



ALUMNI NEWSLETTER

MATHEMATICS & COMPUTER SCIENCE UNIVERSITY OF MISSOURI – ST. LOUIS

MARCH 2009

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

LETTER FROM THE CHAIR

It is my pleasure to greet you as the new chair in this issue of the Alumni Newsletter. After six years as chair of the department, Professor Rao took a well-deserved break and passed the baton to me. I am excited to work with our wonderful faculty, staff, students, and alumni in carrying out the missions of the department. Together, we will continue our tradition of striving for excellence in teaching, research and community service.

I think of our department as a big extended family. Our alumni are an important part of this family. We are proud of you and always like to know how you are doing and to hear your feedback about our programs. At the same time, we would like for you to know what we are doing. On our department website we have updated the “Alumni & Graduates” page. You can update your information and check for the latest news from our Alumni Committee. For example, pictures from the fall 2008 hike organized by the Alumni Committee have been posted. We have also created the “UMSL Math & CS Alumni” group on Facebook.



Let me share some good news! We have two new assistant professors joining us this year. Dr. Nevena Marić obtained her PhD from San Paulo University of Brazil in 2006. She was a visiting professor at Syracuse University prior to joining us. Her research interests are in probability and statistics, and she will help us boost our curriculum in statistics, a popular area of study among our students. Dr. Ravindra Girivaru got his PhD from the Institute of Mathematical Sciences of India in 2003. He was a visiting professor at Washington University from 2003 to 2006, and an assistant professor at the Indian Institute of Science. His main research interest is in algebraic geometry. He will join forces with our current faculty and strengthen our research in this area.

Many of you know Kimberly Stanger and Deloris Licklider, our administrative staff. I am happy to tell you that they both won UMSL Employee of the Month awards this year. These are well-deserved awards. Their dedication to providing the best service to students and the department is truly exemplary.

The current economic downturn has been dominating the news in the recent months and it puts much stress on higher education. Our department has certainly felt the pressure. Confronted with funding uncertainties, we have been asked to scale back expenses significantly. However, I want to assure you that our commitment to providing excellent teaching and service to the people of the community has not changed. This year, our faculty and staff have devoted more time and energy than ever to providing high quality instruction and the best possible service to all students. Following a successful transformation of college algebra, we continue to explore new technologies for more efficient teaching in other courses. Our faculty members continue conducting high level research in the areas of mathematics, statistics and computer science.

Haiyan Cai
Associate Professor and Chair

2009 SPENCER LECTURE NEAL KOBLITZ

“What Mathematics Can and Cannot Contribute to Cryptography”

The 12th annual Spencer Lecture will be held on Tuesday April 28th from 7:30 to 8:30 p.m. in the Century Room of the Millennium Student Center. Professor Neal Koblitz will present a discussion highlighting the history of applications of mathematics to public key cryptography, focusing on topics in number theory and algebraic geometry which have significant cryptographic relevance. The influence of mathematics in cryptography has sometimes, however, inspired specious “proofs” which seemingly imply that a system is secure when that is not necessarily the case.

Professor Koblitz is from the University of Washington and is also an adjunct professor with the Centre for Applied Cryptographic Research at the University of Waterloo. He is the creator of hyperelliptic curve cryptography and independent co-creator of elliptic curve cryptography. Professor Koblitz received his undergraduate degree from Harvard University in 1968, where he was a Putnam Fellow, and his Ph. D. from Princeton University in 1974 under the direction of Professor Nicholas Katz. His published works includes the books *p-adic Numbers, p-adic Analysis and Zeta-Functions*, *Introduction to Elliptic Curves and Modular Forms*, and *A Course in Number Theory and Cryptography*.



Professor Neal Koblitz

SCHOLARSHIPS

In 2008 a total of \$27,000 was awarded to nine deserving undergraduate students. Congratulations to all of our scholarship winners!

Mathematical Sciences Alumni Scholarship

Amy Arneson	Rahav Dor
Philip King	Robert Meile
Shane Meyer	Matthew Nelson
Jennifer Stefl	

Andalafte Memorial Scholarship

Nathaniel Maichel

Raymond and Thelma Balbes Scholarship

Tori Pierce

COMPETITIONS

The **Andalafte Mathematical Competition**, sponsored by the Department of Mathematics and Computer Science, was instituted in 2006 to inspire an attitude of scholarship and excellence in mathematics. The three hour exam is accessible to students having a preparation of at least Calculus II. Three monetary prizes are offered. The winners of the 2008 competition were **Nathaniel Maichel**, **Robert Lockley**, and **Shane Meyer**.

Each year, UMSL participates in the **Putnam Exam**. This challenging exam is given at all universities simultaneously and is in its 68th year. The top achievers are designated as Putnam Fellows and many of these have gone on to prominence in their fields. This year, the UMSL team was comprised of **Nathaniel Maichel**, **Steven Burkett**, and **Peter Lane**.

For the last few years we have offered the **AMC 10/12** exam for high school students. This annual competition is sponsored by the Mathematical Association of America and the American Mathematical Society. High achievers on this test are invited to participate in the AIME exam. Based on those results, members of the U.S. Mathematics Olympiad Team are selected, which competes against teams from all over the world. Some of the high achievers on the AMC exam have since enrolled at UMSL as mathematics undergraduates.

MEET OUR NEW FACULTY

NEVENA MARIĆ



Nevena Marić was born and raised in Serbia, where she graduated from the Department of Mathematics at the University of Belgrade. In 2000, Nevena went to Campinas, Brazil to continue her education. She obtained a Masters of Science degree in Statistics from the State University of Campinas and then a Ph.D. from the University of Sao Paulo. Her research is focused on Probability and Stochastic Processes. She enjoys returning to Latin America to visit with friends and collaborators in her research field. After graduation in 2006, Nevena obtained a post-doctorate position at Syracuse University, where she spent the following two years doing research and teaching.

Nevena started as an Assistant Professor at UMSL in the fall of 2008. She is married and her husband is a multimedia artist. In her free time, she loves to swim.

Together with her family, she runs a Foundation in memory of her sister Katarina, who was killed in a traffic accident in 2003. Her sister was a psychologist and the Foundation aims to support young researchers from Serbia in that area. More information can be found on the web site <http://fondkatarinamaric.org/home-en.htm>

RAVINDRA GIRIVARU

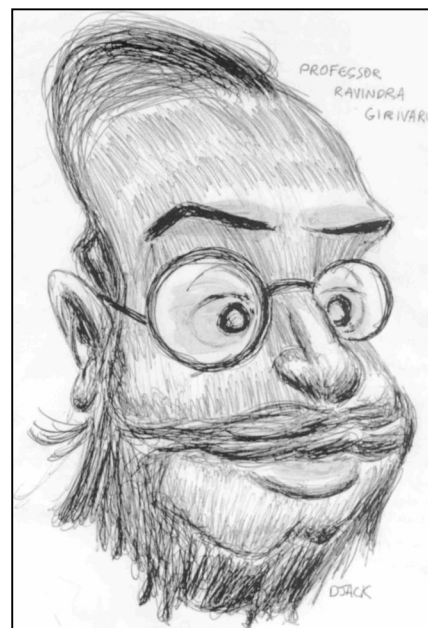
Ravindra Girivaru received his degree from the Institute of Mathematical Sciences and University of Madras in Chennai, India. His area of research is algebraic geometry. This is the study of spaces, which are defined as the zero loci of a collection of polynomials. Algebraic geometry is a broad subject with plenty of applications in diverse fields from number theory to physics.

Prior to starting work at UMSL this semester, Ravindra spent time at the Tata Institute of Fundamental Research, India, as a visiting fellow, and at Washington University as Chauvenet lecturer, where, for the first time, he started teaching. His most recent position was as a tenure track Assistant Professor at the Indian Institute of Science in Bangalore, India.

One thing that really impresses Ravindra about UMSL students is how so many of them are working full or part-time jobs and putting themselves through school. He is absolutely amazed at how busy his students are both in and out of the classroom. He applauds their efforts to better themselves while still managing a career.

*Drawing of
Ravindra
Girivaru by
former student
Dmitri Jackson*

*(Editor's note:
To see an
actual photo
of Ravindra,
please see the
publications
list!).*



CS COURSES RECEIVE GRANTS

by Cezary Janikow

It was quite a few years ago, when the I-70 interchange was being redesigned, metrolink was already running and a new parking lot at Hanley was being designed, that UMSL decided to acquire land along I-70 for a Research Park. The park was to house a number of companies that could benefit from their proximity to the campus. At the same time, UMSL faculty and students could benefit from business and research opportunities. I was part of a group that collaborated with outside consultants. Soon, a large company, Express Scripts (ESI), wanted to occupy the park. Established in 1986 and headquartered in St. Louis, the company provided mail order prescriptions, and then complete prescriptions plans. Along the way, ESI became a Fortune 500, then a Fortune 150 company, and in 2008 made the list of "America's Most Admired Companies."

A few years ago ESI moved about half of its local workforce to a new building next to Mark Twain (a second building was also recently completed). I attended IT committee meetings with ESI, discussing possible collaborations. From there I established contacts, enabling collaborations directly with our department. I proposed that our graduate classes use semester projects provided by ESI. This would allow ESI to establish closer relationships with CS faculty, CS faculty could discover which technologies the company is most interested in, and students could benefit from developing software for real clients while establishing contacts.

The first project ran in CS 5500 (Software Engineering) in Fall 2007. ESI provided financial support in the form of a grant. If a set of core requirements was met, ESI would also pay licensing



Students in CS 5500 discuss their projects during class

fees, coming to the department and participating students. Moreover, some of the money would be used as a prize for the best project. The first project was a Network Load Tool, a tool that allows testing a network's capacity to carry a load, while measuring some network characteristics. We soon realized that one of the core requirements, generating data streams up to 1Gbps, was technologically risky, something missed during the initial analysis. We agreed on lowering this requirement. Most of the teams met the modified requirements, and two teams were selected to share prizes.

The second project ran in CS 5010 (Advanced Java) in Fall 2008. It was Member Mobile Portal, a tool that allows a company's clients to access and update their orders and account information using their mobile devices. This project was also a success, with two teams sharing prizes.

For Spring 2009 two projects are running. In CS 5880 (Independent Project) the Pharmacy Locator evaluates different technologies to enable a company's clients to access prescription and drugstore information on mobile devices. In CS 5500 (Software Engineering) the Release Scheduling Tool is a database tool for allocating employees to projects and tracking these allocations.

Other faculty members have also participated by incorporating projects and related technologies into their classrooms. So far, Dr. Chakraborty and Dr. He have participated, with Mike Schulte providing network assistance for one of the projects. We are currently discussing another project for Fall 2009, as well as other collaborative means.



Dr. Chakraborty's CS 5500 class with guests Cezary Janikow (far left) & James Korte of ESI (2nd from the right)

ANDALAFTE MEMORIAL HIKE

The Alumni Committee held the first Andalafte Memorial Hike on Saturday October 25, 2008. Approximately 30 alumni, faculty and students, along with family and friends, came together to enjoy a beautiful fall day at Castlewood State Park in Ballwin.



Ed Andalafte

Alumnus Chris Gund recalls the great impact Dr. Andalafte had on his education. “Dr. A. was a very generous and patient man. He spent a copious amount of time with me outside the classroom working through problems and explaining concepts regardless of whether it was for one of his classes or a graduate class at another institution. Without his help and encouragement I would have never completed the program.”



Steve Gomez, Sanjiv Bhatia, Martin Pelikan, & Andrea Liszewski



Ann Podleski & Linda Hollinger

We hiked the River Scene Trail, a three mile trail which includes beautiful views from the bluffs of the Meramec River. The changing leaves provided a stunning backdrop to a day filled with fun and memories of Ed Andalafte, the man who introduced the Department of Mathematics & Computer Science to hiking at Castlewood.



Erich and Chris Gund

“The good turnout at the hike was a testimonial to the lasting impact and influence the man had on the department and so many of its students,” says Chris. He and his son, Erich, joined us for the hike.

Mark your calendars! We will be hiking again on October 24, 2009. Additional pictures from the hike can be viewed at:
<http://www.cs.umsl.edu/alumni/Hike2008/>

CS STUDENTS WIN GRANT

In September of 2008, Sun Microsystems, Inc. awarded competitive grants to six teams of students for its OpenSolaris Undergraduate Student Research Program. The UMSL team, comprised of Antonin Brjetchka, Drew Garrett, Dante Avery and Prasad Raghavendra, along with faculty advisor Sanjiv Bhatia, was the only U.S. team to receive a grant.



Dante Avery, Antonin Brjetchka, Drew Garrett & Sanjiv Bhatia

The OpenSolaris Undergraduate Student Research Grant Program was created to recognize student research projects related to OpenSolaris, the open source version of Solaris operating system. The UMSL team proposed developing a utility for image management and search functionality in OpenSolaris. Upon receiving the grant, the team set up a lab and developed code and user interface for both Content-Based Image Retrieval (CBIR) and Text-Based Image Retrieval (TBIR). CBIR allows users to select an image and search for similar images or retrieve information about the picture. TBIR allows the user to specify keywords and search for images annotated with those words. The team also combined both content and text searches. The code for this project can be found at: <http://solaris-lab.cs.umsl.edu>

Faculty advisor Sanjiv Bhatia was pleased with the results of the project. "They did a fantastic job. They put in a lot of work and learned a lot." Now that the project is complete, project leader Antonin Brjetchka is developing a package that can be downloaded for use with OpenSolaris and the team also plans to submit a paper for the UMSL Undergraduate Research Symposium.

MARK YOUR CALENDARS

April 28, 2009 **SPENCER LECTURE**
August 29, 2009 **DEPARTMENT PICNIC**
October 24, 2009 **ANDALAFTE HIKE**

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Join the UMSL Math & CS Alumni Group:
<http://www.facebook.com/group.php?gid=52707278682>
Stay up to date with department news and network with classmates and faculty!

WE NEED YOUR GIFT!

If you would like to make a donation to the department please fill out this form and mail it to:

University of Missouri – St. Louis
Department of Math & Computer Science
303 Computer Center Building (MC 61)
One University Boulevard
St. Louis, MO 63121-4400

Enclosed is my gift of

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STEVE GOMEZ – CARDS FAN

After earning his MS in Computer Science in December 2008, Steve Gomez is working as an Embedded Systems Engineer at bioMerieux, Inc. Although he's graduated, Steve plans on writing a paper about his graduate project, a bird watching system he installed in his backyard.

The birdfeeder in Steve's backyard is a popular hang out for cardinals. While visiting, Steve's mom mentioned that she doesn't get to see cardinals where she lives in Oklahoma. Her comment planted the seed that would eventually grow into Steve's bird watching project.



Steve's bird watching project in action



Steve Gomez on the Andalafta Hike

Steve's system consists of an embedded Linux controller and an inexpensive USB camera. Combining this with the UNIX and image processing experience he gained at UMSL, Steve developed his "Cardinal Cam." The system takes a picture when a bird lands on the perch of the feeder. The pictures can then be viewed with a web browser.

"When it came to the point where I could 'see the end of the tunnel,' I wanted to do something that would not just give me my last three credits, but would be a challenging capstone that would bring together most of the skills that I had been collecting along the way."

ANDREA STEPHAN SURVIVES MATH BOOT CAMP



Andrea Stephan

Mathematics major Andrea Stephan is graduating this May. Last December she began working as a geospatial analyst at GeoEye and plans to continue working there after graduating.

Last summer, Andrea was one of 11 students to attend an eight week program at the Summer Math Institute (SMI) at Cornell University. "It's designed to prepare students for the rigors of graduate school. I like to call it math boot camp," Andrea says. The drills included classes, project sessions and lectures, and homework sessions, often lasting past 11 p.m. In addition, the SMI students had the opportunity to meet visiting mathematicians who came to speak with them about their different research interests.

It wasn't all hard work, though. The students were able to enjoy themselves on the weekends, and even took a trip to Niagara Falls. "SMI really showed me how to learn. It helped me realize just how vast the different research areas are in mathematics. I also love all the friendships I developed as a result of SMI, we all try to stay in touch."

UDAY CHAKRABORTY

We are pleased to announce that Uday Chakraborty has recently published a new book. *Advances in Differential Evolution*, edited by Dr. Chakraborty, is available through publisher Springer-Verlag.



“Differential evolution is arguably one of the hottest topics in today's computational intelligence research. This book seeks to present a comprehensive study of the state of the art in this technology and also directions for future research,” the publisher’s website states.

NATHANIEL MAICHEL STAR SENIOR

Andalafte Memorial Scholarship recipient, winner of the Andalafte Mathematical Competition, member of UMSL’s Putnam team. This star senior graduates in May and plans to pursue a masters in Operations Research, perhaps at Cornell, where he’s already been accepted. And Nathaniel still finds time to work in UMSL’s Math Lab as a tutor!

Nathaniel grew up in south St. Louis and as a high school senior, he took two math courses and a CS class as a dual enrollment student at UMSL. From high school senior to college senior, Nathaniel has been pleased with his education. “My favorite thing about UMSL has been the opportunity to receive a good education with encouraging professors, while still being able to live in town.”



Nathaniel Maichel

Nathaniel hopes to find a summer internship so that he can put his math skills into practice before attending graduate school in the fall.

DEPARTMENT STAFF HONORED

Administrative Assistant, Kimberly Stanger, won the UMSL Riverstars Employee of the Month in November for her outstanding customer service. Comments made about Kimberly included, “Kimberly’s office door is always open.” “Kimberly is professional in everything that she does.” “It is important to Kimberly that the department as a whole presents itself in the best and most professional way possible.” Kimberly also celebrated 20 years of service to UMSL in April.



Kimberly Stanger is pushed into the river by Sanjiv Bhatia during the Andalafte Hike, as alumna Andrea Liszewski looks on

Administrative Associate, Deloris Lickliger, won the UMSL Riverstars Employee of the Month in December for her loyalty and commitment. Comments made about Deloris included, “There is no stronger advocate for UMSL than Deloris.” “Deloris is always thinking about ways to represent and promote the university in a positive manner.” “Deloris takes the initiative to introduce measures that enhance student satisfaction.” Deloris also met a milestone last year. She celebrated 35 years of service to UMSL.

Kimberly and Deloris are also both nominated for the Chancellor’s Award for Staff Excellence.

Congratulations Kimberly and Deloris!



Deloris Lickliger on the Andalafte Hike

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Dr. Bhatia

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Dr. Chakraborty

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Dr. Dotzel

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Dr. Janikow

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Dr. Jiang

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Dr. Kang

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Dr. Pelikan

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Dr. Ravindra

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Dr. Zhao



Dr. He

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ALUMNI NEWS

MARIE E. BALSKE

Alumnus Marie E. Balske passed away on July 7, 2008. Marie graduated from UMSL in 1968 with a BA in Mathematics. She then spent 22 years as an educator in the Pattonville School District in St. Louis. Marie is survived by her husband, Robert, three children, five grandchildren, and one great-grandchild.

A memorial fund has been established in Marie's name for the Department of Mathematics and Computer Science. We would like to thank the Balske family and friends for their generosity.

Thelma Balbes

BA Mathematics, 1968

Current employment: retired

Favorite professor: my husband

Favorite thing about UMSL: In the early years, it was the outdoor swimming pool.

Rhonda Perkins Tyler

BS Applied Mathematics, 1982

Current employment: Project Engineer for the Boeing Company/Engineering Multi-Skill Leadership

Favorite professor: Dr. Andalaft

Favorite thing about UMSL: I received an excellent education.

Kyle Muldrow

BS Applied Mathematics, 1986

Current employment: Professor of Computer Information Systems at DeVry University in Long Beach, CA

Favorite professor: Dr. Andalaft. I had him for three classes and really enjoyed his teaching style. I would rate Dr. McDaniel a close second. Both of these men have influenced my style of teaching. I'm making sure their influences live on.

Favorite thing about UMSL: Got a great education at a low cost and could still live at home. Also had great times with the Math Club! Lots of great memories.

Lee Shipman

BS Computer Science, 1986

Current employment: Software Developer for Cummins Inc.



Lee Shipman

Doug Reed

BA Mathematics, 1991

Current employment: Database Architect with Daugherty Business Solutions

Favorite Professor: Dr. Haimo

John Brocato

BA Mathematics, 1996

Current employment: Middle school math teacher at Northwest R-I School District

Favorite professor: Dr. Andalaft

Favorite thing about UMSL: The opportunity to meet people from all over the St. Louis area.

Renee Boxerman O'Daniel

BS Secondary Ed, emphasis in mathematics, 1995

MA Mathematics, 1998

Current employment: I teach online for Columbia College and State Fair Community College so I can be at home with my kids

Favorite professor: Paul Schnieder (I still remember him saying, "Out the window!" after someone in class wouldn't know the answer to something or gave a wrong answer. And, he'd point to the window of the room we were in on the 3rd floor. It was all in jest and always made everyone laugh) & Gillian Raw

Favorite thing about UMSL: I loved that UMSL felt like a small community--especially in the math department.

Valjean Elander

BS Mathematics, 1999

Current employment: Graduate student at UNLV

Favorite professor: Math – Dr. Alan Schwartz (“the longer, the wronger”), CS – Sanjiv Bhatia

Favorite thing about UMSL: Beautiful campus, great location, great professors

Ann Boehmer

BA Mathematics, 1997

MA Mathematics, 2000

Current employment: Assistant Professor of Mathematics at East Central College

Favorite professor: Dr. Andalaft

Favorite thing about UMSL: The people I met.

We are pleased to report that Ann was awarded the Emerson Excellence in Teaching Award in November. Congratulations Ann!

Mary Bowman

BA Applied Math, emphasis in Statistics, 2000

Current employment: IT Professional

Favorite professor: Dr. Connett

Favorite thing about UMSL: The Math Dept!

James Pattie

BS Computer Science, 2000

Current employment: Senior

SysAdmin/Programmer for GPS Insight, LLC

(<http://www.gpsinsight.com/>)

Favorite Professor: John Antognoli

Meighan Lewis

BS Secondary Ed, emphasis in Mathematics, 2001

Current employment: SAHM for now, hopefully teaching in the fall

Favorite professor: Dr. Andalaft and Mrs. Peterman... too close to call

Favorite thing about UMSL: How much the professors cared. They really wanted to see each student succeed.

Wei Li

MS Computer Science, 2003

Current employment: Database Engineer with Thomson Reuters

Favorite professor: Dr. Don Gayou, Dr. Wenjie He

Favorite thing about UMSL: Friendly people around you, and large computer labs.

Katie Burns Schmidt

BS Computer Science, 2003

Current employment: Consultant for VP Crown Information Systems, Inc.

Favorite professor: Tough question... Uday Chakraborty, Galina Piatnitskaia, John Antognoli



Katie Schmidt with husband Aaron & their adorable smiley faced dog Booker

Samir Sacic

BS Computer Science, minor in Mathematics, 2004

Current employment: Programmer Analyst for Edward Jones

Favorite professor: Galina Piatnitskaia

Gary Hanak

MS Computer Science, 2005

Current employment: Test Engineer Eng/Sci 3 for Boeing

Favorite Professor: Uday Chakraborty

Vamsi Malgireddy

MS Computer Science, 2005

Current employment: Web Engineer/Administrator at Capital One, Environment Management of Non Production Systems for critical applications

Favorite thing about UMSL: Gave me a jump start for my career with good influence in companies around St. Louis for the Computer Science degree that I received.

Cory McCarville-Schueths

BS Computer Science, 2005

BS Mathematics, 2005

Current employment: Software Engineer at DiSTI in Orlando Florida

Favorite professor: Galina Piatnitskaia

Favorite thing about UMSL: When I attended, class sizes were small, and the department was more personal. Unlike my grad school, I didn't have to keep reminding professors that I was one of their students whenever I talked to them. I made a lot of good friends in the Math and CS department.

Christopher Grove

BA Mathematics, minor in Statistics, 2006

Current employment: Math Teacher for Hazelwood School District

Favorite professor: Ron Dotzel

Christopher Johnson

BS Mathematics, 2007

Current employment: Sales-Customer Service for O'Fallon Casting

Favorite professor: Michael Schulte

Kenneth Johnson

BS Computer Science, 2001

MS Computer Science, 2007

Current employment: Senior Developer for Monsanto

Favorite professor: Sanjiv Bhatia (CS), Chal Benson (Math)

Favorite thing about UMSL: Small class sizes for upper-level courses, one-one interactions with professors.



Ken Johnson

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University of Missouri – St. Louis
Department of Math & Computer Science
303 Computer Center Building (MC 61)
One University Boulevard
St. Louis, MO 63121-4400

NAME _____

DEGREE EARNED _____

YEAR GRADUATED _____

ADDRESS _____

EMAIL _____

CURRENT EMPLOYMENT _____

Interaction with the Department? (check any)

I'll give a talk to UMSL Math/CS students about my career/company

Notify me about Department seminars/colloquia

Notify me about Department social events (Hike, picnics, etc)

Please contact me (specify preferred contact information)