UNDERGRADUATE MATHEMATICS SEMINAR

Welcome to Union College, first-year students, and welcome back to campus, upperclassmen. And, of course, welcome back to the newsletter, alumni! We hope you all had enjoyable/relaxing/challenging/stimulating/reinvigorating summers.

During each academic term, the Math Department runs an Undergraduate Mathematics Seminar. This consists of a series of 6-9 one-hour talks per term about math – current research, famous older problems, interesting topics from fields outside of the standard curriculum, etc. The seminar will typically be on Monday or Tuesday afternoons in Bailey 207. In general, you should consult either the newsletter, the signs that will be posted throughout Bailey Hall, or the math Student Seminar webpage http://www.math.union.edu/activities/seminars/student/welcome.html to find the date, time, and location of the seminar.

The first seminar of this term will be

DATE: **TUESDAY, September 15th**

Time & **3:45pm –** Refreshments in the Math Common Room, **Bailey 204**

Location: **4:00pm –** Seminar in **Bailey 207**

In this seminar, Union College's most recent Stillman Prize winner (more on this below), **Professor Bill Zwicker**, will deliver the following talk, based on research he did with M. Remzi Sanver, an economist at Bilgi University in Istanbul, Turkey.

TITLE: What Is Wrong with Majority Rule?

ABSTRACT: Suppose two candidates are running for election. Should we use "majority rule" to determine the winner? One can prove that with majority rule, *honesty is the best policy* – no voter will ever do better by lying about which candidate she prefers. On the other hand, with any reasonable alternative to majority rule voters do sometimes gain by lying.

How about more than two candidates? The famous Gibbard-Satterthwaite Theorem shows that *every* reasonable voting method is flawed – voters sometimes gain by lying. Still, one might hope for some voting methods to do better than others.

Perhaps majority rule still does relatively well? Not so! We'll discuss a recent theorem showing that with four candidates or more, every voting rule built on majority rule occasionally gives voters the incentive not only to lie, but to ***lie totally***. For some other voting rules, though, the situation is slightly better, in that *partial honesty is the best policy*.

In the talk, we'll explain we'll explain what we mean by *reasonable*, as well as the difference between a *lie* and a *total lie*.

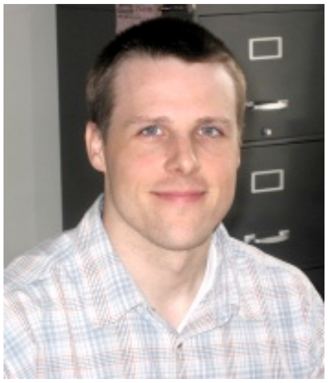
Mathematics Professor Bill Zwicker Awarded Stillman Prize

At this year's Opening Convocation, **Bill Zwicker**, the William D. Williams Professor of Mathematics, was awarded the Stillman Prize. This prize was created by David I. Stillman '72, Abbott Stillman '69, and Allan Stillman in honor of Abraham Stillman, father and grandfather, and is awarded annually to a faculty member to encourage outstanding teaching.

Professor Zwicker is the third(!) math professor to receive this honor. **Professors Alan Taylor** and **Davide Cervone** won the Stillman Prize in 1998 and 2002, respectively. Congratulations Bill!

Professors Chris Hardin and Hubert Noussi Join Math Department

Please welcome **Professors Chris Hardin** (below, left) and **Hubert Noussi** (below, right) to the Math Department. Each of the new members has written a short piece introducing himself to our readers.



I am pleased to be joining the department and have already enjoyed my brief time here. I look forward to speaking with other members of the department in the upcoming weeks when I will be soliciting talks for the student seminar (which I am organizing with Professor Zwicker).

I went to Amherst College as an undergraduate, and then did my PhD in math and MS in computer science at Cornell University. After getting my PhD, I taught math and computer science at Smith College for three years. My partner, Novem Auyeung, then transferred from UMass-Boston to Purdue (she is getting her PhD in ecology, studying the effects of global warming on soil microbes, especially nitrogen-cycling bacteria and archaea), so I sought work in Indiana. I landed a position at Wabash College, one of the few remaining men's colleges - a large shift from all-female Smith, though more for the change in culture than gender. And now, of course, I am at Union.

My research is in logic. Recently, most of it has been work with Professor Alan Taylor on "hat problems," though I have an upcoming paper in the Monthly that is more combinatorial. Some of my other work involves applications of Kleene algebra to epistemic logic and trust.

Outside academia, my primary interest currently seems to be rock climbing. I haven't been playing as much music as I used to, but perhaps listing it as another interest will help me find more time for it.

Best wishes for the upcoming term!

Poh Lee Yoh La! (meaning good morning in my mother tongue Ghomala). My name is Hubert Noussi (Hubert is read in French, Noussi is read NOO-sea).

I am originally from Cameroon, a country (3.36 times the size of New York State) on the West Coast of Africa. I obtained my Master's Degree in Mathematics at the University of Yaounde I in Cameroon before enrolling to the Mathematics Ph.D. program at New Mexico State University, in Las Cruces (my second home). My work was based on competition models in an apparatus called the Chemostat. After graduation I taught there for a year before coming to Union.

The first challenge that I have faced at my arrival here was saying the word Schenectady so that I can teach my friends and family how to say it the right way. Trust me it was not easy. When people realize that I come from New Mexico they immediately tell me that I went from one extreme to the other. They refer of course to the weather. So one thing I am looking forward to is winter...not really!

I like playing sports, mainly soccer and tennis, listening to music, learning about other people's cultures.

I am very excited to be a member of the Union College community and I anticipate with pleasure getting to know more about the College and bringing my contribution to its growth.

Problem of the Newsletter: September 11, 2009

Every week, this newsletter will pose a “Problem of the Newsletter”. Students are invited to submit a solution for recognition in the following week’s newsletter or on the bulletin boards throughout Bailey Hall.

Here is this week’s problem: A classic! You are a contestant on the game show “Let’s Make a Deal”, hosted by Monty Hall. You are asked to choose one of three closed doors. Behind one door is a car, and behind the other two, goats. At the end of the game, you will win the object behind the door you have ultimately chosen. (Presumably, you would like to win the car.) After you have chosen a door, behind at least one of the doors you haven’t chosen is a goat. Monty Hall opens one such door to reveal a goat. After he reveals a goat, you are asked if you would like to stay with the door you chose originally OR if you would like to switch to the other closed door. The question: what is a better strategy – keeping your original choice of door, or switching?

Professor Friedman will accept solutions to this problem until noon Thursday, September 17th. Email your solution to him (friedmap@union.edu) or put it in his mailbox in the Math Department’s office on the second floor of Bailey Hall.