MSCS Mess

Department of Mathematics, Statistics and Computer Science
St. Olaf College
Northfield, MN 55057

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This Week's Colloquium:

Title: Good Choices for a Great Career in Mathematical Modeling and Analysis
Speaker: Mac Hyman - President, Society for Industrial and Applied Mathematics
Los Alamos National Laboratory
Time: *Thursday*, November 18, 2:30 pm
(treats at 2:15)
Place: SC 182

Today's scientific world is experiencing a paradigm shift where the sophistication of mathematical models, the accuracy and efficiency of numerical algorithms, the robustness of computer software, and the power of computation have become so great that numerical simulations are now considered a third pillar, along with theory and experiment, in the triad of tools used for scientific discovery.

The rate of advances in these fields, and our ability to simulate complex physical systems, will increasingly be the limiting factors in our ability to solve many of our most pressing scientific challenges. I will describe recent advances in mathematical models, numerical algorithms, software, and hardware that have allowed computer simulations of complex multidisciplinary problems to have unprecedented impact in guiding scientific discoveries.
The choices scientists make in planning for a career in mathematical modeling will impact them for a lifetime. I will describe some universal distinguishing traits of good career choices that can guide decisions in education, choice of profession, and job opportunities to increase your chances of having a great career with long-term, sustaining accomplishments.

Mac Hyman is the president of the Society for Industrial and Applied Mathematics (SIAM) and the leader of the Mathematical Modeling and Analysis Group at Los Alamos National Laboratory. His research interests include mathematical biology, nonlinear dynamical systems, and the numerical solution of differential equations. When away from his day job, he is a dancer, plays (at) the piano, and skiis off the top of mountains in northern New Mexico. http://math.lanl.gov/~mac/

The Real Analysis Exchange Needs You!

Are you a first year student, interested in mathematics, not computer phobic and would like a solid good paying job for your next three years at St. Olaf? Then does Humke have the deal for you!!!

The *Real Analysis Exchange* is a journal that he edits and he needs help. This job will pay for your training and then 3-4 hours of editing type work per week. If you think you might be interested, drop Humke an email note at analysis@stolaf.edu. Hey, what can you lose? This could be great!

Math as a Sort of Real World Hands in the Dirt Sort of Truth

Greta wiped her hands on her thighs and began moving plates of eggs and pancakes into Tupperware containers for the fridge. "We have lots of coffee. . . ." One of the plenitude of social what-have-yous implemented by Greta and co. to stymie the potential loneliness of this semi-rural lifestyle was the infamous Tupperware party, one of which Terrance would soon have the opportunity to witness, participate in even: the same dozen or so local ladies (more or less: every few years one is replaced by another, one dies, moves away, and a new one arrives, a parasol-carrying widow with a mole on her left cheek and perhaps a New York accent, each time becoming a little bit older, like the women themselves, reminders in the extra wrinkles, the crows-feet fanning out like a Chinese fan, like unending Mandelbrot fractals, the thinner memories, the thinner connections to the world they once considered reality – like a mirror – that time kept right on slipping don'tyouthinkforonesecondotherwise: on and on these new members: ripples in the manifold . . .) gathering in that season's chosen one's living room to buy and sell the newest in plastic preservationwear, discovering truths about each other through their decisions made: clear or opaque, Ideal Seal© or the old snap top, prideful stamps of a life however lived: a latticework net of interdependence which ran deeper, about which they all knew, refused to admit to each other (*women*, thought Terrance), but knew themselves was more than what it seemed on the surface, and which they each worked through in their own ways, during the days and through restless nights, some more, some less, Greta doing a pretty good job of forgetting any problems of serious concern such as this, this subconscious subterfuge, and then forgetting she ever forgot.

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Math Writer

Problem of the Week

Yesterday there was an arm-wrestling tournament in a mathematics classroom. Each student competed against each of the others exactly once. Each pair of competitors had 30 seconds to win the match. Each participant scored 1 point for a win, -1 for a loss and 0 points for a tie. Jack finished with 9 points and Jill with 12; was there necessarily a tie?

*** Please submit all solutions by Wednesday at noon to Amelia Taylor by e-mail (ataylor@stolaf.edu) or by placing them in her box at OMH 201.

Last Week's Problem

I have placed a dime in nine of the 36 squares of a 6 x 6 grid. You may choose three rows and three columns and take all the coins you find in them. Can you always get all nine coins?

Congratulations to **Carrie Manke '06**, **Robert Orme '05** and **Paul Tveite '07** for solving last week's problem! The standard technique used for solving this is the pigeon hole principle. The answer is yes, and the reason is that since there are 6 rows and 9 coins, there must be 3 rows that contain at least 6 of the coins. This leaves at most 3 coins and we can then choose the 3 columns containing those coins, always getting all 9.

***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.

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