

∫ Integram

EMU Mathematical Sciences Department

Summer 2012

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Students and Faculty Attend Computer Science Conference

This spring the two Computer Science faculty, **Charles Cooley** and **Dee Weikle**, along with three students, **Eric Brodersen**, **Aaron Springer** and **Joo-Ah Lee** attended the Special Interest Group in Computer Science Education (SIGCSE) Conference. SIGCSE is an international conference with attendees coming from as far away as New Zealand. The conference was held in Raleigh, North Carolina this February, providing a unique opportunity to attend.

Aaron, Joo-Ah, and Eric were able to connect with computer scientists from the University of Washington, CMU, NCU, and many others about their research and possible collaborations. Sessions of particular interest included a Community-based CS Project panel, Learning Games Research, 2013 Curriculum Guidelines, and Issues in Computing at Small Universities, as well as a student poster session. An additional highlight was the Plenary Speaker Dr. Hal Ableson's talk "From Computational Thinking to Computational Values." Hal described the importance of bringing democratic values and an open process to the ever-expanding world of computation. On return the students presented their own research posters at an EMU research symposium.

[Electronic Communication and Well-Being](#)

— Aaron Springer, S. Jeanne Horst, Dee A. B. Weikle

[Feedback-driven Learning Games](#)

— Eric Brodersen, Mark Harder, Justin Hershey, Joo-ah Lee, Dee A.B. Weikle, Charles D. Cooley

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EMU and Catholic University Joint Engineering Program

By Mike Zucconi

Eastern Mennonite University (EMU) has partnered with Catholic University of America (CUA) for a new dual degree program that will prepare students to pursue peacebuilding and sustainability through engineering; the program is slated to begin in the fall of 2012. “We envision the dual degree program as one that will allow students to embrace the Anabaptist mission and vision that EMU espouses while also obtaining the training needed to put their skills to work as an engineer,” said Deirdre Smeltzer, PhD, chair of Mathematical Sciences.

In this dual degree program, students will spend two years at EMU, immersed in calculus, physics and introductory science, technology, engineering, and mathematics (STEM) courses. In the fall of the third year, students will transition to EMU’s Washington Community Scholars’ program in Washington, D.C., fulfilling their cross-cultural requirement and gaining internship experience and valuable STEM training, according to Smeltzer. “Then, in the spring of the third year, students will transfer to CUA and spend two years completing additional requirements,” Smeltzer said. Upon completion, students will emerge with bachelor’s degrees from both EMU and CUA.

Nancy Heisey, academic dean at EMU, said she is excited about bringing together “the best gifts of EMU’s liberal arts curriculum with the high quality engineering training offered by CUA.” Jake Bontrager-Singer, a first-year pre-engineering student from Goshen, Ind., said the pre-engineering classes he’s taken have given him “a level of understanding the material you cannot get from a large lecture. In addition, all my classes are interconnected and build on each other giving me the essentials in math, physics and chemistry that I need to advance.”

For more information about the dual degree program, visit emu.edu/math/engineering.

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Department News

Faculty Changes

Mathematics professor **Owen Byer** has been approved for a half-year sabbatical spread out over the 2012-13 year; that is, Owen will carry a half-time teaching load with the other half of his load to be used on a new book-writing project. **Deirdre Smeltzer** has received 6 semester hours of release time to work on the book with Owen, with additional loading as the interim director of EMU’s cross-cultural program (a half-time administrative position). Deirdre also plans to lead a cross-cultural group to China in the fall of 2013.

With both Owen and Deirdre working on other projects, the department has hired two new temporary faculty. **Tim Emerick**, who anticipates completing a PhD in mathematics from the University of Virginia in May of 2013, has a one-year, half-time appointment. **Dr. John Wallbaum** has been hired to fill a two-year position. Dr. Wallbaum, who completed a PhD in mathematics from the University of Notre Dame in 2011, will be moving to Harrisonburg this summer. We are looking forward to having both of them join the department!

Math Competition

Congratulations to **Elias Kehr**, winner of the second annual EMU Math Competition. With a score of 126, Elias improved on his score of 105 in last year’s competition, in which he was the co-winner. We’ll have to see if Elias can carry forward his winning streak for one more year next spring before he graduates!

Summer Cross-Cultural in China

Physics professor **Leah Boyer** is spending three weeks during May term in China, co-leading an EMU summer cross-cultural trip with Myrrl Byler of Mennonite Partners in China. Leah reports that she and Myrrl and the nineteen students are all doing well, enduring the Sichuan province heat!

Faculty Sustainability Initiative

Prompted by EMU's Quality Enhancement Plan focusing on Peace with Creation: Sustainability from an Anabaptist Perspective, the Mathematical Sciences Department adopted a new Operational Outcome this year: "Reduce the environmental impact caused by members of our department in commuting to and from work." Members of the department agreed to track, via a chart on the department bulletin board, trips made to and from EMU for work-related activities between May 16, 2011 and May 15, 2012, with a goal that the number of times when an alternative to driving to/from EMU is utilized would constitute 15% of the total. We're pleased to report that this goal has been exceeded, with "alternative transportation" constituting a total of about 23.8% of the department's work-related trips to and from the office!

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Congratulation Graduates

We cheered on nine Mathematical Sciences graduates at EMU's 94th annual commencement ceremony on April 29: **Eric Brodersen** (CS, Math), **Kendall Garber** (CS, Math), **Justin Hershey** (CS, Math), **Laura Hershey** (Math, Secondary Education), **Joe Hochstetler** (Math, Physics minor), **Sam Kauffman** (CS, Music), **Tracy Moyers** (Math, Secondary Education), **Karla Mumaw** (Math, Secondary Education), and **Justin Rittenhouse** (Math, Secondary Education). Congratulations, graduates – and stay in touch!

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Problem Corner

Our last problem required you to find the area between two concentric circles. Many of you found the right answer of 36π : Brian Nussbaum, Elias Detwiler, Jesse Blosser, John Horst, David George, Ken L. Nafziger, Madonna Yoder, Dan Shenk-Evans (and son), and Wilmer Lehman. (I apologize if your name is missing ... if you submitted a correct solution and your name does not appear, please let me know.)

New Problem:

Our new problem comes from the New Scientist magazine, and it is much more difficult.

A town clock has a 12-hour face, divided into 60 minute marks. The hands do not move smoothly: the minute hand moves to the next mark at the end of each minute, and the hour hand moves at the end of each 12 minutes.

The other day, a prankster swapped the hands (which only took a few seconds between movements of the hands of the mechanism). Immediately after the swap, the clock showed the wrong time, but it was a valid time; in other words, the relative positions of the hands made sense. The clock then had shown the right time for exactly 2 of the next 10 minutes.

What time did the clock show immediately before the hands were swapped?

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

Are you (or do you know) a prospective student who is interested in studying math at EMU?

Contact Deirdre Smeltzer at smeltzed@emu.edu for information about applying for the Brenneman-Longacher Endowed Math Scholarship.

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