## This Week's Mathematics Colloquium

Title: A Practicum Presentation

Speakers: January 2003 Practicum Students

Time: Tuesday, April 29, 1:30 pm

Place: SC 182

## This Week's Colloquium

The Practicum is a math department interim course in which groups of students work on significant problems posed by and of current interest to area businesses and government agencies. The student groups decide on promising approaches to their problems and carry out the necessary investigations with minimal faculty involvement. Each group reports the results of its investigations with a paper and an hour long presentation to the sponsoring organization. In this colloquium the January 2003 practicum students will give you brief versions of their hour long talks and describe their experiences as mathematical consultants. Many math majors describe this interim course as the highlight of their career at St. Olaf. If you're interested in applied math, this is one colloquium you cannot miss!

## Kleber-Gery Lectures

The Kleber-Gery lectures are an annual series of talks focused on the interplay of statistics and economics. Professor Emeritus Richard Kleber is a long-time member of the St. Olaf math department and the first director of the statistics concentration. Frank Gery is Professor Emeritus in the economics department, having taught at St. Olaf for 34 years.

This year's Kleber-Gery speaker will be Professor Robert Frank of Cornell University. Dr. Frank is the author of several books, recently *Luxury Fever: Why Money Fails to Satisfy in an Era of Excess* (The Free Press, 1999) and *The Winner-Take-All Society* (with P. Cook, The Free Press, 1995). His current research focuses on the causes and consequences of earnings inequality. Dr. Frank will be on campus Thursday, May 1 and Friday, May 2. His public lectures will include a technical talk on Thursday afternoon entitled "Willingness-to-Pay Without Apology," and a more general talk in the evening entitled "Does Rising Inequality Harm the Middle Class?" The afternoon talk will be held in Holland 413 at 3:45 and the evening talk will take place in SC 278 at 7:30.

## Senior Math Banquet

The first annual senior math banquet is coming up on Wednesday, May 7, from 6-8pm in the Kings Room. This event will celebrate the many accomplishments of math majors in the class of 2003, as well as provide an opportunity for fellowship and fun. Please email Donna Brakke (brakke@stolaf.edu) with your caf number if you would like to attend.

## A Statistics Slam Dunk

The adoption of the three-point field goal in basketball changed the game. In the March issue of *Chance,* Statistician Thomas P. Ryan asks how best to credit three-point field goals so that the resulting numbers say something useful about how a game was played. The trouble with the current statistics, says Ryan, is that two and three point field-goal percentages, taken together, don't always let you see what happened in a game. Ryan cites a game between North Carolina State and Clemson, on Jan. 15, 2002. N.C. State defeated Clemson 80 to 79. Yet Clemson's overall field-goal percentage was 61.2 percent, and N.C. State shot just 49.1 percent. To better quantify the teams' shooting, Ryan proposes a new statistic called "composite field goal percentage":

$C = (a + 1.5b)/N$, where a is the number of two-point field goals made, b is the number of three-point field goals made, and N is the total number of field-goal attempts. Applying that formula to the Clemson-N.C. State game, N.C. State's composite percentage was 62.2 percent and Clemson's was 66.3 percent. (Taken from http://www.maa.org/mathland/mathtrek).

## Successful MAA Presentations

Congratulations to Adam McDougall and Jason Saccomano, who both made presentations at last weekend's meeting of the North Central section of the MAA at Macalester. Adam's talk on tri-Catalan numbers and Jason's on counting partitions of the integers were both well received. Adam and Jason were awarded books from the MAA.

## Math Auction

There is still time to get in on the Math Auction, to be held Monday, May 5, at 5:30 pm. Pizza will be served and prizes will be given to the top teams. Rules and copies of the problems are available now in the folder outside Professor Molnar's office.

## Last Week's Problem

Any triangle can be cut into four equal pieces. (Connect the midpoints of its sides). Is there a triangle which can be cut into five equal pieces?
Any right triangle can be divided into two *similar* copies of itself by dropping a perpendicular from the right angle to the hypotenuse. This doesn't quite solve the problem, but in particular, this division splits a $1 ? 2 ? \sqrt{5}$ triangle into two triangles, one of which is four times the area of the other. Split this one into four equal triangles, and voilá!

## Problem of the Week

Someone walks up to you on the street and hands you infinitely many copies of a single quadrilateral. Can you tile the plane with these quadrilaterals, or must there be restrictions on its shape for this to be possible? (In a tiling of the plane, no gaps or overlaps are allowed, except that the tiles coincide at their edges.)

** Please submit all solutions to **David Molnar** (molnar@stolaf.edu) by noon on Sunday.

If you would like to receive a copy of the Math Mess in your P.O. Box weekly, please e-mail **Donna Brakke** at brakke@stolaf.edu.