

# College of Science and Technology

# Mathematics

## Fall 2025 Newsletter

Millersville University, Department of Mathematics – [www.millersville.edu/math](http://www.millersville.edu/math)

## Faculty and Staff Updates in the Math Department

### 2024 Department of Mathematics Retirement Dinner



Millersville University Department of Mathematics - Retirement Dinner 2024

#### **Dr. James Fenwick Retired**

Dr. James Fenwick retired from MU after 34 years. He shares his reflection on this mile marker in his life.

*“Fall semester 2024 is the first time I haven't attended college classes since Fall 1976 when I was a freshman at the University of Montana. I went to college and never left, finding the perfect job for me. Most proud of the many great students that learned statistics from me. I had the privilege of working in Wickersham with colleagues dedicated to providing the best possible undergraduate mathematics experience. Retirement is great doing what I want almost every day. Playing a lot of pickleball and working on projects at our place in York County. We still play wiffleball on Sunday afternoons in the summer and barn hockey in the winter. I got a season pass to Mad River Glen in VT, this is the first time I don't need to wait for spring break to go skiing. Wendy and I are active in our church and try to take one big trip every year. “*

## New Adjunct Professors



### **Rob Crossgrove**

I am a Millersville graduate with a Master's in Mathematics Education and a Master's in Applied Statistics from Penn State. For the last 25 years I have been teaching at Garden Spot High School. I have a wife, two adult children and enjoy spending my free time playing volleyball.

### **Roman Ponomarenko**

Roman completed both a Bachelor's in Mathematics and a Master's in Actuarial Mathematics in his hometown of Donetsk, at Donetsk National University. He is fascinated by languages, philosophy, and the sciences, particularly Data Science. He is currently pursuing his PhD in Data Science at Harrisburg University.

### **Alanna Thompson**

Alanna Thompson is a proud Millersville University alumna, graduating in 2016 with a Bachelor's in Education with a concentration in Mathematics and a minor in Computer Science. She earned her Master of Arts in Mathematics from Villanova University in 2022 and has 10 years of experience in education. Alanna is excited to return to her alma mater as an adjunct instructor and contribute to the same vibrant learning community that shaped her own academic journey.

### **Doug Tyson**

Doug Tyson has taught mathematics and statistics to high school and undergraduate students for more than 30 years. He is committed to increasing the visibility and quality of statistics education around the country. To that end, Doug teaches statistics at Central York High School and Millersville University, happily served on the NCTM/ASA Joint Committee on Curriculum in Statistics and Probability, worked as a Question Leader at the AP Statistics Reading, is a Professional Development/Workshop Consultant for the College Board, runs workshops and teacher training events in statistical education around the country, and is an active NCTM and ASA member.

In a perfect world, he would be able to teach statistics without talking. While he still hasn't achieved this goal, he's gotten closer to achieving it. Outside of work, Doug likes to spend time with his family, hunt, fish, read, eat corn dogs, and make snow with his homemade snow-making machine.

### Dr. Bob Buchanan's 2024-2025 Sabbatical

During the 2024-2025 academic year, Dr. Buchanan was on sabbatical completing the second edition of the partial differential equations textbook, *A First Course in Partial Differential Equations*. This project began more than a decade ago when Dr. Robert T. Smith suggested to Dr. Buchanan and Dr. Zhoude Shao that writing a textbook on PDEs would be beneficial to Millersville University students enrolled in MATH 467 and more generally for the undergraduate audience interested in PDEs.

Dr. Shao and Dr. Buchanan had sabbaticals in 2016 and 2017 and published the first edition of the textbook at the beginning of 2018. The textbook assumes only a background in ordinary differential equations and develops all the necessary PDE techniques, applications, and justifications in a single volume which could be covered in two semesters should students want a broad background in PDEs.

Dr. Shao retired in 2022, and Dr. Buchanan wished to expand the textbook with a second edition including new chapters on the Fourier transform and Green's functions. The second edition reorganized and more than doubled the number of homework exercises compared to the first edition. There is also a Students' Solution Manual, an Instructors' Solution Manual, presentation/lecture slides for all topics covered in the second edition, and Java source code for the numerical examples and numerical exercises of the book. The eBook version of the second edition also includes alternative text descriptions for all figures, graphs, and diagrams present in the book.

Dr. Shao generously took time out of retirement to proofread the latest chapters and offered many helpful suggestions improving the second edition. The textbook is now in the hands of the publisher's production team and physical copies should be available soon.

### Faculty Activities

#### Dr. Lindsay Dever

Dr. Dever published an article in the June 2024 edition of *Mathematische Annalen*, "Bias in the distribution of holonomy on compact hyperbolic 3-manifolds". *Mathematische Annalen* is a mathematics journal that has been publishing articles since 1868. The German research journal covers a wide spread of modern mathematical topics.

#### Dr. Kevin Robinson

Consultant, College Board - Educational Testing Service, May 31-June 7, 2024 - AP Statistics Reading

#### Dr. Cynthia Taylor

- 7/8/2024 - Presented a paper titled "Using children's literature to develop paramount tasks"; at the 15th International Congress on Mathematical Education (ICME) in Sydney, Australia

- 10/11/2023 - Published an article “Attending to what prospective teachers notice about students' intersecting identities” in *School Science and Mathematics*.
- 11/8/2023- Published an article “Interpreting prospective teachers' responses to inequities in a written vignette: A plan for action” in *School Science and Mathematics*.

*School Science and Mathematics* publishes articles for STEM educators of all grade levels while focusing on research concerning the concerns, issues, and lessons in the science and mathematics classrooms. In the fall of 2023, Dr. Taylor co-authored not one, but two articles in *School Science and Mathematics*. The first article, titled “Attending to what prospective teachers notice about students' intersecting identities,” was published in October and focuses on how prospective teachers’ implicit bias can affect the learning of students in marginalized groups.

#### **Dr. Janet White and Dr. Cynthia Taylor**

- 5/16/2024- Invited Keynote Speakers; Keynote Session: Past Presidents' Perspectives; Pennsylvania Association of Mathematics Teacher Educators; 2024 Annual PAMTE Symposium, Shippensburg University of PA; May 2024.

#### **Dr. Lindsay Dever and Dr. Michael Wismer**

Presented at the PASSHEA Mathematics Conference on February 22, 2025

Title: *Millersville's Co-Requisite College Algebra Journey*

Abstract: In 2021, Millersville piloted a co-requisite College Algebra course, where students who placed below College Algebra were given extra support to complete the course in one semester, rather than starting in a remedial course. Over the past four years, we have changed the structure of the course and implemented supports including a graduate assistant, success coaching, and the adaptive homework system ALEKS. We will discuss lessons learned as well as challenges that we anticipate moving forward.

#### **Dr. James Fenwick**

Dr. James Fenwick was granted the honorary title of Professor of Mathematics Emeritus.

#### **Dr. Delray Schultz**

Dr. Delray Schultz was granted the honorary title of Professor of Mathematics Emeritus.

#### **Dr. Zhoude Shao**

Dr. Zhoude Shao was granted the honorary title of Professor of Mathematics Emeritus.

### **2024 Millersville Mathematics Fall Convocation**

The following alumni shared their expertise and career experience with our majors.

- Emily Dunn (BS Spring 2021) Digital Product Analyst - Affiliated Distributors (AD)
- Thomas Fishel (BS Spring 2019) Data and Analytics Team Leader - Clark National Accounts
- Rebecca Greway (BS Spring 2012) Manager Biostatistics - Pharmaceutical Product Development Inc. (PPD)

- Kyle Hissner (BSE Spring 2018 and current Post Bacc Cert) Mathematics Teacher - Red Land High School
- Madison Martin (BS Spring 2020) Actuary - Independence Blue Cross
- Isaiah Miller (BSE 2011 and MEd 2017) Mathematics Teacher - Eastern York High School
- Maria Nguyen (BSE Spring 2024) Mathematics Teacher - Smith Middle School

### Honors and Awards Banquet Spring 2025

Alum Mark Meluskey spoke at our annual Honors and Awards Banquet in Spring 2025. Mark is a Consultant for the National Association Against iGaming (NAAIG), a problem gaming advocate, and +EV bettor. He graduated from Millersville University with a degree in mathematics and concentrations in Statistics and Actuarial Science. Earlier in his career Mark worked as a statistician for the PA Gaming Control Board's Gaming Laboratory Operations and later earned a Master of Data Science degree at Slippery Rock University. Recently, Mark helped to build a US sportsbook startup in Denver Colorado, and he has firsthand knowledge of everything one might find in a casino. His experiences have led him to the problem with gambling education space, hoping to save at least a few people from the many pitfalls of this dangerous game.

### Alumni Accomplishments

**Dr. Ximena Catepillán, Millersville University Professor Emerita,  
Receives the Mathematical Association of America  
Yueh-Gin Gung and Dr. Charles Y. Hu Distinguished Service Award**



The Mathematical Association of America (MAA) announced Dr. Ximena Catepillán as the 2025 recipient of the most prestigious award for distinguished service to the field of mathematics. This award honors individuals who have made extraordinary contributions to mathematics and significantly and positively influenced the field of mathematical education on a national scale.

Dr. Catepillán is currently a Professor Emerita of Mathematics at Millersville University. During her earlier years as a professor, Dr. Catepillán demonstrated a deep commitment to leadership, cultural inclusivity, and educational access within the mathematical community. In the Eastern Pennsylvania and Delaware (EPaDel) section of the MAA, Dr.



Catepillán has held various leadership positions, such as Vice President, Chair, and Member-at-Large. Dr. Catepillán's contributions to the Careers in Mathematics Conference helped transform the event, with one colleague stating, "The Careers in Math Conference may have ceased happening if she didn't take the helm."

Dr. Catepillán chairs the MAA's Special Interest Group on the History of Mathematics and pioneered the translation of *Convergence* articles into Spanish, significantly broadening access to mathematical content. As noted by a recommender, "she has personally evolved into an informal emissary of mathematics between the English and Spanish speaking worlds."

Through her experience in ethnomathematics, she developed several courses that expose students to mathematical practices from Indigenous cultures. In addition, Dr. Catepillán has hosted several workshops and mentored students from underrepresented backgrounds, inspiring individuals locally and internationally.

This prestigious award recognizes Dr. Catepillán's enduring commitment to fostering inclusive, culturally informed, and meaningful mathematical experiences for students, educators, and communities. Her work continues to shape the mathematical landscape and serves as an inspiration to others across the field.

## Department of Mathematics Graduates

### 2023 – 2024

**Undergraduates – Fall 2023:** Patrick Bogert, Alexis Cordova, Joseph M. DePaulo, Madison L. Dunn, Donita Rose B. Garcia, Collin J. Hood

**Undergraduates – Spring 2024:** Theodora A. Bevan-Xenelis, Kira R. Denlinger, Brendan J. Donough, Serena J. Eberly, Micah K. Emig, Jeromy W. Gregory-D'Amico, Jonathan E. Hart, Sam G. Johnson, Simon Joseph, Alexander F. Kee, Kevin J. Knott, Colin R. Myers, Maria T. Nguyen, Madelyn R. Nunemaker, Noe A. Oberholtzer Hess, Eric T. Then

### 2024 – 2025

**Undergraduates – Fall 2024:** Emily M. Larry, Jake R. Altimore

**Undergraduates – Spring 2025:** Zachary C. Barnhart, Grace M. Catalanello, Ariana Cuba Rivera, Jessica R. Dieckman, Aidan P. Geiger, Rachel E. Grubb, Elizabeth I. Haney, Aaryanna Hughes, Samuel G. Johnson, Michael S. Kurten, Zephaniah Lonie, Jalise S. Lopez, Samantha K. Matthews, Cole A. McCulley, Malia G. Nauman, Claire F. Pisanick, Emily M. Riley, Allison M. Scharff, Kaleb M. Schmerge, Lucas R. Schwartz, Madison M. Stebila, Hannah N. Werner

# Student Research Experiences and Competition

## Research Experiences for Undergraduates (REUs) and Internships

### **Bhagi Dhakal - REU – Brigham Young University, Utah – Summer 2024**

This summer, I participated in a REU program at Brigham Young University (BYU), where I focused on applying machine learning techniques for spectrogram prediction. Specifically, the research goal was to create an ML model that could take a spectrogram image and expand the spectrogram image correctly. I worked with two models: DDPM and GAN-based models. The DDPM did not work as well as the GAN-based model. The GAN-based model ended up working well. Throughout the program, I wrote lots of code and fixed many bugs. Currently, I am still working with my mentor Dr. Traci Neilsen to write a research paper for publication.

Outside of research, the program gave us plenty of chances to explore Utah. As part of the program, we had an overnight group trip to Bryce Canyon National Park where we stargazed and saw the red rocks of Utah. We also went on multiple hikes throughout the program including Mount Timpanogos. We also went to the salt flats near Salt Lake City. The REU provided a lot of fun outdoor activities that balanced well with the research.

Overall, it was an amazing research experience where I learned a lot and got to experience many new things. The students at BYU are very nice and helpful. I also made new friends with BYU students and other REU students. I also gained experience with real-world problems and got a glimpse of what research looks like.



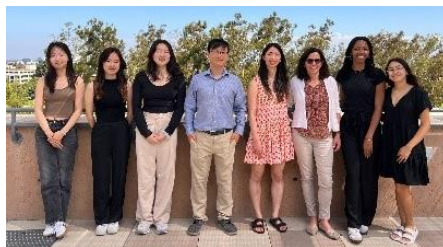
### **Jalise Lopez - REU - University of California, Irvine – Summer 2024**

This summer I was a part of the 6-week Irvine Summer Institute in Biostatistics and Undergraduate Data Science (ISI-BUDS) at the University of California, Irvine with 24 other students from around the country. We were given free housing and a meal plan during our stay on UCI's campus. Our program was split into three weeks of lectures and labs while the last three weeks were focused on our projects and preparing presentations. During the first three weeks, we had 3-hour lectures every day where we focused on probability, regression techniques, data wrangling, and data visualization. We also worked on labs that went along with our lectures which used the programming language R. Along with labs and lectures, the program provided sessions on career preparation that featured graduate

school advice, career and graduate school panels, and scientific writing and presentation workshops in preparation for our final weeks.

After three weeks of training at the beginning of the program, we were ready to put our skills to the test. We were introduced to 6 different projects and divided into groups based on our interests. I was put on to the project focused on hypertension & dementia in the oldest old with 4 other students and 3 mentors from the university. My group decided to work on exploring the missing values in our data and the causal relationship between hypertension and dementia. Our goal was to explore the data provided to us to answer our research question and present it at the end of the program to our peers and mentors.

Another part of the program was the excursions and bonding experiences we all had as a group. The excursions included an Angels game, a day at Laguna Beach, whale watching, kayaking, and a popular festival in Southern California called Pageant of the Masters. Not only did I learn a lot about statistics in a new light, but I also gained an unforgettable experience and a ton of new friends. Overall, I am grateful to have had this experience and would recommend it to any student interested in graduate school.



### **Emily Riley – REU Moravian University – Summer 2024**

The REU at Moravian University was so much more than I expected! The first week we had orientation and then started right into our research. Our first meeting consisted of lectures about the chosen topics; after that, it was just research-filled.

I was a part of two research groups over the summer, Zero Locus and Toggle. Each group had 3 mentors and 3 other participants. Zero Locus focused on linear algebra topics and worked with different graph classes to identify properties related to the Zero Locus and Skew Zero Forcing processes. Toggle was focused on Game Theory and a generalized version of the 'Lights Out' game that was a two-player impartial game. We studied this type of game on different graphs and if the resulting games were the 1<sup>st</sup> or 2<sup>nd</sup> player winning.

Week-to-week our schedule consisted of 12 hours of mandatory meetings. We had 4 hours with each of our respective research groups to talk about what we had been working on. We had 2 hours of workshops on Mondays where we gave presentations to the mentors and participants to update them on the work we had been doing and get input about other things we could research. And finally, we had 2 hours of seminars. We had a different speaker every week, some were research talks and some were industry talks. During the last week we had a special seminar which was a grad school panel, where they had



previous participants on Zoom and they answered questions about grad school and the application process.

On top of these mandatory meetings, we were encouraged to meet with our group members to work together and discuss the direction of our research. We also had a few events that were outside of our normal weekly routine. We went to Gettysburg College and gave presentations to the faculty and students about the research we had done, and we also hosted faculty and students from Lafayette College and took turns presenting to each other. In addition, we had the opportunity to host a Math Day for kids at a local camp!

Both of my groups plan to write and publish a paper and in my Toggle group, we have already submitted multiple sequences for publication on OEIS.org. We were encouraged to participate in upcoming mathematics conferences such as JMM and Nebraska Conference for Undergraduate Women in Mathematics. I presented my research at these conferences.



### **Abigail Murren – Internship at EHD Insurance – Summer 2025**

Over the summer, I had the amazing opportunity to intern at EHD Insurance as a part of their Employee Benefits Department. EHD Insurance is an insurance broker in Lancaster, working closely with both carriers and groups to maximize insurance benefits for Commercial, Personal, and Employee Benefit lines of coverage. Although I worked in the Employee Benefits Department of EHD, I was working closely with the Marketing team. My boss, Jeffrey Alexander, is the Director of Underwriting. I truly appreciated working with him because he not only works as a broker but was also a part of the carrier's world for many years before working for EHD. Also, my mentor, Matthew Roberto, who is a Millersville alum, taught me the ropes of Excel spreadsheets, equations, and macros. Both of which helped me with my project throughout the summer.

My main project was an analysis of all clients working with a company called VERIS. I was tasked with analyzing the 2025 renewals for those clients and seeing where the clients' money is distributed. I made an Excel Sheet with different options to optimize efficiency for EHD's Account Managers/Producers. By the time my internship was over, I had finished all the groups successfully; I am very proud of this accomplishment! My internship was full of learning, experiences, and trips to better my knowledge of insurance and the industry. One trip EHD took my fellow interns and me on was to the Council of Insurance Agents and Brokers in Washington, D.C. On this trip, we learned what insurance looks like at the federal level and how it corresponds to certain bills being passed that affect the insurance industry. We were also able to visit Capitol Hill and go on a Capitol Tour!

By the end of my internship, I received an offer from EHD to work as their Small Group Marketer starting summer 2026 after graduation! I am excited to return and see all I can accomplish at the start of my career!



### Student Research Presentations

**Malia Nauman presented at EPaDel in Spring 2024**

- *Analyzing Drug Concentration Dynamics in the Bloodstream Over Time Using Mathematical Models and Numerical Methods*

**Lucas Schwartz presented at EPaDel in Spring 2024**

- *Analyzing the Probability of a Shut-out in Racquetball*

**Emily Riley presented at two conferences in January 2025**

- Joint Math Meetings in Seattle, WA - *On the Properties of the Impartial Two-player Game Toggle*
- Nebraska Conference for Undergraduate Women in Mathematics - *Skew Zero Forcing Properties on Graphs*



**Kaden Hunter, Alexandra and Peyton Haroldson presented at EPaDel in Spring 2025**

- *Charged Particles in a Magnetic Field*



### **Made In Millersville 2024 and 2025**

#### Made in Millersville 2024

Kyle Duvall & Lucas Schwartz

Analyzing the Probability of a Shut-Out in Racquetball

Colin Myers, Madelyn Nunemaker and Noe Oberholtzer Hess

Unbounded Population Growth with Constant Immigration Using Numeric Methods

Sam Johnson, Zephaniah Lonie and Dennis Nguyen

Numerical Approaches for Estimating the Angle Related to Nose-In Failure in Vehicle Situations

Emily Larry and Malia Nauman

Concentration Consideration: Drug Concentration in the Bloodstream Over Time

Jalise Lopez and Kaleb Schmerge

Home Mortgage and Maximal Interest Rate

Aidan Geiger and Evan Rishell

Estimating Compound Interest Rates Using Numerical Methods to Accumulate \$1 Million with Varied Deposits

#### Made in Millersville 2025

Kaitlin Costanza

Videos for a Flipped Classroom and Supplemental Learning

Josiah Kerr, Gerald Banaszak, Jarret Miller

RCL Electronic Circuits

Kaden Hunter, Alexandra Ziegler and Peyton Haroldson

Charged Particle in a Uniform Magnetic Field

### **SIMIODE Modeling Challenge**

This year we had a team of three students enter a new international student mathematics competition offered by SIMIODE (Systemic Initiative for Modeling Investigations and Opportunities with Differential Equations). Dr. Brian Winkle, former mathematics professor at the US Military Academy in West Point, NY, founded the organization in 2013. The annual contest SCUDEM (SIMIODE Challenge Using Differential Equations Modeling) has students select one of three real world situations (chemistry/life sciences, humanities/social sciences or physics/engineering), build and defend a model and prepare a ten-minute video for the judges. The Millersville University team consisted of Zachary Barnhart, Emily Riley, and Lucas Schwartz, along with their coach Dr. Baoling Ma. The students achieved a meritorious award for their hard work. The SCUDEM challenge is supported by MathWorks.

# Encouraging Future Mathematicians

## MATHCOUNTS for Middle School Students

Millersville University hosted the 41<sup>st</sup> Annual MATHCOUNTS Regional Competition for middle school students February 2025 and will host it again in February 2026. Over 150 students from 20 school districts participated in the contest. This contest is a national program for students that is sponsored by corporations such as RTX, DoDSTEM, NSPE (National Society of Professional Engineers), NCTM (National Council of Teachers of Mathematics), CNA, Northrop Grumman Foundations, 3M, Texas Instruments, AoPS (Art of Problem Solving) and others. MATHCOUNTS has four levels of competition – school, chapter, state, and national. Each level has four rounds of competition – sprint, target, team, and countdown.

## High School Math Competition

The Millersville University Annual High School Mathematics Contest is a spring tradition that has been hosted on the MU campus for 50 years. The contest is divided into two parts. The first is a short answer mathematics contest consisting of 30-35 problems completed by individual students in which the top scorers receive recognition. The second portion of the test is team-based. Teams of 2-4 students from the same school will work together to complete five problems. Again, the top scoring teams receive recognition. The problems are chosen from a broad range of mathematical topics at the precalculus level including algebra, trigonometry, number theory, probability and statistics, combinatorics, geometry, mathematical modeling, graph theory, games, logic, applications of mathematics, and others. This past year we had 222 students competing on 56 teams from 33 different schools. Next year's contest will be held on February 25, 2026.

# Student Organization News

## MEMU (Mathematics Educators of Millersville University)



MEMU (Math Educators of Millersville University) is an organization of aspiring and current teachers. MEMU facilitated their 12th Math Fair at Wickersham Elementary School on October 24, 2024. There was a great turnout of nearly 60 elementary school students in the newly renovated school. About 25 MU students (elementary education, middle level education, and mathematics education majors) were encouraged to create and then play math-based games along with students. This once-a-semester event has been held since Spring 2015 to encourage grade K to 6 students to engage with mathematics.

Along with planning and facilitating Math Fairs, MEMU holds bi-weekly meetings that are used to engage with other aspiring, and even current, teachers. Meeting activities include welcoming back Millersville alumni who are current teachers. Millersville University graduates who have shared their teaching experience with MEMU members in the past year include William Eichorst '22, Micah Francis '22, Olivia Hess '22, Katherine Riley '22, and Hannah (Miller) Snyder '22. MEMU members have also had the opportunity to experiment with TI-84 robots to model certain mathematical concepts and much more!

MEMU hopes to continue being a community for all teachers, not just in mathematics, to build professional teaching skills, and to grow their love for education. Dr. Erin Moss and Dr. Cynthia Taylor are the faculty advisors for the MEMU student organization.

### **Math Club**

The goal of Math Club is to create a sense of community between all the math majors and math-oriented people at Millersville University. We do this through socializing, playing different kinds of math related games, helping at local STEM community events, and having alumni guest speakers. Meetings are typically every other week throughout the semester.

Last year, on April 11th, Math Club hosted its 3rd inaugural "Wicke at Night." From 8 PM until 2 AM, members of Math Club stayed inside Wickersham Hall under the supervision of Dr. White and Dr. Robinson. Throughout the night, we decorated a banner, completed a relay race, played Minute to Win It games, had lots of snacks and hoagies, participated in a ping pong contest, and sang karaoke. It was a fun night filled with lots of laughter, great food, some surprisingly good singing, a little bit of math, and wonderful memories! We are planning to hold "Wicke at Night IV" this upcoming spring in a joint effort with MEMU!

In what has become an annual tradition, Math Club celebrated Pi Day once again last year. We had a pie eating contest, a pi memorization contest, and we were able to "pie" our math club officers and math faculty! This spring, we will once again hold a Pi Day celebration sometime around March 14th.

This past year, Math Club went on many fun trips. In the first semester, they went to Cherry Crest farms and took on the massive corn maze. They enjoyed other aspects of the farm such as the petting zoo and all the local fall flavored treats such as the famous apple cider donuts and lemonade. The Math Club plans to go to Cherry Crest again on Friday, October 17th! In the spring, the Math Club attended the Laser Dome for some arcade fun and laser tag. The red team succeeded in beating the blue team every round of the game! There were



lots of fun lasting memories created at these events, and Math Club is hoping to create more during all the fun activities planned for the upcoming school year!



### Treasure Found in Wickersham Hall

Last spring an antique treasure was discovered in the Department of Mathematics break room of all places. This unusual looking instrument had a date of 1893 engraved on it. Having not been around in the late 1890's, we were unfamiliar with what we had found. After much excitement and some research, we learned this Colby's Topographical Protractor was designed and engineered by Mr. B. H. Colby and manufactured by Mahn & Co. in St. Louis, Missouri in 1893. While this instrument can be used for ordinary protracting, it was especially designed for plotting angles and distances by polar co-ordinates. The protractor was made of German silver and offered in sizes ranging from nine to twelve inches. Our twelve-inch Colby's Topographical Protractor is proudly displayed on the wall in the Department of Mathematics office in Wickersham Hall.



Colby's Topographical Protractor, St. Louis, MO 1893

### Did we miss you? Has something new happened?

Send updates to [Linda.Mellinger@millersville.edu](mailto:Linda.Mellinger@millersville.edu)

Find us on Facebook: [Millersville University Mathematics Dept Alumni](#)

### Engage With Current Math Majors

Our students would greatly benefit from your experience and encouragement. If you would be willing to share about your current position (or previous position if you are retired) through a future newsletter, "Alumni Spotlight" on our bulletin board or as a featured speaker at a club meeting, conference or other event, please click on this link and provide us with a bit of information.

[https://millersville.qualtrics.com/jfe/form/SV\\_0Vg7HZQlejcsRbU](https://millersville.qualtrics.com/jfe/form/SV_0Vg7HZQlejcsRbU)

Thank you for your continued interest and support of Millersville University

### Be part of the future of Millersville University's Mathematics Department!

Help us keep our programs strong by supporting our majors with a gift. Visit [www.millersville.edu](http://www.millersville.edu) and click on "Giving to Millersville", or send your gift to: Development Office, Millersville University, P.O. Box 1002, Millersville, PA 17551. Gifts may be designated to the Mathematics Department Scholarship Funds.

### Upcoming Event Not to Miss If You Are in the Area!

*39<sup>th</sup> Annual Brossman Foundation and Ronald E. Frisbie Sr. Science Lectureship*  
**Thursday, November 6<sup>th</sup> at 6:30 PM in the Student Memorial Center Multipurpose Room**

### **Dr. Arthur Benjamin – Mathemagics!**

*Acclaimed educator and researcher and internationally recognized!*

**Free Public Presentation – Bring your family and friends.**



Millersville University

COLLEGE OF SCIENCE  
AND TECHNOLOGY

*Department of Mathematics*