

Mathematics

Newsletter of the Department of Mathematics at the University of Washington

A MESSAGE FROM THE ACTING CHAIR



Ron Irving assumed the position of Divisional Dean for the Natural Sciences after serving a year as chair of our department. I am serving as acting chair for a year while we search for a chair. The twelve months since our last newsletter have brought many exciting developments to our department. While we are concerned about the effects of the current

economic outlook for our State, we hope to maintain and build upon our successes in the coming years. I would like to take this opportunity to highlight some of the exciting work we are engaged in, from undergraduate education to mathematical research.

We have revised our pre-calculus and calculus courses in recent years. We are currently in the second year of a three-year reform of our calculus sequence for science and engineering. The changes include reduction of class size, longer quiz sections, and use of worksheets. You will read in the adjoining column about Ryan Card, Ernie Esser, and Jeff Giansiracusa's success. Ryan joined our PhD program this September, supported in part by an ARCS Fellowship. Ernie and Jeff, currently in their final year as undergraduates, are also applying to graduate schools in mathematics. Our graduate students go on to rewarding careers in academia or industry upon completing their degrees. For the second year in a row, one of our students was awarded a National Science Foundation Postdoctoral Fellowship, perhaps the most prestigious postdoctoral fellowship in mathematics, upon completing his PhD.

The awards received by our faculty within the past year included Sloan Research Fellowships awarded to Sándor Kovács and Yu Yuan, making us the only department, in any field, to receive two Sloan Fellowships last year. In addition to the usual research activity of our department, several faculty members are organizing research programs this year. For example, Gunther Uhlmann is the coordinator of the Pacific Institute for the Mathematical Sciences (PIMS) thematic year in Inverse Problems and Applications. This program includes five week-long workshops in Santiago, Banff, Calgary, UBC, and UW. Doug Lind is organizing a Concentration Year in Dynamics, with most of the activity planned for the spring and summer of 2003. The 23rd Seminar on Stochastic Processes will be held at UW in March, 2003, with Chris Burdzy and Zhenqing Chen as organizers. The newsletter will report in greater detail on some of these activities; you will find additional information on our web site.

We hope that you, our community of students, parents, alumni and friends, will remain involved in the department and attend the events, such as the recent lecture by Stephen Wolfram, we will be organizing in the coming months. I invite each of you to tell us which aspects of the department's activities most interest you, to help us in our efforts to include you in our activities.

-Selim Tuncel

MATH MODELING CONTEST

Three University of Washington undergraduates have earned a place among the world's college math elite with a win in an international mathematics modeling competition.



Ryan Card, Jeffrey Giansiracusa and Ernie Esser won an outstanding ranking—the highest commendation—in the 18th Mathematical Contest in Modeling, an annual worldwide competition sponsored by the Consortium for Mathematics and its

Applications. The UW students were one of four teams, among a total of 279 competing in their category, to merit an Outstanding ranking for their solution to a complex math problem. In addition, the UW team's 21-page solution was selected from the four to receive the annual SIAM award from the Society for Industrial and Applied Mathematics. The students each received a \$500 cash prize and had their expenses paid to attend the 50th annual meeting of SIAM; there they presented their paper and received their award.

The contest began on Feb. 7th, when officials posted two problems to the Web. The 522 participating teams from the United States and ten other countries had four days to pick one and devise a solution. They were allowed to refer to Web and library sources, but could not consult with another person. Participants didn't get a lot of sleep. This was the second year this team participated. Last year they (and their advisor) misread the contest starting time and ended up starting a day late. So maybe this year they had the advantage of being prepared for a three-day contest when in fact they had four full days to work on it. The winning paper was a solution of a problem involving an algorithm to prevent a decorative water fountain from spraying observers in windy weather. A copy of the paper and other links can be found at:

<http://www.math.washington.edu/~morrow/mcm/mcm.html>.

Three other teams from the UW participated. The other team from Mathematics consisting of Mark Blunk, Sam Coskey, and Erik Curre, also did very well, receiving the Meritorious designation, which is just below the outstanding ranking. All of these students except for Ryan Card will still be undergraduates in 2002-03 and we hope for another outstanding performance.