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official student chapter newsletter of the EPaDel Section of the MAA • opportunities • events • highlights

STUDENT CHAPTER NEWSLETTER

Spring 2018 Issue

http://sections.maa.org/

2017 STUDENT PAPER PRIZE WINNER

Congratulations to Westley Mildenhall of Bryn Mawr College, winner of the 2017 EPaDel Student Paper Prize, for the paper "Chaotic Systems of Geodesics on Surfaces of Revolution." If interested in reading Westley's full paper or the papers of previous winners please go here.

<u>Westley's Abstract</u>: We work on the problem of creating a surface embedded in \mathbb{R}^3 that has a chaotic system of geodesics, meaning all geodesics must be strongly unstable. Our surface will have two concentric parts connected by tubes, so we create a tube by designing a profile curve for a surface of revolution. The tube is the "danger" zone of the surface where geodesics may fail to be strongly unstable. We study surfaces of revolution in general, looking at the torus as an example, to build an understanding of how to test whether a geodesic is strongly unstable, then look at seven specific geodesics on our tube.

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Announce-

Club Highlights ENTER A MATH PAPER IN THE 2018 STUDENT PAPER CONTEST If you are an undergraduate writing a mathematics paper this year, consider submitting it for a prize in our yearly Student Mathematical Papers Prize Competition. The deadline is June 15.

The winning author(s) will be recognized at the EPaDel Section's Fall 2018 Meeting and will receive a prize of \$200. Details on how to submit your paper can be found at the link below: <u>http://sections.maa.org/epadel/awards/studentpaper/.</u>

Student Competition at March Meeting

> Fall 2017 Meeting Pictures





The Fall 2017 Meeting at Shippensburg University

EPADEL SPRING 2018 MEETING AT TEMPLE UNIVERSITY

MARCH 24, 2018

See the official EPaDel website for all details



A STUDENT-PROFESSOR PAIR REUNITES AS EPADEL LEADERS

Prior to becoming a professor herself, Ellen Panofsky once sat in a classroom at Millersville University listening intently to the lectures of Professor Ximena Catepillan. Now the previous student-professor pair joins forces again as colleagues! As of January 2018, Ximena (below left) and Ellen (below right) reunited when they became EPaDel's new chair and vice-chair, respectively. Our section thanks them for their dedicated teamwork and service.



DID YOU KNOW?

Orange is the official color of EPaDel.

KING'S COLLEGE & KUTZTOWN UNIVERSITY SHARE SEATS, BLOOD, TEARS AND PUNS

Kutztown University professor, Dr. Eric Landquist (pictured above and below), gave a presentation entitled "Seat, Tears, and Blood: The Cable-Trench Problem and Some Applications" at King's College **Mathematics** Department Colloquium on October 17th, 2017. He discussed an internet cable connection problem between each building on campus and the IT center. To answer this question, the discussion began with an idea of "trenches" which may be dug between any two buildings and any number of cables can be laid in a single trench. However, we need to think about where to dig the trenches to minimize the total cost to dig the trenches and also to purchase the cables. Despite this seemingly simple model, finding the best solution for large instance of the Cable-Trench Problem is tantalizingly difficult. Dr. Landquiquist also reviewed related spanning tree problems to answer the Trench Problem during Cableduring the presentation.



RESEARCH, FELLOWSHIP, & SCHOLARSHIP NEWS FROM SAINT JOSEPH'S UNIVERSITY

A student from Saint Joseph's University, Lauren Hall (below), received an MAA travel award and successfully presented her research project entitled "Volleyball: The Mathematical Sport?" at the 2018 Joint Mathematics Meetings in San Diego. Her project was mentored by Dr. Tetyana Berezovski. Marisa Egan, a Biology major and Math minor, has been chosen as one of 40 finalists from among 700 outstanding national applicants for the prestigious Hertz graduate science fellowship. Two recent graduates, Luigi Nunez and Kayla Varela, published their paper entitled "Accelerated Random Search for constrained global optimization assisted by Radial Basis Function surrogates" in the Journal of Computational and Applied Mathematics. Their research was mentored by Dr. Rommel Regis. Finally, Aarynn Crawley, a senior Actuarial Science major, won an Actuarial Diversity Scholarship from the Actuarial Foundation and an IABA (International Association of Black Actuaries) scholarship.



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The Penn State Harrisburg Math Club generally meets every other week to work on challenging problems or listen to invited talks from faculty members. This semester they're also planning a trip to the National Air and Space Museum in Washington, D.C.



Several students in the Muhlenberg College Math Club volunteered to assist with events at a local school. To celebrate Pi Day, club members will help organize a colloquium series called "Discrete Math Days" being held at Muhlenberg college. At this Pi Day colloquium, students from colleges and universities in the Lehigh Valley will be coming to present their work.



This semester, Moravian College's Math Society volunteered at a science night at James Buchanan elementary school and also at the Science Day for Girl Scouts hosted at Moravian College by WISE (Women in Science and Engineering). The club continues to run Epsilon talks throughout the semester on topics and talks such as "Puzzle Love," which focused on solving Rubik's cubes.

Millersville University

Four students from Millersville University participated in the 2017 Putnam Mathematical Competition. One Millersville student, Quinn Minnich, scored 18 on the exam. His score ranked 823rd overall, which is top 20% among all participants.

Several students from Millersville University attended the 2018 Joint Mathematics Meetings, during which they presented their research at the MAA undergraduate student poster session. Annika Harder (below top) presented her poster "The Ineseño Chumash Number System," while Quyen Do (below bottom—second from right) and her collaborators from other universities presented their poster "Applying the Kelly Criterion to College Football Betting." They all had wonderful experiences at the Joint Meetings.





The DeSales University Math Club has had a very active year. For example, last semester the club had a great time attending the LVAIC Math Competition (see picture at right), and this semester the team enjoyed a day of camaraderie, math conversations, and team building at the Moravian Undergraduate Mathematics Conference. The group is now preparing an activity involving Fibonacci numbers for young children coming to campus for Earth Day.





Thank You to Holly Benedetto!



Holly Benedetto graduated from DeSales University in 2017 as a digital art major. This newsletter was based on a newsletter template created by Holly. EPaDel thanks her immensely for sharing her creativity and artistic skills

with us! If you are interested in contacting Holly with your digital art needs, please email kathleen.ryan@desales.edu and Kathleen will put you in touch with Holly.

Student math competition at the march 24 meeting

he Spring 2018 EPaDel Meeting will include a student math competition. Participants will compete in two rounds of a mathematical contest for fancy prizes, camaraderie, and most of all fun!

During Round I, students will group together in groups of three or four and work as a team on a set of intermediate-to-challenging math problems for 30 minutes using pencil and paper only.

During Round 2, The teams with the highest scores in the first round advance to a lightning round where they are asked a set of "mental math" questions, ones that you can do (with some hard thinking) in your head. No pencil or paper is allowed in this round, and any member from any team can buzz in to give the answer. At the end of the lightning round, exactly one team will be deemed champions and bring home some kingly prizes! Come join us for a great time!

