

Problem Corner

No one gave a solution to our last problem, but our own Bob May (Lecturer in Computer Science) ran a simulation to determine that the answers were: 4 hours and 10 hours for 2 and 3 porch lights, respectively.

New Problem:

Three geysers are near each other. Geyser A erupts every hour, Geyser B every two hours, and Geyser C every three hours. Like clockwork. If a random visitor arrives in the area, what is the probability that Geyser A is the first to erupt after the visitor arrives?

Send your solution to Owen Byer at byer@emu.edu

Do you know a prospective student who is interested in studying math at EMU?

Contact Owen Byer at byer@emu.edu for information about applying for the Brenneman-Longacher Endowed Math Scholarship.

Recipients receive \$1,250 per year for four academic years, as long as they continue in the math major.



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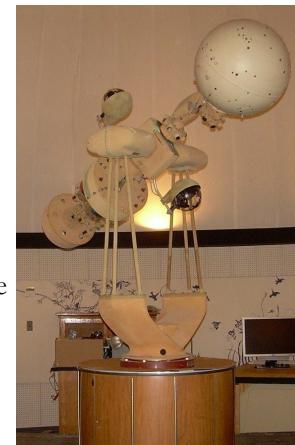
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Astral Society Reborn

Space—aka the celestial sphere—continues to fascinate a new generation of EMU students. Last January, a small group of students who had been meeting to spot Iridium flares in the night sky decided to reignite the Astral Society, a student club originally founded in the 1930s.



The initial meeting of this new iteration sparked great enthusiasm with over 30 student attendees and several faculty and staff. The club launched a burst of activities, including a visit to the Green Bank Observatory in West Virginia, cleaning and telescope inventory in EMU's own Astral Hall observatory, a space-themed movie night, and (of course) regular stargazing and satellite-spotting.

In a related venture, students in the Engineering Design II course were excited to undertake a final class project to restore EMU's 1968 Spitz A4 planetarium projector. (While not all of those in the society are engineers, a Venn diagram would show a substantial overlap.) The 50-year-old projector and its controls were recently uncovered during

ESW@EMU Club Outreach

renovations for the Suter Science Center's engineering wing. Working closely with lab technician Kelly McDonald, modern updates were made to this venerable device included upgrading to LED light bulbs and miniaturizing the power supplies and instrument panel to fit inside the base unit; the entire apparatus can now be controlled remotely with a smart phone!

And so, amidst all the chaotic commotion of everyday life, EMU students remind us to take a moment every now and then to look up and appreciate this vast universe. Ad astra!

Students Attend Academic Conferences

Two groups of mathematical sciences students attended academic conferences in April.

Sako Haji, Kiontay Reynolds, Claire Waidelich, and **Tessa Waidelich** attended the Philadelphia Region Celebration of Women in Computing Conference. This event brings together women at the high school, undergraduate, graduate, and professional levels to promote the recruitment, retention, and progression of women in computing fields.

Collin Longenecker, Karissa Sauder, and **Andrew Troyer,** with Professor **Esther Tian,** attended the Engineers for a Sustainable World (ESW) Annual Conference. They presented a solar-powered golf cart project developed by members of the ESW club at EMU. The golf cart, borrowed from EMU's facilities management division, was fitted with a solar panel and will continue to be used on EMU's campus.

EMU's Engineers for a Sustainable World (ESW@EMU) club engaged in several outreach activities with the local community this year.

The club planned and hosted a first annual Women in Engineering event at EMU in April. Participants experienced 3D design with an Autodesk Inventor, printed via 3D printers, showcased engineering student projects, and heard a talk by structural engineer Valerie Hill, from Engineering Solutions in Charlottesville.

In November, Harrisonburg High School's Advancement Via Individual Determination (AVID) program hosted ESW students. AVID is a college readiness program designed to help students develop skills they need to be successful in college. Our engineering students talked about our program, showed their projects, and answered questions from the audience.

Also in November, ESW@EMU participated in hosting Harrisonburg High School students in the GEAR UP program, for a day on campus to experience college life. GEAR UP (Gaining Early Awareness and Readiness for Undergraduate Programs) is a program designed to increase the number of low-income students who are prepared to enter and succeed in post-secondary education. ESW students enjoyed showcasing projects and engaging with the visitors.

Congratulations

EMU Math Contest

The traditional departmental math contest was held again this spring. Eight students participated in the 25-question, 75-minute contest. The winner was first-year math and computer science major **Cameron Byer.**

Kryptos Competition

Teammates **Cameron Byer, Daniel Harder,** and **Ben Stutzman** placed first over 60 other code-breaking teams from three countries in the 2018 Kryptos cryptanalysis competition in early April. See <https://www.cwu.edu/math/kryptos> for more information.

STEM Celebration Poster Show

Held during EMU's first annual Academic & Creative Excellence (ACE) Festival, this year's poster show featured a new project division of posters. Project winners were:

First Place: **Ben Stutzman, Austin Engle** - Paper Airplane Optimization with the Taguchi Method

Second Place: **Tyjuan Nelson, Noah Sargent, Kayla Segner** - Dice Master

Honorable Mention: **Karissa Sauder, Aaron Zimmerman** - Tilt-shift Lens Adapter

2017-18 Graduates

Benjamin Beidler - Computer Science

Joel Chrisophel - Computer Science

Austin Huff - Mathematics & Computer Science

Janae Kauffman - Mathematics, Secondary Ed

David Nester - Mathematics & Computer Science

In the Next Issue...

- Meet our new Assistant Professor of Computer Science and Engineering.
- Exciting renovation developments!