



ALUMNI NEWSLETTER

MATHEMATICS AND COMPUTER SCIENCE UNIVERSITY OF MISSOURI-ST. LOUIS

APRIL, 2008

<http://www.cs.umsl.edu>

LETTER FROM THE CHAIR

Dear Alumni and Friends,

Welcome to the Alumni Newsletter! It is the end of another academic year, and we are getting ready for the summer. Summer is a quieter period for many of us in the department. We have summer courses, but very few of them. Most of our faculty are traveling, visiting research collaborators, or just holed up in their offices writing papers for publication. The few of us working away at summer teaching or (in my case) running things, can only envy the others. Faculty are paid to work two semesters in the year, which is why university salaries are not competitive with "real world" salaries where people get paid for a full year. But then, we get the summers to think up new ideas in our research!

For me, this will be the last working summer for some time to come, I hope. This is my last year as Chairperson of the department, and I will pass on the mantle to Haiyan Cai, in August. The next Chairperson Dr. Cai is, as many of you know, our departmental specialist in statistics and probability. He shepherds our students through the senior level statistics sequence and teaches graduate statistics classes. These classes have always been popular with students and I suspect that we will, in the future, have a broader spectrum of statistics courses in our course offerings. Right now we are trying to hire two new faculty members, and when Dr. Cai comes in, in the Fall, he will head a rejuvenated department.

That's wonderful, because the last year was not all that easy. The worst event was the passing of Professor Kyungho Oh last summer, after a long struggle with cancer. He was 48 and he will be missed. Preetam Desai and Monica Brown, two of our lecturers, left the department for other employment. With such holes in the department, getting two new faculty members will make us all feel stronger.

I won't say much more. Visit our website; it's new. Enjoy the newsletter that John, Nazire, Galina and Emily have put out, and think of us over the next year.

Cordially,

A. Prabhakar Rao



A. Prabhakar Rao

WE MOURN THE PASSING OF DR. OH

Kyungho Oh, associate professor of mathematics and computer science, died on Monday, June 11 2007 of complications from cancer at the age of 48. He had been at the University of Missouri-St. Louis since 1990, first as visiting assistant professor of mathematics and then as assistant professor and associate professor.



Kyungho Oh

Dr. Oh did his undergraduate work at Seoul National University and received his PhD in mathematics from Purdue University in 1990. His advisor was Joseph Lipman and his early work was in algebraic geometry. He later worked in string theory and received the courtesy title of associate professor of physics and astronomy. Dr. Oh published more than 30 papers in these two areas of research, as well as in computer graphics.

Dr. Oh visited other institutions extensively during the last 15 years, mostly for a semester to a year at a time. These included visiting stints at the physics departments of Yonsei University and Harvard University, and the mathematics departments of KIAS and POSTECH in Korea, UC-Santa Barbara and the University of Warwick. He attended string theory and algebraic geometry conferences around the world, giving more than a dozen invited lectures or lecture series. His research received support from university sources as well as the National Science Foundation and the Korea Research Foundation.

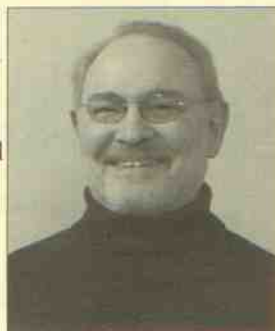
Dr. Oh was an energetic teacher at all levels. He taught graduate courses in pure mathematics and applied mathematics, undergraduate courses in mathematics and in computer graphics, and even the department's first on-line course in College Algebra. One of the last things he did was to organize a section of the US Mathematics Olympiad exam on the UMSL campus in Spring 2007, while already suffering from effects of his disease. For many years, he was faculty advisor to the Korean Students' Organization.

Professor Oh leaves behind three children Stephanie, Christine and David, his wife Dr. Mikyeung Park, his three brothers, and his parents.

HYMAN BASS TO DELIVER THE ELEVENTH ANNUAL SPENCER LECTURE

On Monday April 21 at 7:30 p.m. in the Century Room of the Millennium Student Center, Hyman Bass will present the Eleventh Annual Spencer Lecture. His talk is entitled "Improving U.S. Mathematics Education: Myths and Realities."

[Abstract: Although there is widespread dissatisfaction with U.S. students' mathematical performance, there is little agreement on the roots of the problem or its solutions. This presentation will argue that teacher capacity and teaching quality are key to the improvement of mathematics education, and will analyze the levers that could make a difference for their effectiveness.]



Hyman Bass

Hyman Bass is an American mathematician, known for work in algebra. From 1959-1998 he was Professor in the Mathematics Department at Columbia University. He is currently the Roger Lyndon Collegiate Professor of Mathematics and Professor of Mathematics Education at the University of Michigan.

He earned his Ph.D. in 1959 from the University of Chicago. His thesis, titled Global dimensions of rings, was written under the supervision of Irving Kaplansky.

He has held visiting appointments at the Institute for Advanced Study in Princeton, IHES and ENS (Paris), Tata Institute (Bombay), University of Cambridge, UC Berkeley, University of Rome, IMPA (Rio), National Autonomous University of Mexico, Mittag-Leffler Institute (Stockholm), and the University of Utah. He was president of the American Mathematical Society.

Bass formerly chaired the Mathematical Sciences Education Board (1992-2000) at the United States National Academy of Sciences, and the Committee on Education of the American Mathematical Society. He is now President of ICMI. Since 1996 he has been collaborating with Deborah Ball and her research group at the University of Michigan on the mathematical knowledge and resources entailed in the teaching of mathematics at the elementary level. He has worked to build bridges between diverse professional communities and stakeholders involved in mathematics education.

His research interests have been in algebraic K-theory, commutative algebra and algebraic geometry, algebraic groups, geometric methods in group theory, and functions on finite simple graphs.

A NATIVE CALIFORNIAN MOVES EAST



Rich Friedlander

I was born and raised in Southern California. I went to high school in the San Fernando Valley, and then attended UCLA, where I obtained my B.A., M.A., and Ph.D. degrees in mathematics. While in graduate school at UCLA, I was a teaching assistant in the mathematics department for all but my last year. In that last year, I was offered the opportunity to work in the University of California's Community Teaching Fellowship (CTF) program. In this program, selected graduate students from each of the UC campuses worked with elementary schools in their geographical areas, using discovery methods to teach mathematical content that went beyond the normal curriculum that the students were studying. While I enjoyed working in this setting, I never imagined that it would lead to my obtaining a position at a university that would involve working in mathematics education.

When I finished my doctorate in 1972, the job market for new Ph.D.s was really tough. There were many more applicants for tenure track positions at universities than there were available positions. As a result, many new Ph.D.s were forced to take one or two year visiting positions. I decided that I wanted to get a job where I could stay in one place and obtain tenure after six years. In order to maximize my chances of doing so, I applied to universities from all over the country, including St. Louis. As it turned out, UM-St. Louis was seeking a Ph.D. mathematician who would be a joint appointee with the university's College of Education. While I had never even taken an education course in my life, my experience working with the schools in the CTF program at UCLA led the mathematics department at UMSL to contact me about my interest in the position. I came out for an interview, and while I really knew next to nothing at the time about mathematics education, I viewed this as an opportunity to branch out into a new and important area. I was offered the position (basically, the math department forced me on the College of Education!), and I accepted.

Moving to St. Louis from Southern California was a big adjustment for me – both environmentally and academically. While I liked the St. Louis area, I missed the ocean and the mountains. As a graduate student at UCLA, I lived right by the beach - in those days, it was actually affordable to do so on a graduate teaching assistant's salary. I also had to adjust to the Midwest weather. On the academic side, I felt very comfortable in the mathematics department, but I felt like a fish out of water in the College of Education (and was treated like one by some of their faculty). It took me awhile to "learn the ropes" about mathematics education, but I eventually did so. This was greatly assisted by my attending local, regional, and national meetings of mathematics education professional organizations, as well as my participating in a National Science Foundation program

for mathematicians who wanted to become leaders in mathematics education.

In addition to working with the mathematics students at UMSL who want to become high school teachers, I have been the Associate Chair of the Department of Mathematics and Computer Science since 1992. While this administrative position entails a lot of work, it also provides a valuable service to the department. In addition, it gives me an opportunity to work with all of the faculty in the department, as well as interact with many of our students. I guess I'm doing an OK job as Associate Chair, since over the years nobody in the department has asked me to leave the position!

As for my personal interests, I have liked sports – both as a spectator and as a participant - ever since I was a child. In high school, I played both baseball and basketball, and I continued to play basketball in college. While I was a pretty good player, I certainly wasn't at the level where I could play intercollegiate basketball for UCLA, which won the NCAA basketball championship under legendary coach John Wooden in 8 out of 9 years during the time I was there (which is something that without a doubt will never be done again). However, I did play basketball in the large and very competitive intramural league that was run by UCLA, and the competition at that level was very tough. In fact, there was a team in the league each year that consisted of players who had been high school stars recruited by UCLA, but who for one reason or another wound up not playing on the varsity basketball team. And this team didn't even win the intramural league most years. We had some pretty good basketball players in the math department at UCLA at that time, so I organized a math department team. With the help of a couple of "ringers" from outside the department, we were a very competitive team in the league. In fact, most years we would advance to the playoffs and even win a game or two before getting knocked off.

In addition to playing intramural basketball while at UCLA, I started to do some running. There was a group of graduate students in the math department who would run every afternoon. I joined them when I had the time, but I wound up missing more days than I wanted to. Still, I enjoyed doing it, and from that point on I incorporated running into my exercise routine. After moving to St. Louis, I started to run some local road races, usually at distances ranging from 5km to 10km. At first I didn't take it very seriously, and would just run the races to get a good workout. But after awhile, I decided that I would start to get on a better schedule and train more consistently. I increased my mileage to around 50 miles per week, and started doing interval training on the track with some top area runners I had met. As I did this more intensive training, I found that I had a lot of natural ability as a runner that I wished I would have tapped into when I was still in high school. My times improved greatly, and I became one of the top runners in my age group in the St. Louis area. This led me to enter races at both the national and international levels, where the competition was really tough. What helped me do well

in these competitions was the fact that, unlike most of my competitors, as I got older, my times continued to improve. This was probably due in part to the fact that I had kind of a late start to my running career, so I didn't have a lot of years of wear and tear on my body that led to many of my competitors either breaking down or burning out as they got older. But a bigger factor was that, as the years went by, I learned how to train more effectively and efficiently. In fact, I ran my best times ever in the 5km and 10km at the World Veterans Games in Eugene, Oregon at age 45, and placed in the top five in the world in the 45-49 age group for each of these races.

A few years after this I had a freak bicycle accident that, when it happened, was pretty devastating to me, but which ultimately proved to be a good example showing that out of adversity, opportunity can arise. In this accident, I fractured my hip. I had to have surgery to insert three screws into the neck of my femur, and my doctor said that it was unclear if I'd ever be able to run again. I was on crutches and was non-weight bearing on my left leg for almost 6 months, after which I began physical therapy and rehab. I started walking on treadmills, at first very slowly, but then faster and faster as I progressed. While my doctor wanted me to do this faster walking in order to rebuild the strength of my leg muscles, he restricted me from trying to run for an entire year, as he wanted my hip to totally stabilize without risking the pounding that comes with running. As I walked faster and faster on the treadmill, I found that I could get a pretty good workout. In order to become more efficient at this, I started to learn about proper racewalking technique. I was greatly assisted by the track coach at Southern Illinois University – Carbondale, who I met at a track and field clinic here in St. Louis. He was a former Olympian in the racewalk who had recently resumed competing at the Masters level (which is restricted to athletes of age 35 and over). He invited me to come down to Carbondale, where he could work with me on my form. I went down there a couple of times, and he said that he thought that I had a lot of ability as a racewalker, and that if I stuck with it, I could even beat him. By this time, I was able start running again - fortunately, I had a full recovery from the bicycle accident (although I still to this day have three screws in my left hip). I began to alternate running and racewalking workouts and pointed to the next World Veterans Games, which were to be held in Durban, South Africa in a year and a half. A month before going there, I did beat the SIU coach in the 5km racewalk at the U.S. National Masters Track and Field Championships, and then I went on to win the 50-54 age group 5km racewalk at the World Veterans Championships in Durban, posting the fastest time for all of the age groups. I also placed 2nd in my age group in the 20 km racewalk at those championships.

In the years since that time, I have cut back on competing – although I still work out most every day. But now there are a lot of exercise options available to me that I didn't used to have. In the basement of my home in Chesterfield I have a treadmill, a lifecycle, an elliptical trainer, and a rowing

machine. So I am able to vary my workouts daily. Also, if I have to miss a day or two due to being too tired or too busy, it's no big deal. When I was training for races, I hated to have to miss days, as it would throw off my training schedule. Also, there are other priorities that come with getting older. My lovely wife Sun and I have two adorable grandchildren, an 8-year old girl named Kaylie and a 5-year old boy named Athan. They spend most every weekend with us, and they bring a lot of joy to our lives. Keeping up with them has become my new competition!

CONGRATULATIONS TO SCHOLARSHIP WINNERS FOR 2007

Alumni Scholarship

Samuel Bennett
Bryan Cool
Denny Slover
Brian Schwartz
Eric Lee

Andalafte Memorial Scholarship

Amy Arneson

Raymond and Thelma Balbes Scholarship in Mathematics

Nathaniel Maichel

Joseph M. and Mary A. Vogl Scholarship in Mathematics

Philip Johnson
Philip King

A total of more than \$25,000 was awarded in 2007.

JIM SMITH

Working at UMSL as a graduate teaching assistant in the Math Department is really the start of my third career. After getting a B.A. in math at Washington University in 1972, I've been, at different times, a registered nurse and an IRS customer service rep. I occasionally gave technical presentations to my colleagues at the IRS, and the positive feedback from these efforts ignited my ambition to teach a subject I love—math. Since August 2004, I have not only been able learn from really great teachers, but I've also been able to work alongside them doing research. That and teaching my own classes (so far, Trigonometry, College Algebra, and Basic Calculus) have given me invaluable experience that will help propel me toward my goal, which is to teach at the college level. I obtained my M.A. in



Jim Smith

December 2006, and I'm now enrolled in the Ph.D. program, working with Dr. Q. Jiang in the area of refinable functions and surface subdivision schemes, which is topic of my upcoming survey paper.

STUDENTS PRESENT COLLOQUIA

During the past year two students presented talks to the department and students at large.

On April 25, Mark Hauschild presented a talk entitled

Analyzing Probabilistic Models in Hierarchical BOA on Traps and Spin Glasses

The hierarchical Bayesian optimization algorithm (hBOA) can solve nearly decomposable and hierarchical problems of bounded difficulty in a robust and scalable manner by building and sampling probabilistic models of promising solutions. Mark's talk analyzes probabilistic models in hBOA on two common test problems: concatenated traps and 2D Ising spin glasses with periodic boundary conditions. He argues that although Bayesian networks with local structures can encode complex probability distributions, analyzing these models in hBOA is relatively straightforward and the results of such analyses may provide practitioners with useful information about their problems. The results show that the probabilistic models in hBOA closely correspond to the structure of the underlying optimization problem, the models do not change significantly in subsequent iterations of BOA, and creating adequate probabilistic models by hand is not straightforward even with complete knowledge of the optimization problem.



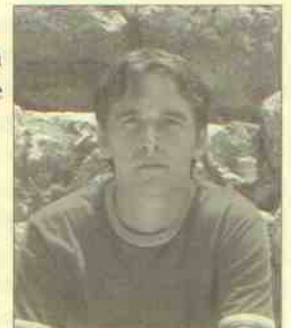
Mark Hauschild

Mark Hauschild is a Research Assistant at UMSL and does research for the Missouri Estimation of Distribution Algorithms Laboratory (MEDAL).

On November 13, Srdjan Grubor presented a talk entitled

Content-Aware Image Resizing

Standard image resizing operations are done by various methods which usually do not take into account the content of the image. A seam-carving method, introduced by Shai Avidan and Ariel Shamir does take into account this content and removes or adds "irrelevant" areas of the input image to re-target the result saliently to desired dimensions. By using this method, it is possible to create multi-size images that could be used on almost any screen output format



Srdjan Grubor

while retaining more of the visually needed content information.



Srdjan Grubor delivering his talk

Srdjan Grubor received his B.S. degree in Computer Science from UMSL in May 2004 and has finished his M.S. degree in Computer Science in Fall 2007. He has taught various Computer Science classes on and off-campus for the last three years. Research interest include machine learning, artificial life, computer graphics, image processing, security systems, and code optimizations.

NEWS FROM GRADUATES

Don Ancona

BA, Mathematics, 1978
Current residency: Albuquerque, NM
Current employment: Business Owner
Recent news: Celebrating my company's 10 year anniversary.
Favorite Math/C.S. professor: Dr. Andalaft, sense of humor and thoroughness.
Favorite thing about UMSL: For a commuter campus, the best!



Don Ancona

Cathleen (Cate) Aubuchon

BS, Mathematics, 2007
Current residency: St. Louis
Current employment: Actuarial Assistant, Millman, Inc.
Favorite Math/C.S. professor: Drs. Rao, Cai, Jiang, and Piatnitskaia. They all taught me a lot about math.
Favorite thing about UMSL: My job in the Math Lab.

Alicia Becton

BS, Applied Mathematics, 1993
Current residency: Nashville, TN
Current employment: Zander Insurance Agency
Favorite Math/C.S. professor: Schneider - he made Calculus entertaining.

Ann Boehmer

MA, Mathematics, 2000
Current residency: Washington, MO
Current employment: East Central College
Favorite Math/C.S. professor: Dr. Andalaft
Favorite thing about UMSL: The people I met.

John Brocato

BA, Mathematics, 1996
Current residency: Hazelwood, MO
Current employment: Northwest R-I School District
Favorite Math/C.S. professor: The late Dr. Andalaft was my favorite because he always took the time (beyond scheduled office hours) to answer students' questions. He was enthusiastic about the subject and wanted to make sure we learned the material.
Favorite thing about UMSL: The Thomas Jefferson and Ward Barnes Libraries are excellent resource centers!

Nathan Causey

BS, Computer Science, 2003
Current residency: Maryland Heights
Current employment: Save-A-Lot, Ltd.
Recent news: I recently started a new job with Save-A-Lot after seven years with AT&T. It has been a wonderful experience so far and I am continuing to build on my Information Technology skills.
Favorite Math/C.S. professor: Ronald Dotzel, He was a great teacher and always had related the problems to things in real life which was a great concept.
Favorite thing about UMSL: I actually miss the college experience at UMSL because of the great friends and atmosphere.

Christine Claspille (formerly Christine Sullivan)

BS, Computer Science, 1988
Current residency: Florissant, MO
Current employment: Boeing
Favorite thing about UMSL: Library!

Moshe "Len" Cohen

BSCE, BS Computer Science, minor in math, 2007
Current employment: Northwestern University, Evanston IL, MS/PhD in civil engineering
Favorite Math/C.S. professor: Prof. Schulte: extremely knowledgeable about his classes and computers in general, willing to help, and an entertaining lecturer.

James A Crotty

BS, Mathematics, 1970
Current residency: Inverness, FL
Current employment: IBM Business Analyst.
Favorite Math/C.S. professor: Too long ago to remember, recall Deborah T. Haimo
Favorite thing about UMSL: Quality education at affordable cost and live at home.



James Crotty

Sajalendu Dey

MS, Computer Science, 2004

Current residency: Bridgeton, Missouri

Current employment: Professor of Physics and Computer Science Lindenwood University, St. Charles, Missouri

Favorite Math/C.S. professor: Dr. Uday Chakraborty. He never looked into his lecture notes while he was giving lecture in the class, and always very enthusiastic about his research.

Favorite thing about UMSL: I enjoyed working in the computer lab of the university. The lab was always very well-managed.

Michael Ducey

BS, Computer Science, 2003

Current Residency: Columbus, Ohio

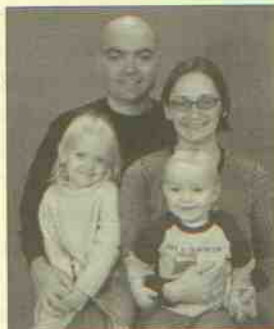
Current employment: Orbitz

Worldwide

Recent news: We moved to Columbus in October 2007 from Chicago. I am working on continuing my MBA at Ohio State University. I still work (via telecommuting) at Orbitz Worldwide where I do performance and capacity planning for their applications.

Favorite Math/C.S. professor: Paul Schneider, he made class fun and made difficult subjects easy to understand.

Favorite thing about UMSL: Causing trouble for Campus Computing.

*Michael Ducey***Keith Eldridge**

BS, Computer Science, 1984

Current residency: St. Louis

Current employment: Missouri Institute of Mental Health

Justin Fite

BS, Computer Science, 1990

Current residency: Indianapolis, IN

Current employment: VP Sales, Appistry (software company based in St. Louis)

Dev Goswami

MS, Computer Science, 2006

Current residency: Boston

Recent news: I am back to school again. I am a graduate student at MIT-Sloan.

Favorite Math/C.S. professor: Sanjiv Bhatia. Sanjiv is a wonderful person. I really enjoyed intellectually stimulating discussions with him.

Favorite thing about UMSL: My fellow classmates.

Chris Grove

BA, Mathematics, 2006

Current residency: St. Louis

Current employment: Hazelwood School District

Favorite Math/C.S. professor: Mr. Dotzel because his teaching style was such that I understood the material easier. He really seemed to care about his students.

Brian Hogg

BS, Computer Science, 1987

Current residency: Webster Groves

Current employment: AG Edwards (Soon to be Wachovia)

Nicholas K. Inabnit

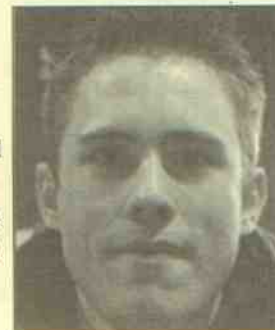
BS, Computer Science, 2006

Current residency: St. Louis, MO

Current employment: Junior UNIX Systems Admin at Fleishman-Hillard

Favorite Math/C.S. professor: John Antognoli, because everything (quizzes, tests, projects, notes, etc.) was done on the computer. I don't like pen and paper.

Favorite thing about UMSL: Good computer infrastructure and computing labs.

*Nicholas Inabnit***Bill Johnson**

BS, Computer Science, 1998

Current residency: Arnold, MO

Current employment: IS Supervisor Servers, Sigma-Aldrich Chemical Corp.

Recent news: Recently promoted to Supervisor over the server group. Have been working on projects globally that have taken me to Sweden, Australia, Mexico and Canada.

Favorite Math/C.S. professor: E.Z. Andalaft. He was very helpful in making me understand mathematical logic.

Favorite CS professor was Sanjiv Bahtia. He made hard work fun.

Favorite thing about UMSL: My favorite thing about UMSL was the CS lab and the library. They are the places that I was able to get more work done.

Dan Koester

BS, Mathematics and BS, Computer Science, 2005

Current residency: Austin, TX

Current employment: Software Engineer for RF Code

Recent news: Nothing out of the ordinary.

Favorite Math/C.S. professor: Schulte due to his constant high spirits and pure enjoyment of his job.

Favorite thing about UMSL: Close nit feels of the Math and CS departments.

