

---

## **AFTERMATH**

### **MATHEMATICS DEPARTMENT NEWSLETTER**

(1999-2000)

---

#### **A WORD FROM THE CHAIRMAN**

What I would most like to say in this year's newsletter is: thanks. Thanks to all the faculty, the grad students, and the staff for the tremendous amount of thought and energy that all of you have invested here. This is what continues to make the department run well and be a good place in which to work, study mathematics, and do research.

Some particularly noteworthy items:

Hugo Rossi and Peter Trombi ran an unusually effective graduate recruitment effort, the result of which was sixteen acceptances, as opposed to eight last year. I was hoping for a 50% improvement, and instead we got 100%. The current graduate students played a key role in recruiting, and they all deserve our thanks, especially the GSAC co-chairs, Eric Cytrynbaum and Sean Sather-Wagstaff.

This was the first full year for the Graduate and Undergraduate Colloquia. I attended many of these and learned a lot from them. I urge you to attend a few yourself, and to ask your classes to do likewise.

Angie Gardiner organized the first "Mathionaire Contest," hosted by the inimitable Brad Percy, and attended by many

of our undergraduates. It was fun, funny and a great way to publicize mathematics to undergraduates. Sample question: which of the following politician figures published a theorem: Alexander the Great, Napoleon, Bill Clinton, or Alan Greenspan?

George Williams, Professor of Physics, donated the prize money for the "Calculus Challenge," held Saturday, April 22. Sixteen students participated, and four winners were selected. We plan to make this an annual event to publicize mathematics and to reward our most accomplished students. A committee consisting of Bob Brooks (chair), Fletcher Gross, and Hugo Rossi prepared and graded the questions for the challenge.

I'd like to end with a report on the remodeling and building projects. We now have a new, much expanded library, partly funded by a generous grant from the R. Harold Burton Foundation. In the next few weeks the bid should be let to remodel the Cowles Building. Cowles will be connected to our building, Widtsoe, by a new Undergraduate Math Center to be built with funds generously provided by the George S. and Dolores Dore Eccles Foundation. The Math Center will provide space for study and tutoring and for an undergraduate common room and a drop-in computer lab. It will re-

place the wood-frame buildings 122 and 129 which were built for temporary use after World War II and which we very much feared would be permanent.

I wish you all a pleasant summer: much-needed time to think about mathematics.

Jim Carlson

### CALCULUS CHALLENGE

At the instigation of and with the generous financial support of Professor George Williams of the Department of Physics, there was a Calculus Challenge Test for undergraduates. Sixteen students took part in this 3 hour test which consisted of 6 calculus problems (see below). Eric Johnson and Darrell Poore shared first and second prizes and each will receive \$300. Karim Khader and Hung Nhat Nguyen tied for third and earned \$100 each.

The problems on this year's Calculus Challenge (it is hoped to make this an annual event) were:

1. Evaluate  $\int \frac{x^2 + x - 5}{(x - 1)^2} e^x dx$

2. Evaluate  $\sum_{n=1}^{\infty} \frac{n}{2^n}$

3. Evaluate  $\int_0^1 \frac{x^4(1-x)^4}{1+x^2} dx$

4. Evaluate  $\frac{1 + \frac{1}{2^p} + \frac{1}{3^p} + \frac{1}{4^p} + \dots}{1 - \frac{1}{2^p} + \frac{1}{3^p} - \frac{1}{4^p} + \dots}$

assuming  $p > 1$ .

5. Find  $\lim_n \frac{1 + \frac{1}{2} + \frac{1}{3} + \dots + \frac{1}{n^3}}{\ln n}$

6. Find the smallest value of the constant  $m$  such that  $mx - 1 + \frac{1}{x} \geq 0$  for every  $x > 0$ .

### DEGREES AWARDED IN 1999

There are 150 undergraduates majoring in Mathematics. In May, 46 students will receive a baccalaureate degree in Mathematics. A total of 18 M.S. degrees will be awarded. Students receiving the Ph.D. in Mathematics in 1999-2000 are Peter Brinkman, Chin-Yi Chan, Irina Grabovsky, Sean Sather-Wagstaff, and Haoyu Yu.

### CHANGES TO THE FACULTY

New Instructors for 2000 (and the year, University and specialty of their Ph.D.'s) are Benjamin McKay (1999, Duke, Partial Differential Equations) and (Liya Zhornitskaya (1999, Duke, Numerical Analysis).

Professor Janos Kollar has resigned to accept a position at the Princeton University. Professor Hans Othmer has resigned to accept a position at the University of Minnesota.

Xia Chen, Goran Muic, Joseph Raquepas, Knut Solna, and Kevin Whyte have finished their terms as Instructor and will be leaving. We wish them well.

## **PROMOTIONS**

Assistant Professor Wieslawa Niziol was promoted to Associate Professor with tenure.

Assistant Professor Alexander Balk was promoted to Associate Professor with tenure.

Associate Professor Aaron Bertram was promoted to Professor.

Associate Professor Mark Lewis was promoted to Professor.

Associate Professor (Lecturer) Anne Roberts was promoted to Professor (Lecturer).

## **FACULTY AWARDS AND ACTIVITIES**

Professor Herb Clemens was awarded the Silver Medal of the Italian Mathematics Union. This award, Italy's highest honor for a foreign mathematician, was bestowed for outstanding contributions to Italian mathematics.

Professor Anne Roberts received the Faculty Undergraduate Teaching Award.

The Outstanding Instructor Award, given for distinction in both teaching and research, goes to Christopher Hacon.

Professors Andrej Cherkaev, Davar Khoshnevisan, Paul Roberts, Gordan Savin, and Jingyi Zhu will be on leave for portions of the academic year 2000-2001.

## **GRADUATE STUDENT AWARDS**

Eric Cytrynbaum and Martin Deraux have been awarded Graduate Research Fellowships.

The recipient of the award for outstanding teaching by a graduate student is Robert Guy.

## **UNDERGRADUATE AWARDS**

Presidential Scholarship

Mark L. Robinson

Honors at Entrance Scholarship

Sally Gurr

Claurissa Tuttle

Alissa Whitehead

Leadership Scholarship

Patrick Rasch

Entering Departmental Scholarship

Ryan P. Rettberg

Continuing Departmental Scholarships

Monica J. Hills

Sunhee Laws

Paul T. Watkins

Susan Catherine Christiansen Memorial Award

Angela M. Chan

Hurd Award

Michael J. Nicholas

Biesele Award

Neil D. Christensen

Gibson Award

Parrish C. Brady

D. Keith Reed Memorial Award

Larsen E. Louder

George C. Barton Award

Jocelyn Gukeisen

Copley Scholarship

Jeanette Thacker

Mathematics Faculty Scholarship

Spencer D. Stirling

Stephen E. Newman, Jr., Mathematics Alumni  
Scholarship

Larsen E. Louder

College of Science Dean's Scholarship

Maria Bell

Jocelyn Gukeisen

Benjamin F. Jones

Kennecott Scholarship

Spencer D. Stirling

T. H. Bell Teaching Incentive Loan Program

Sharon K. Gourley

Mathematics/Science/Foreign Language

Scholarship

Sharon K. Gourley

Phi Beta Kappa Membership

Brian K. Briscoe

Neil D. Christensen

Brent M. Sallay

Phi Kappa Phi

Heidi Rust Fargo

Monica J. Hills

Phi Mu Epsilon Membership

Michelle Adams

Maria Bell

Colleen R. Huber

JoAnna Kelsey

Brittany Ann Mabey

Michael J. Nicholas

Haley Q. Petersen

Mindy Scott

Spencer D. Stirling

Dianne Wilson

Graduation Magna Cum Laude

Parrish C. Brady

COMAP Modeling Contest, Honorable  
Mention

Parrish C. Brady

Mike R. Petersen

J. Reid Mumford

Calculus Challenge

1-2: Eric Johnson and Darrell Poore

3: Karim Khader and Hung Nhat

Nguyen

**WEB SITE**

Information concerning the department and its activities can be found at the web site [www.math.utah.edu](http://www.math.utah.edu)

**INFORMATION FROM ALUMNI**

The Department welcomes news and information from alumni. If you have any special news, please send it to us at Newsletter, Department of Mathematics, University of Utah, Salt Lake City, UT 84112.