

Faculty News

Showalter Recognized for Teaching



Math professor **Daniel Showalter** was the 2021 recipient of the John M. Smith Award for Distinguished College or University Teaching. This award is given by the Mathematical Association of America's Maryland, Virginia, and Washington

D.C. division to professors who are "widely recognized as extraordinarily successful in their teaching" and have influence beyond their own institution. Only one award is given for each MAA section per year, so hearty congratulations go to Daniel for his excellent work! This award follows on the heels of Daniel's recognition as the recipient of EMU's Excellence in Teaching Award in 2020.

Sabbatical and Cross-Cultural Term

Two faculty have recently engaged in activities away from campus for a semester:

- Engineering professor **Esther Tian** took a well-earned Sabbatical leave in fall of 2020-21. She carried out a bio-inspired robotics study in which she developed a leech-like robot and used it as a platform to study locomotion efficiency.
- This fall semester (2021-22), Math professor **Daniel Showalter** courageously led a group of 20 students to Thailand for a semester of cross-cultural study abroad.

A New Editorial Adventure

Engineering and computer science professor **Stefano Colafranceschi** has founded the Virginia Journal of Business, Technology, and Science to allow students and early career scientists to publish their research findings in a peer reviewed journal. EMU's biology professor Kristopher Schmidt is also among those serving on the editorial team. The journal can be found at <https://www.vajbts.org>.

Program News

New Actuarial Science Minor

We are pleased that EMU has added a new Actuarial Science minor to its curriculum. This is a joint offering with EMU's Business and Leadership program. To complete the minor, students must complete 24 credits of math and statistics and 15 credits of accounting, economics, and finance.

Graduate and Enrollment News

In 2020-21, we graduated four engineers, five computer scientists, and four mathematicians.

In 2021-22, Math and Computer Science enrollments are holding steady, while the Engineering program has nearly doubled in size!

- Engineering has about 46 majors; 18 are new first-year students and 4 are transfers.
- Computer Science has about 37 majors; 7 are new first-years.
- Math has about 22 majors; 2 are new first-years.

(Note: these counts include some double majors.)

Student Accomplishments

REU Experience

Senior engineering major **Jonas Beachy** participated in an REU at the University of Florida in the summer of 2021. His research led to the presentation "*Water Splitting Viability Oxides in Thermochemical Cycling*" in the STEM student symposium at EMU on September 8, 2021. Jonas plans to pursue a graduate degree in robotics.

Student Awards

The Brenneman-Longacher Math Scholarship recipients for 2020-21 were **Sarah Deputy** and **Emma Nord**.

New program awards were presented by our faculty to the following students in April 2021:

- Outstanding Senior in Engineering:
Ethan Beiler
- Outstanding Senior in Mathematics:
Lucas Wenger
- Outstanding Senior in Computer Science:
Cameron Byer

Kryptos Competition 2021:

Caleb Hostetler and **Noah Swartzendruber** solved all three problems, to achieve the Turing Level of Achievement.

International Collegiate Programming Contest 2021:

The team of **Cameron Byer**, **Caleb Hostetler**, **Hannah Leaman**, and **Noah Swartzendruber** advanced for the first time in EMU history to the North America Division Championships.

Problem Corner

Congratulations to those who determined the correct value of 342 in the Fall 2020 issue: Greg Sachs (2003), David George (1998), John Swartzendruber (1985), Don Hooley (1977), David Troyer (2007), and Welby (2003) and Grant Lehman (2034).

New Problem:

This edition's problem comes from the first annual Math Duel in Owen's Fall 2021 Discrete Math class. How many arrangements can be made with the letters in "mennonite" that contain the word "men" in the arrangement? How many can be made that contain "no men"?

Send your solution to byer@emu.edu with "Problem Corner" in the subject line. Include your EMU graduation year if you are an alum.

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 \$1,500 per year for four academic years, on top of the honors scholarship, as long as they continue in the math major.



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Math, Computer Science, and Engineering
Eastern Mennonite University
Fall 2021

Designers Explore Aviation



Senior Engineering Design students from spring of 2020-21 have delivered a flight simulator using a real plane cockpit along with a virtual reality headset and a GPU-based workstation. The project was challenging and highly interdisciplinary as it involved pneumatic systems, control electronics, fine tuning calibrations and a serious computational capacity. The design features 3D motion actuators and utilizes Microsoft Flight simulator for the rendering part. The VR headset is paired with the GPU-powered server that streams real-time data of the sky/airports as well as weather conditions. This project is currently being relocated to a larger space, as soon as it is operational, fly with us!