UNDERGRADUATE MATH SEMINAR

The next seminar will NOT BE IN BAILEY HALL, but in the Visual Arts building!

DATE: ==Thursday, October 3==

Time & ==**12:30 pm**== – Refreshments outside ==**VART 204**==

Location: **1:00 pm** – Seminar in ==**VART 204**==

In this week's seminar, we are honored to be hosting the 2019-20 "MAA Seaway Section Distinguished Lecturer" and member of the NYS Mathematics Educators' Hall of Fame, **Professor Robert Rogers** from **SUNY – Fredonia**. He will be delivering the following talk:

Professor Robert Rogers

Title: Connecting STE with M

Abstract: Theoretic chemistry, internet security, kidney stone treatment, airfoil design; what connects these seemingly diverse science, technology, and engineering topics? This talk will explore the mathematics behind these topics. Furthermore, the mathematical topics required to understand these applications only involve drawing, counting, numbers, some geometry, and some imagination.

What We Did this Summer

In the last two math seminars, five students gave (wonderful!) talks about the research they did this past summer. What did some of the math faculty do?

When the academic year ends in June and most students leave campus for the summer, the faculty take the opportunity to continue their research activity, visiting collaborators and colleagues, attending and speaking at conferences, as well as preparing themselves for the upcoming academic year. Here are some bullet point highlights of some of the activities of some of the math faculty this past summer.

- **Professor Paul Friedman** started the summer by going to Kansas City to grade AP Calculus exams. Throughout the rest of the summer, he worked on the math placements of the incoming students and also taught calculus in the AOP (Academic Opportunity Program). He and his immediate family took a vacation to Denmark to visit other family.
- **Professor Jeff Hatley** wrote, "At the end of June, I attended a week-long conference on Iwasawa Theory in Bordeaux, France. The mathematics was almost as good as the cheese, wine, and baguettes!

Class of 2019: Stay in Touch

Union College email accounts of recent graduates expire at the end of September. To continue receiving the Math Newsletter, please update your email address with **Joanne Higgins** (higginsj@union.edu) or **Professor Paul Friedman** (friedmap@union.edu).

What We Did this Summer (continuation)

- **Professor Kathryn Lesh** spent most of the summer doing mathematics in Europe. She was in Stockholm and Helsinki working with a long-term collaborator at Stockholm University on an ongoing project. Unexpectedly good progress in a key area should allow them to put an article out this fall. She returned to the U.S. to work with a collaborator at Notre Dame on their article "Connectivity of complexes related to homological stability," and then attended a conference in Trondheim, Norway to give a presentation on that project. After a brief trip back to the U.S. to attend a family reunion, she returned to Europe to spend a week in Bonn and a week in Barcelona as a mentor for a research team sponsored by Women in Topology research network (which was co-founded by our own **Professor Brenda Johnson**!). The mathematical challenges of the summer were fun and stimulating, living out of a suitcase not so much, and Professor Lesh is looking forward to consolidating the mathematical gains of the last few months while staying in one place for a while.

- **Professor Bill Zwicker** was a co-organizer of the special session on "Decisions and Fairness" at AMMCS, a Canadian mathematics and computer science conference held in August, and later gave an invited seminar on "Fair Division of Graphs and Tangled Cakes" to the computer science department at the University of Toronto.

Some views of Trondheim, Norway. The one above is the view from Prof. Lesh's hotel window!

The next Putnam Exam Preparation Squad session is Friday, October 4, 5:00pm in Bailey 106

Problem of the Newsletter – September 30, 2019

Last week's problem: Congratulations to **Son Nguyen '23** for submitting a correct solution to last week's problem. You may see several solutions to this problem at the newsletter sites around Bailey Hall.

This week's problem: A paper triangle with sides of lengths 3, 4, and 5 inches, as shown, is folded so that point A falls on point B. What is the length in inches of the crease?
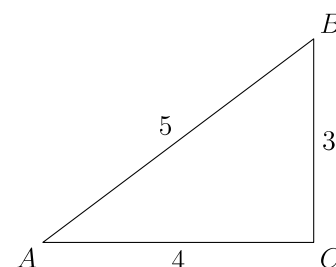
Professor Friedman (friedmap@union.edu) will accept solutions until noon on Friday, October 4.