Welcome by Department Chair Nagaraj K. Neerchal

It is a pleasure to present to you the second issue of our department's newsletter for the 2006-07 academic year. This year is turning out to be very exciting, as you will see from our many achievements cited in this newsletter. We are planning a one day conference "Probability and Statistics Day" on April 28, 2007, under the leadership of Prof. **Bimal Sinha**. I hope you enjoy learning more about our programs and I welcome your comments.

Joseph McCloskey Wins Outstanding Alumni Award

Joseph McCloskey, M.S. '81, Ph.D. '83, Applied Mathematics, won this year's Outstanding Alumni Award. Each year, the UMBC Alumni Association presents annual awards to honor alumni for their professional and personal achievements and service to the University. Dr. McCloskey is a senior cryptologic mathematician for the National Security Agency, where he has worked since 1968. Throughout his career, he has received numerous citations, including the President's Award from the Crypto-Mathematics Institute, the agency's oldest learned society, in 2001. For more information, visit http://retrievernet.umbc.edu under Alumi Award Winners.

New Faculty: Yi Huang

Yi Huang joined the department in January, immediately after completing her Ph.D. in the Department of Biostatistics at the Bloomberg School of Public Health of Johns Hopkins University, under the guidance of Dr. Karen Bandeen-Roche. Her research focuses on statistical methods for the determination of average associational and causal effects of treatment/exposure/intervention on adverse health outcomes. Dr. Huang was originally scheduled to join the department in August 2007. We would like to acknowledge support from Dr. Thomas Mathew, Erickson School of Aging Studies, and the ADVANCE Program, which has enabled her to join the department right away.

Message from the Editor by Matthias K. Gobbert

Our newsletter now has a name: *News@Math&Stat*! The selection committee of Dr. Neerchal and me felt that this name communicates both the purpose of the publication as a newsletter as well as its connection to our department, in a style with reference to electronic communications used by various UMBC organizations to emphasize our connection with the institution. The suggestion came from graduate student **Ines Urrestarazu**, who will receive a $30 gift certificate to the UMBC Bookstore.

News from the Graduate Program by Graduate Director Muddappa S. Gowda

I am pleased to tell you that 2006 was a very good year for graduations. In this year, we had 8 students receiving their Ph.D. (2 in Mathematics and 6 in Statistics) and 5 students receiving their M.S. (1 in Mathematics and 4 in Statistics). We congratulate our December 2006 Ph.D. graduates **Tetyana Vdovina** (Advisor Dr. Minkoff), **Pranab Mitra** (Advisor Dr. Sinha), and **Ronny Vallejos** (Advisor Dr. Rukhin). We also congratulate **Chen Lai** for getting his M.S. in Mathematics, and **Martin Klein** and **Justin Newcomer** for getting their M.S. in Statistics. We expect even more graduations this year. The Graduate Program Committee is processing numerous applications for admission and we hope to recruit many new students for the fall semester.

News from the Undergraduate Program by UG Director Thomas Armstrong

In the December 2006 commencement, 14 degrees (equally divided between B.A. and B.S.) were awarded to Mathematics majors, with three dual degrees or second majors with the other degrees being Financial Economics and Computer Science. One B.S. degree was awarded in Statistics. In addition, Mathematics minors were earned by a Computer Science and a Computer Engineering degree recipient. These degrees were in addition to 10 in Mathematics awarded in August 2006. In May 2007, we again expect a large number of degrees to be awarded. Citi Financial Corporation has initiated a scholarship program for students pursuing education certification in STEM areas (Science, Technology, Engineering, and Mathematics). **Kathleen Carter**, **Theresa Reiber**, and **Joshua Okoniewski** are recipients from Mathematics for this year.

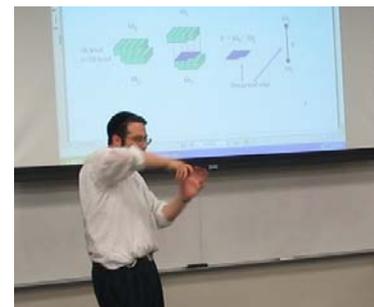### *News from the MSGSA* by President Justin Newcomer

The Mathematics and Statistics Graduate Student Association (MSGSA) has been recognized by UMBC as a new graduate student organization, starting with the Spring 2007 semester. The purposes of the MSGSA are to represent the graduate students in the department and to provide a forum for discussion of all matters concerning Mathematics and Statistics graduate students. **Justin Jacobs**, **Olena Shevchenko**, **Ravi Siddani**, and **Elizabeth Stanwyck** played a vital role in starting the organization. The MSGSA officers for 2007 are **Justin Newcomer** (President), **Alen Agheksanterian** (Vice President and GSA Senator for Mathematics), **Martin Klein** (Secretary), **Elizabeth Stanwyck** (Treasurer), and **Ravi Siddani** (GSA Senator for Statistics).

News from the Council of Majors and Pi Mu Epsilon by President Michael Atamas
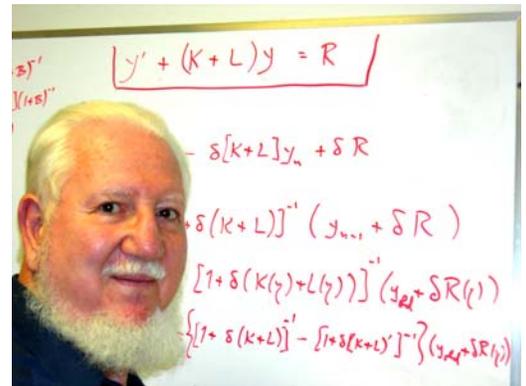
There are lots of exciting things happening with the Pi Mu Epsilon Honors Society and the Mathematics/Statistics Council of Majors. This year we started a monthly lecture series for math students which was inaugurated by Dr. **Donniell Fishkind** (photo), a UMBC alumnus and faculty member at Johns Hopkins University, with a talk entitled "*Applications of Combinatorics and Graph Theory to Medical Imaging Problems.*" Starting this Spring, we will also offer tutoring for upper level mathematics classes for the first time. These sessions, organized by Pi Mu Epsilon, will take place Fridays from 12:00-1:00 at the Study Place in the University Center. For those who cannot attend, we are also compiling a list of private tutors.

Conference in Honor of Prof. Thomas I. Seidman by Matthias Gobbert and Kathleen Hoffman

On October 28-29, 2006, the Department of Mathematics and Statistics held a two-day conference on "*Advances in Control of Partial Differential Equations*" in honor of Prof. **Thomas I. Seidman** on the occasion of his 70th birthday and his 35th year of service to UMBC. Having a conference organized for an individual scholar is a high honor in the mathematical sciences, and Prof. Seidman deserved it amply for his outstanding research record of over 150 publications with more than 60 collaborators over a span of 50 years. The 92 participants from 26 institutions gathered in the large lecture hall of the new Public Policy building to hear eight distinguished speakers from universities including Harvard, Rutgers, Virginia, and Tennessee as they reviewed advances in the field of control of partial

differential equations. The panel discussion on future directions and emerging applications highlighted new areas of research, unresolved mathematical issues, and ideas for attracting students to the area of control theory. A welcome reception was held on the evening preceding the conference at the conference hotel and attended by Provost **Arthur Johnson**. A poster session and conference banquet was held the evening of October 28 in the Skylight Room of The Commons attended by Dean **Geoffrey Summers**. At the banquet, master of ceremonies Prof. **Manil Suri** and several

other friends and colleagues of the guest of honor related anecdotes and showed pictures that reflected the life of Prof. Seidman. The final program and a list of participants can be found on the conference web page at www.umbc.edu/seidman. The department used the opportunity of this occasion for publicity for its programs and we are happy that reports of the conference have appeared in UMBC's student newspaper *Retriever Weekly* and on UMBC's Research webpage, and will appear in the *IEEE Control Systems Magazine.* The conference was organized by Profs. **Matthias Gobbert** and **Kathleen Hoffman** (UMBC), and Prof. **Stuart Antman** (UMCP). The organizers gratefully acknowledge the financial support of the National Science Foundation, the Department of Mathematics and Statistics, and the College of Natural and Mathematical Sciences.

Updates from CIRC: Weekly Software Workshops and Expanded Consulting Activities

The Center for Interdisciplinary Research and Consulting (CIRC) is designed to make the department's expertise in Mathematics and Statistics available to a diversity of clients, while simultaneously exposing participating graduate students to interdisciplinary research. CIRC continued to expand its activities by servicing an increasing array of consulting projects. Workshops on mathematical and statistical software are now offered on a weekly schedule in collaboration with UMBC's Office of Information Technology. Other activities include hosting a seminar on the COMSOL Multiphysics software for PDE modeling (right photo) and help with the conference webpage for the upcoming *Probability and Statistics Day*. The expansion of services was possible by engaging more students in the experience of interdisciplinary consulting. In addition to the RAs **Alen Agheksanterian** and **Justin Newcomer**, the CIRC staff included **Martin Klein**, **Jennifer Lambdin**, **Willy Weng**, and **Yukun Wu** in Fall 2006, shown with the Directors **Nagaraj K. Neerchal** and **Matthias K. Gobbert** (left photo), and **Aarti Gupta**, **Robert Newton**, **Elizabeth Stanwyck**, **Ines Urrestarazu**, **Willy Weng**, and **Yukun Wu** in Spring 2007. For more information or to contact us, please visit the redesigned CIRC webpage at www.umbc.edu/circ.

The Department Welcomes Two New Staff Members

With the addition of **Tarsha Randolph** (second from right) and **Deneen Blair** (second from left), the department again has four full-time staff members to support its operations. Tarsha joined the department as Administrative Assistant II in September 2006, while Deneen started as Program Management Specialist in January 2007. Continuing are **Jesse Mashbaum** (right) as Assistant Director of Business Services and **Boris Alemi** (left) as System Administrator, who have been with the department since 2001 and 1999, respectively.

Kudos

- Cambridge University Press has just published the book *Introduction to Clustering Large and High-Dimensional Data* authored by Dr. **Jacob Kogan**.
- Both **Kathleen Hoffman** and **Arthur Pittenger** were successful in obtaining support for their sabbaticals, Prof. Hoffman from the National Science Foundation and Prof. Pittenger from the National Security Agency.
- CIRC collaboration with Dr. **Mukund (Mike) Didolkar** of Mt. Sinai Hospital has received recognition as "most outstanding" among the more than 80 papers presented at the 6th Annual Cyberknife Users Meeting. **Justin Newcomer**, **Willy Weng**, and Dr. **Nagaraj Neerchal** are the CIRC members who worked on this project.
- The National Security Agency awarded a grant to support the *Probability and Statistics Day* on April 28, 2007 (principal investigators Profs. **Bimal Sinha** and **Nagaraj Neerchal**).
- Prof. **Bimal Sinha** had a live appearance on the Baltimore WBAL-TV evening news on March 06, 2007 as expert on statistics to explain the odds of one individual winning the multistate Powerball Lottery jackpot!