Flow Free’ on different boards.”
- Apr 2015 Pennsylvania State System of Higher Education Mathematics Association (PASSHE-MA) Conference, Kutztown University of Pennsylvania, Kutztown, PA.  
“Ramsey theory and some variations.”
- Mar 2015 Spring Meeting of the Eastern Pennsylvania and Delaware (EPaDel) Section of the Mathematical Association of America (MAA), Franklin and Marshall College, Lancaster, PA.  
“Existence of matroids with specific size, rank, and number of bases.”
- Apr 2014 Pennsylvania State System of Higher Education Mathematics Association (PASSHE-MA) Conference, Lock Haven University of Pennsylvania, Lock Haven, PA.  
“Building matroids with special constraints.”
- Feb 2013 Combinatorics Seminar, UCSD, San Diego, CA.
- Jul 2012 Toronto Set Theory Seminar, Fields Institute, Toronto, Canada.
- Mar 2012 WilsonFest – a Conference in honor of Rick Wilson, Caltech, Pasadena, CA.

### **Internal Scholarly Presentations**

- Apr 2019 Math Club and the Plenary Talk at the Sixth Annual Larry R. Mugridge Symposium on Undergraduate Mathematics Research.  
“What is so special about a comb?”
- Sep 2018 Discrete Mathematics Seminar.  
“A disguised random walk problem.”
- Sep 2014 Discrete Mathematics Seminar.  
“From Flow Free to disjoint path covers.”



- Apr 2014      Mathematics Colloquium.  
                  "Catalan numbers."
- Nov 2013      Discrete Mathematics Seminar.  
                  "A problem on matroid theory by Dominic Welsh."
- Oct 2013      Discrete Mathematics Seminar.  
                  "Some interesting problems in combinatorics."
- Apr 2013      Mathematics Colloquium.  
                  "Zero-sum Ramsey theory."
- May 2011      Combinatorics Seminar, Caltech, Pasadena, CA.

**Workshops**

External

- Jul-Aug 2024      Research Experiences for Undergraduate Faculty (REUF), California Institute of Technology, Pasadena, CA, organized by the American Institute of Mathematics (AIMS).
- Nov 2023              The Inclusive STEM Teaching Project, online.
- 2014 – 2015            Project NExT (New Experiences in Teaching), a program of the Eastern Pennsylvania and Delaware Section of the Mathematical Association of America.
- Jun 2014              Inquiry-Based Learning Workshop, Kenyon College, Gambier, OH, organized by the Academy of Inquiry Based Learning.

Internal

- Mar 2023              The First Year Experience Conference.
- Jan 2021              The Winter Assessment Day.
- Sep 2020              The Autumn Assessment Day.
- May 2020              Teaching Online Certification Course (TOCC).
- Jan 2020              The Second Annual Assessment Day.
- Jan 2019              The First Annual Assessment Day.

Sep 2018 – May 2019	Faculty Leadership Seminar on Higher Education.
May 2018	First Year Seminar Workshop.
Jan 2017	Appreciative Advising Workshop.
May 2016, Jan 2014	Grant Writing Workshops.
Oct 2014, Oct 2013	College of Liberal Arts and Sciences Faculty Advising Workshops.
Jan 2014 – Apr 2014	DO-IT <i>Prof</i> Online Course on Accommodating Students with Disabilities (12-week online course in Spring 2014).

## SERVICE

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### Mathematics Team

Aug 2013 – Present      **Founder and Coach** of the Mathematics Team at Kutztown University of Pennsylvania.  
- Have regular meetings every week (3 to 5 hours per week).  
- Develop training materials.

#### Selected Competition results

##### Lehigh Valley Association of Independent Colleges (LVAIC) Mathematics Competition

Nov 2022      Christina Hoff, Philip Thomas, and Geoffrey Kleinberg (Moravian) ranked 2nd out of 9 teams.  
Nov 2018      Grant Fickes and Jacob McCann ranked 3rd out of 14 teams.  
Nov 2017      Brooke Eshbach, Grant Fickes, and Jacob McCann ranked 4th out of 21 teams.  
Nov 2016      Nathaniel Benjamin, David Foley, and Jacob McCann won the **Champion**.

##### The William Lowell Putnam Mathematics Competition

Dec 2019      Isaac Reiter placed at the 68th percentile.  
Dec 2018      Kutztown University placed at the 78th percentile.  
Jacob McCann placed at the 85th percentile.  
Dec 2017      Kutztown University placed at the 66th percentile.  
Jacob McCann placed at the 76th percentile.  
Dec 2016      Nathaniel Benjamin, David Foley, and Jacob McCann placed at the 68th percentile.  
Jacob Kramer placed at the 64th percentile.  
Dec 2015      Kevin Ruppert placed at the 78th percentile.

##### Virginia Tech Regional Mathematics Contest (VTRMC)

Oct 2018      Jacob McCann placed at the 83rd percentile.  
Oct 2015      Guozhi Zhang placed at the 74th percentile.  
Oct 2014      Kevin Ruppert placed at the 75th percentile.

### Development of New Courses

Aug 2021      FYS 100-3710 (Mathematical Puzzles and Infinity).  
Aug 2018      FYS 100-2710 (To Infinity and Beyond).  
Aug 2013 – May 2014      MAT 123 (Discrete Mathematics).  
MAT 300 (Problem Solving in Mathematics).

## Conferences Organized

Oct 5, 2019                      The Eastern Pennsylvania and Delaware (EPaDel) Section Careers in Mathematics Conference.  
   **Co-Organizer** (with Drs. Brian Kronenthal and Eric Landquist), preparation work from Apr to Oct 2019.

## Service at University Level

### Committees

Sep 2023 – Present              Faculty Representative on the KUSSI Board.

Oct 2015 – Present              President’s Faculty Advisory Committee.

Jul 2021 – May 2022            Joint Task Force on Shared Governance.

Jan 2020 – May 2022            **Chair** of the Committee on Committees.

Sep 2019 – May 2022            Strategic Planning and Resources Committee.

Feb 2019 – May 2022            Enrollment Management Committee  
(**Co-chair** Sep 2019 – Aug 2020).

Aug 2016 – May 2022            University Senate – At-Large Faculty Representative  
(**Vice President** Jan 2020 – May 2022)

Jan 2019 – May 2021            Undergraduate Research and Creativity Faculty Advisory Board.

Sep 2019 – Dec 2020            Academic Standards and Policies Committee.

Aug 2017 – May 2020            University Conduct Board.

Aug 2016 – May 2019            Financial Aid Committee.

Aug 2015 – May 2019            Institutional Climate Committee.

Oct 2015 – May 2018            International Advisory Council.

Jan 2015 – Apr 2016            University Senate Ad Hoc Task Force on Faculty and Staff Retention.

### Non-Committees

Apr 2024                          Moderator at the KU Inspires.

Mar 2024, Oct 2019, Apr 2019, Oct 2018, Oct 2017, Apr 2017, Mar 2017, Oct 2015	Faculty Volunteer for the KU Association of Middle Level Education 7 <sup>th</sup> and 8 <sup>th</sup> Grade Visit Events.
Mar, Apr 2022	Guest Lecture at the Junior Preview Day.
Jul 2021, Jul 2019	Guest Lecture at the Upward Bound program.
Feb 2021	Speaker at the Center for the Enhancement of Teaching Panel Discussion “Undergraduate research and creativity at KU: Opportunities and success stories.”
Feb 2020 – Apr 2020 Feb 2019 – Apr 2019 Feb 2017 – Apr 2017	Department Representative at the Multicultural Overnight Recruitment Experience (MORE) Program. Three presentations to perspective underprivileged students to introduce about Kutztown University and the Department of Mathematics.
Apr 2019	Speaker at the Faculty Speakers’ Series of the Undergraduate Research and Creativity Month. “The snowball effect of undergraduate research.”
Apr 2018, Nov 2016, Oct 2015, Apr 2014	Participated in the Willingness-to-Serve appointment process.
Feb 2017, Mar 2016 Apr 2015	Faculty Volunteer in “The Walking in the Shoes Of” (W.I.T.S.O) Program, organized by the Frederick Douglass Institute.
Dec 2016	Usher at the Commencement.
Aug 2016	Move In Volunteer.
Jun 2016	Participated in the discussions with Woodrow Wilson Foundation Representatives. Faculty representative to show the interest of Kutztown University in the potential collaboration with the Woodrow Wilson PA STEM Fellowship Program.
Dec 2015	General Education Assessment.

## **Service at College Level**

### Committee

Jan 2016 – Dec 2020	College of Liberal Arts and Sciences Assessment Committee.
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## Non-Committees

Oct 2022, Apr 2018,  
Oct 2017, Oct 2016,  
Apr 2016, Oct 2015,  
Apr 2015, Apr 2014

Science, Technology, and Math Open House organized by the College of Liberal Arts and Sciences.

## **Service at Department Level**

### Committees

Aug 2018 – Present

Assessment Committee.

Aug 2017 – Present

Student Affairs Committee.

Aug 2016 – Present

Program Review Committee.

Aug 2015 – Present

**Chair** of the Outreach Committee.

- Visited Fleetwood High School on Dec 12, 2022 to give a talk titled “A fun brainteaser and more!” to the Math Club.

- Visited Reading High School virtually once per two weeks for mathematics enrichment from Sep 2021 to present.

- Visited Reading High School virtually twice a week for mathematics enrichment from Dec 2020 to Jun 2021.

- Visited Reading High School **every week** for mathematics enrichment from Sep 2019 to Mar 2020.

- Developed the Kutztown Appreciation of Mathematics Program (KAMP) for grade school students.

- Visited Fleetwood Area High School for classroom demonstration.

Aug 2015 – Present

Promotion, Evaluation, and Tenure (PET) Committee  
(**Co-chair** Aug 2019 – Aug 2020, Aug 2021 – Present).

Aug 2014 – Present

Recruitment Committee.

Aug 2016 – May 2018

General Education Committee.

Aug 2016 – May 2017

Tenure-track Search Committee.

Aug 2015 – May 2016

**Co-Chair** of the Communications Committee.

General Education Assessment Committee.

Aug 2014 – May 2016

Placement Committee.

Retention Committee.

Aug 2013 – May 2016	Math Subgroup.
Aug 2014 – May 2015	<b>Chair</b> of the Colloquium Organizing Committee. Contests Committee. Sequencing, Offerings, and Program Review Committee.
Aug 2013 – May 2015	Master’s Program Committee.
<u>Non-Committees</u>	
Feb 2023, Nov 2022 Nov 2019	Volunteer at the American Mathematics Competition (AMC) and the American Invitational Mathematics Examination (AIME).
Aug 2021	Co-Organizer of a Virtual Summer Math Enrichment Camp.
Mar 2019, Mar 2018, Mar 2017	Supporting Manager of the Math Kangaroo Competition.
Aug 2018 – Oct 2018	Organizer of a Guest Lecture by external speaker Mr. Benjamin Orlin, on the title “The Unlikely Friendship of Math and Science.”
Feb 2017 – Jan 2018	Department Representative in the Library Books Weeding Project.
Aug 2015 – May 2016	Developed Mathematics Game Time for undergraduates with Dr. Brian Kronenthal, Dr. Eric Landquist, and Dr. Amy Lu.
Aug 2014 – May 2016	Co-Organizer (with Dr. Brian Kronenthal) of the Problem of the Week Competition.
Feb 2016 – May 2016, Feb 2014 – May 2014	Co-Organizer (with Dr. Padraig McLoughlin) of the First and Third Annual Larry R. Mugridge Symposium on Undergraduate Mathematics Research.

### **Student Organization**

Sep 2023 – Present	Faculty Advisor of the Chess Club.
Nov 2022 – Present	Faculty Advisor of the Ping Pong Club.
Aug 2014 – Present	Faculty Advisor of the Math Club.

## **Service in External Professional Organizations**

Jan 2019	Focus Group of the American Mathematical Society (AMS) Committee on Meetings and Conferences.
Aug 2016 – Dec 2016	Faculty Liaison for the Berks County Interscholastic Mathematics Championship.
Oct 2014 – Present	Treasurer of the Pennsylvania State System of Higher Education – Mathematics Association (PASSHE-MA).
Jun 2014 – Present	Reviewer for Mathematical Reviews.

## **Moderators at Conferences**

Jan 2020	Moderator at the Joint Mathematics Meetings, Denver, CO.
Aug 2019	Moderator at the Mathematics of Various Entertaining Subjects (MOVES) Conference, National Museum of Mathematics, New York, NY.
Jan 2019	Moderator at the Joint Mathematics Meetings, Baltimore, MD.
Jun 2016	Session Chair at the SIAM Conference on Discrete Mathematics, Atlanta, GA.
Jan 2016	Moderator at the Joint Mathematics Meetings, Seattle, WA.
Aug 2015	Moderator at the Mathematics of Various Entertaining Subjects (MOVES) Conference, New York, NY.
Jan 2015	Moderator at the Joint Mathematics Meetings, San Antonio, TX.

## **Service at Community Level**

Apr 2021	Grader of the United States of America Mathematical Olympiad (USAMO).
Feb 2020, Feb 2019, Feb 2017, Feb 2016, Feb 2015, Feb 2014	Judge at the 86 <sup>th</sup> , 85 <sup>th</sup> , 83 <sup>rd</sup> , 82 <sup>nd</sup> , 81 <sup>st</sup> and 80 <sup>th</sup> Pennsylvania Junior Academy of Science Region #3 Competition.
Mar 2019, Mar 2018, Mar 2016, Mar 2014	Judge at the CE Pennsylvania Science Olympiad Tournament.



Oct 2018, Oct 2016, Nov 2014	Referee for the Hang Lung Mathematics Award (HLMA) Competition in Hong Kong.
Mar 2017	Supervisor of an event at the CE Pennsylvania Science Olympiad Tournament.
Sep 2008 – Jun 2013	Volunteer at the Rise Program at California Institute of Technology (a low-cost afterschool math and science-focused tutoring program).

## TEACHING EXPERIENCE

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### Kutztown University of Pennsylvania

F24, F23, F22, F21	FYS 100-3710 (First Year Seminar – Mathematical Puzzles and Infinity).
F18	FYS 100-2710 (First Year Seminar – To Infinity and Beyond!).
S20, S19	MAT 17 (Introduction to Mathematics).
F24	MAT 105 (College Algebra).
S23, S22, F20, F19, F18, F17, F16, F15, F14, F13	MAT 106 (Trigonometry).
F24, S24, F23, S23, F22, S22, F21, F20, F19, F18, F17, F16, F15, F14, F13	MAT 115 (Precalculus Mathematics).
S20, S19, S18, S17, S16, S15, S14	MAT 121 (Mathematics for Business and Information Science).
S16, S15	MAT 123 (Discrete Mathematics).
F22	MAT 140 (Applied Statistical Methods).
F21	MAT 224 (Foundations of Higher Mathematics).
F24, S24, F23, S23, F22, F21, S20, F19, S19, F18, S18, F17, S17, F16, S16, F15, S15, F14, S14, F13	MAT 260 (Linear Algebra).
S23	MAT 300 (Problem Solving in Mathematics) Individualized Instruction with Mr. Kurt Abell, Ms. Hailey Goodwin, Ms. Haley Lewis, and Ms. Dorothea Vardaxis
F16	Individualized Instruction with Mr. William Harwi, Mr. Jonathan Yeakel, and Ms. Guozhi Zhang.
S19 S18	MAT 321 (Combinatorics) Individualized Instruction with Mr. Grant Fickes and Mr. Charles Saternos.
S20	MAT 330 (Theory of Numbers) Individualized Instruction with Mr. Zachary Herring.
S18	MAT 352 (Real Analysis II).
S18	MAT 431 (Topology I) Individualized Instruction with Ms. Shannon Golden, Mr. Diego Manzano-Ruiz, and Mr. Jacob McCann.
S17 S16	Individualized Instruction with Mr. Jacob Kramer and Ms. Jiao Xu. Individualized Instruction with Mr. Jose Jimenez.

S22	MAT 460 (Linear Algebra II)
F18	Individualized Instruction with Ms. Shannon Carey, Ms. Alexandria Plank, and Ms. Mikayla Stengel.
F16	Individualized Instruction with Mr. Nathaniel Benjamin.
	Independent Study
S23	MAT 372 (Problem Solving in Mathematics) with Mr. Nick Brown and Mr. Philip Thomas
S19	MAT 372 (Quantum Computing and Quantum Information) with Mr. Jacob McCann.
S19	MAT 398 (Honors Supplementary Research) with Mr. Grant Fickes.
F18	MAT 372 (Linear Algebra II) with Mr. Alexander Miller.
F18	MAT 390 (Algebraic Topology) with Mr. Jacob McCann.
F18	MAT 395 (Honors Independent Study / Thesis) with Mr. Grant Fickes.
F17	MAT 372 (Algebraic Coding Theory) with Mr. Charles Saternos.
S17	MAT 372 (Problem Solving II) with Mr. Jonathan Yeakel.
S17	MAT 490 (Topology) with Mr. Nathaniel Benjamin.
F15	MAT 372 (Putnam Problems) with Ms. Jiao Xu.

### Johns Hopkins Center for Talented Youth

Summer 2017                      Paradoxes and Infinities.

### Chinese University of Hong Kong

Summer 2015                      MATH 2010 (Advanced Calculus I).

### California Institute of Technology

Instructor:

W11                                  Ma 1d (Calculus – Sequences and Series).

F12                                  Ma 17 (How to Solve It).

Lead Teaching Assistant:

W12                                  Ma 1b (Linear Algebra – Analytical Track).

S13                                  Ma 1c (Calculus of Several Variables – Analytical Track).

Teaching Assistant:

F11, F10, F08                      Ma 1a (Calculus).

W09                                  Ma 1b (Linear Algebra – Practical Track).

F09                                  Ma 6a (Introduction to Discrete Mathematics – Combinatorics).

W13, W10                              Ma 6b (Introduction to Discrete Mathematics – Graph Theory).

S12                                  Ma 6c (Introduction to Discrete Mathematics – Logic).

F11, F09                                Ma 121a (Combinatorial Analysis I).

W10                                  Ma 121b (Combinatorial Analysis II).