Vol.1, No.2

fsumath
FLORIDA STATE UNIVERSITY
Mathematics for the New Millennium

Local News: 2000 Grads

We are proud to report the roster of our Year 2000 graduates.

Pure Mathematics: *Josef Allen, Heidi Bond, Frederick Hankins, Shyam Lakshmin,* and *LitsaTheophylou*

Applied Mathematics: *Jessica Swanson*

Actuarial Science: *Patrick Gyselinck* and *Darlene Taaffe,* both with Towers Perrin, in Tampa, FL and Jacksonville, FL, respectively.

Financial Math: *Amanda Hua, David Barge, Rain Shen, Gregory Solomon, Milton Liu, Guang Yang,* and *Radha Bose.*

We especially congratulate *Dr. Brian Felkel, Dr. Hong Qi Jia, Dr. Denise Szecsei, Dr. Jeffrey Denny, Dr. Javier Arsuaga,* and *Dr. Maria Elena Vasquez* on the completion of their doctoral studies.

Good luck to all in your future endeavors!

(continued on Page 7)

View from the Chair…

The Fall 2000 semester has started with a bang! Construction on the Love addition has begun, and there are more than 6,000 new FSU freshmen, with total enrollment now in excess of 33,000 students.

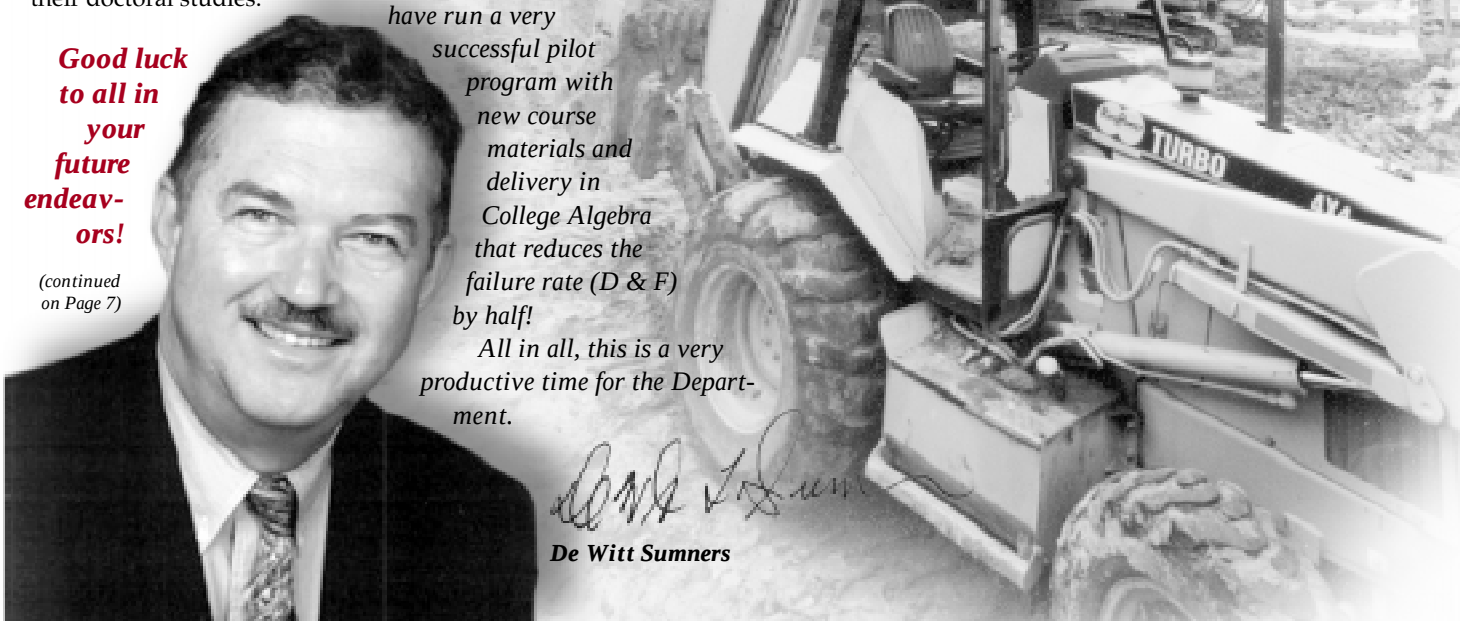
Mathematics is pleased to welcome thirty new graduate students, which increases our advanced studies population to 62 for this academic year. Our professional master's degree program in Financial Mathematics is booming: all in the first group of graduates last spring found good jobs on "the street." The master's program in Computational Biology is off to a fine start with six students. And our PhDs minted in Spring 2000 have all accepted impressive positions in the right places. Details follow.

Spring 2000 also brought us honors. I would like to congratulate ***Chris Tam****, awarded the prestigious Robert O. Lawton Distinguished Professorship for 2000, and* ***David McMichael*** *and* ***James Wooland****, winners of University Teaching Awards. The Lawton Professorship is the highest award that the University bestows on its professors, and there are now three Lawton Professors in the Mathematics Department – Robert Gilmer, myself, and Chris Tam. Thirteen of our members have won University Teaching Awards.*

After several very productive years as Director of Graduate Studies, Steve Blumsack has turned over the job to Sam Huckaba. I would like to thank Steve for a job well done, and to welcome Sam back to FSU after his dot com sabbatical. Sam will be the new Associate Chair for Graduate Studies, the departmental embodiment of renewed University emphasis on graduate education.

Wilbur Stiles, Annette Blackwelder, and Ishkhan Jowhar have been working on an exciting new project – computer-aided instruction and testing in the basic mathematics courses. Funded by University grants, they have run a very successful pilot program with new course materials and delivery in College Algebra that reduces the failure rate (D & F) by half!

All in all, this is a very productive time for the Department.



De Witt Sumners

The Actuarial Science Degree Program

Bettye Anne Case

When FSU's BS degree program in Actuarial Science, the first in Florida, received final approval in 1999, there were already FSU actuaries working in Chicago, Birmingham, Boston, Tampa, D.C., Atlanta, Jacksonville...

The program is designed for students pursuing credentials from one of the professional societies or who intend to enter financial or insurance industries or governmental applications. It provides basic preparation for many areas of graduate or professional school. We feel a responsibility, heightened by proximity to state agencies that regulate insurers, to provide strong preparation to meet actuarial employer needs.

Dr. Bettye Anne Case directs the program with input from the interdisciplinary Advisory Committee. Ms. Jennifer McFatter advises students and coordinates enrichment activities (see www.math.fsu.edu/~smith/Guides/actmath.html).

Transfer students and FSU juniors join the program to gain finance, economic, and risk management skills and professional preparation. They are instructed in mathematical and computational aptitudes, leadership ability, and communications skills.

Lower division students complete from 22 to 31 of the 66 required hours of coursework. In their last two years, most students pass one or more examinations in the joint SOA and/or CAS sequence. Some seek a second bachelor's degree or an actuarial science concentration in the Financial Mathematics master's degree program (see www.math.fsu.edu/~smith/Guides/finmath.html).

Each year, several students complete internships. Alumni and their employers are generous with program assistance. The department appreciates those who return to speak with and interview current students, such as Andy Neal (*Towers Perrin*), Gus Giraldo (*CIGNA*), Jody Frenette (*Western Reserve Life*), and June Meimban (*Tillinghast/TP*).

Current students communicate with each other, advisors, and instructors by e-mail (actuaries@math.fsu.edu), as do former students (actuaries2@math.fsu.edu). (Alumni are urged to send e-mail and hardcopy addresses to ***advisor@math.fsu.edu***).

Regarding curriculum and examinations, faculty carefully analyzed statements and examinations of actuarial societies to set requirements, which are regularly updated. We are proud to be classified in the Advanced Undergraduate (46 U.S. schools) and Graduate Education (25 U.S. schools) groups in the Year 2000 listing (www.soa.org).

Though the profession receives consistently high ratings, it is one of the most rigorously guarded: through a difficult and lengthy two-level credential process, completion to the Associate and Fellow levels typically stretches into the first three to eight years of employment. Early accounting and computer science courses lead to the core content of the program through five departments: Economics, Finance, Risk Management and Insurance, Statistics, and Mathematics.

Specialized coursework supports exam preparation and courses in finance, economics and statistics. Exam 5 preparation (usually after employment) is based in strong Risk Management and Insurance coursework, while Exam 6 is supported by finance courses.

Outside the classroom, actuarial students are busy with undergraduate life. Many hold part-time jobs or are active in social, political, and community service activities. Some join the Student Mathematical Society or Insurance Club. Some are elected officers of the local chapter of the national mathematics honor society, Pi Mu Epsilon.

All students utilize two professional development resources – the FSSAS student actuarial society and actuarial examination tutorials offered in seminar courses. The FSSAS advises students and presents outside speakers who provide an overview of the field, orient students to employment and future opportunities, and usually, interview those who are seeking jobs or internships.

The FSSAS and department also assist placements by producing a Resume Book that until 1998 was mailed to hundreds of prospective employers. In 1999, an Internet version was so effective the hardcopy was shortened and mailed with the web address, ww.math.fsu.edu/~smith/Guides/19992000actresbk.html..


Dr. Case

Actuarial students must learn to use preparatory materials and pass professional exams. A graduate teaching assistant has recently been appointed to act as student mentor: each student may receive ten hours of tutorials per week and group exam preparation — a tradition for actuaries — is available. Internships are often considered the most valuable single experience of an actuarial education.

Dan Oberlin

Calculus Re

The calculus reform movement began with a conference sponsored by the Sloan Foundation at Tulane University in 1986. Problems with calculus as it was then taught included: 1) low success rates; 2) student application of symbolic algorithms with little understanding of concepts; 3) low student success in applying calculus in subsequent courses; and 4) mathematics trailing other disciplines in applying technology to teaching lower-level classes.

Since the Tulane conference, reforms have been implemented in calculus instruction that illustrate the challenges of the calculus reform movement. Emphasis is on understanding concepts versus parroting techniques and procedures; choosing between symbolic and approximate methods of solving problems; learning to correctly interpret mechanical results, and using a knowledge of calculus in other subjects.

The National Science Foundation

From the Faculty...

Tam is Named Lawton Professor

"Christopher K. W. Tam: Extraordinary teacher, distinguished research professor, world leader in applied mathematics and aeroacoustics."

So reads the citation awarded to Dr. Tam upon his being named 1999-2000 Robert O. Lawton Distinguished Professor, the highest honor bestowed by faculty upon one of its own for teaching, research, and service excellence.

With characteristic humor and straightforwardness, Dr. Tam has said, "I feel somewhat lucky, but I feel they did the right thing. This award is the highlight of my thirty-year career of teaching and research in applied mathematics at FSU."

Chris Tam was born on Macau, an island off the coast of China. He grew up in Hong Kong, the fifth of nine children, then left to study mathematics at McGill University in Canada. After graduation, he attended the California Institute of Technology, Pasadena, a time he remembers as "carefree." He earned a doctorate there in 1966 and was named a research fellow, then began researching jet acoustics with a grant from the National Science Foundation. It has been his greatest academic interest.

Postdoctoral studies led to an assistant professorship at MIT, but when FSU called in 1971, he and his family – wife Della, now a Strozier librarian, and two children – were ready to settle in Tallahassee. To date, Dr. Tam has published extensively, teaches both undergraduate and graduate courses, directs research conducted under a $1M NASA grant, and acts as consultant to companies such as Lockheed Aircraft and General Electric's Aircraft Engine Division.

Since then, he and his research team have pioneered the simulation of jet noise computations, which De Witt Sumners, department chair and Lawton professor, explains "have been adopted around the world…Almost every paper now written in jet acoustics cites his contributions." NASA engineers and the aircraft industry use this information to further develop and improve the efficiency of aircraft engines and to address noise pollution issues.

Dr. Tam is widely recognized for his work: "Some time ago, I was very honored to receive the AIAA Aeroacoustics Award from the American Institute of Aeronautics and Astronautics, the highest recognition given in the aircraft noise research community. It was very important to me, but this award means more because it comes from my colleagues…"

*A sample of a problem from the text may help in conveying its flavor. An economist is interested in how the price of a certain commodity affects its sales. Suppose that at a price of $p, a quantity q of the commodity is sold. If q=f(p), explain in economic terms the meaning of the statements f(10)=240,000 and f'(10)=-29,000:

form

supported the calculus reform movement, in part by funding the development of "reform calculus" texts. The Harvard Consortium was successful in producing the CCH text (Calculus Consortium at Harvard, lead author, Deborah Hughes-Hallett, publisher J. Wiley & Sons), now in use at FSU.

A student of a traditional text may think she's been properly taught if she can solve any mathematical problem in ten minutes, and that if she has difficulty with a problem, she should look in the preceding section for an analogous example. A student of the CCH text will have no such illusions.*

A reform calculus class differs from a traditional class by its emphasis on classroom technology; use of a graphing calculator or a laptop with a projector; group work with class or take-home quizzes, and group projects that may replace traditional tests.

FSU's first advocate for calculus reform was Professor Phil Novinger, now teaching halftime and in phased retirement. Without his quiet but persistent advocacy, calculus reform might never have come to FSU. Its official beginning here dates from a successful proposal he submitted in 1994 to FSU's Council for Instruction, but his interest and involvement in reform began long before.

Dr. Novinger was the earliest departmental advocate of technology in the classroom. His interest in making computer technology available to calculus students led to his administering one of the Math Department's earliest computer labs. He was a pioneer in the use of course projects and taught classes using draft versions of reform texts long before formal calculus reform came to campus.

For the 1994 spring semester, Phil persuaded a few of us to experiment with projects and group work in our Calculus I classes. That fall, several of our Calculus I sections were taught from the CCH text. Phil acquired graphing calculators that projected output to a screen. Several of us began using them in our CCH calculus classes.

By Fall 1996, it was awkward to offer two calculus tracks, and a special committee was formed to determine the future (reform, traditional, or combination) of calculus at FSU. The CCH text was adopted for all classes by Fall 1998.

Today, faculty incorporate the CCH text into their teaching in various ways – some use technology (graphing calculators or computers) and/or require their students to follow suit, while others are less enthusiastic about such things – but all use it. Calculus reform is alive and well at Florida State University.

Staff Note

Susan Minnerly

The Department w mes Susan Gillotti as Pr m Assistant. She replace Yolanda Matos, who m to Washington. Ms. Gillo maintains current graduate student files, fee waiver and course schedule entry, book ordering, and other duties, as needed. She comes to us from the Department of Chemistry, and we are pleased to have her with us.

We would also like to congratulate two staff members – Mrs. **Jennifer McFatter**, Academic Advisor, and Ms. **Grace Brock**, Program Assistant. Mrs. McFatter, formerly Ms. Meder, was married in June. Our best wishes to Jennifer and husband Les for a happy future together.

Ms. Brock experienced several exciting events this past year. Last fall, she received a Competent Toastmaster's Achievement Award for exemplary speaking ability, for which recipients must present ten designated speeches. This summer, she also had the high honor of singing with a group at Carnegie Hall in New York, and lends her vocal talents as an alto in Andre Thomas's Tallahassee Community Chorus and University Singers.

University TEACHING AWARDS

Jim Wooland came to the department in June 1987 as a teaching assistant and learned the art of teaching college mathematics under the guidance of Bettye Anne Case, Ralph McWilliams and Annette Blackwelder. He was hired as a visiting instructor in 1989. Since that time, he has risen through the rank of Assistant in Mathematics to his current standing as Associate in Mathematics. He has also worked as an adjunct at Tallahassee Community College.

He received a BS degree in Mathematics (summa cum laude) from Northland College in 1987 and an MS degree in Mathematics from FSU in 1989. He is the author of several textbooks published by Addison-Wesley, Brooks-Cole, and Prentice Hall, and has served on university and departmental committees.

Mr. Wooland describes his teaching philosophy as being "...centered on the use of technology to enhance instruction and improve student success rates."

In his role as course coordinator and lecturer for MGF1106, Mathematics For Liberal Arts, Mr. Wooland has worked to integrate the World Wide Web into every aspect of that course. He has developed on-line versions of the course syllabus and supplementary texts, Problems of The Day, practice quizzes and exams, and web-based tutorial programs and exercise generators. This course serves roughly 1000 students per semester in the Fall and Spring terms, and the department's access statistics suggest that nearly all of these students make use of the web-based resources.

He has also written, and is currently refining, a web-based text for MGF1106, which is freely available to all students in that course. "My hope is that eventually students in MGF1106 at FSU will not have to purchase a text; everything that they need for the course will be downloaded from the web for free."

James Wooland and David McMichael have received University Teaching Awards.

Mr. Wooland especially enjoys teaching Liberal Arts Mathematics because of the affinity he feels for the students. "I earned my undergraduate degree at a liberal arts college. I assumed that I would major in literature or one of the social sciences, because those were the areas that I had always found most compelling. When I began taking mathematics courses in order to support a minor in computer science, I found mathematics interesting.

"The logical rigor of mathematics, which was stressed in the calculus courses, was especially appealing to me. That was when I first realized that I had some ability in math. I looked at the course catalog, and decided that I would continue taking math courses until I had a strong enough background to take undergraduate Real Analysis. I had absolutely no idea what Real Analysis was, but I imagined that any course with that title must be pretty cool. When I finally took that course I was not disappointed, and I changed my major from Undecided to Mathematics.

"Liberal Arts Math attracts students with a diverse variety of backgrounds and interests, and there is a daily challenge to present lectures that will maintain the interest of the stronger students without scaring away those students who perceive themselves as mathematically weak. I find that the unifying factor is humor.

"My lectures are frequently drawn from my own "real-world"encounters with topics such as logic, geometry, and probability presented in a way that I hope the students find both instructive and amusing."

Faculty Researcher

Mark van Hoeij received his Ph.D. degree from the University of Nijmegen in 1996 and came to FSU in August 1997.

He explains, "My research is in symbolic computation, where the goal is to find new computer algorithms that can compute exact answers for all kinds of mathematical problems. This is different from numerical mathematics in the sense that these algorithms compute with formulas and exact mathematical expressions instead of with numbers.

"These algorithms often use lots of pure mathematics and abstract algebra. The search for new algorithms can lead to new mathematical theorems necessary for the algorithms. But, unlike pure mathematics research, new theorems are not my main goal unless they're useful for a new algorithm.

"The goal is to find new computer algorithms that can compute exact answers for all kinds of mathematical problems. These algorithms compute with formulas and exact mathematical expressions instead of with numbers."

"I've spent much time on differential equations, working on computer algorithms. The goal? If the computer is given a differential equation, it should determine whether a formula for the exact solution exists. If it does, it should find it.

"Right now, the algorithms are complete only for certain kinds of equations: there is always more work to be done. Symbolic methods can't solve as many equations as numerical methods, but when an equation can be solved, you get a much nicer answer because, instead of numbers, you get an exact formula to use over and over again.

"The software package Maple (installed on FSU computers) has a command called dsolve (differential solver). If you give an equation to dsolve, it will use algorithms written by a number of people, including me, so you could be using my code without even knowing about it, and that's how it should be: the mathematics necessary to solve an equation should be built into the software so people can apply it without spending time to learn it.

"I've also written the algebraic curves package in Maple. My most recent result is a new method for factorizing polynomials that's much faster than previous methods, making it possible to factor polynomials of enormous size."

Appointment

National Science Foundation Celebrating 50 Years

David Kopriva is now serving as Program Manager for the National Science Foundation in Washington, D.C.

When asked about his appointment, he explained, "I will be a program manager for the National Science Foundation's Division of Mathematical Sciences. This is a temporary position known as a "rotator," generally held by university professors.

"In this position, I'll manage NSF grant programs, including receiving grant proposals, distributing them for external review, setting up and running review panels, and awarding and managing grants.

"University professors know who their program managers are. Positions are temporary so that the Foundation can bring in "new blood" on a regular basis. From my point of view, this experience will give me a broad overview and inside knowledge of the workings of science in this country, an understanding that can be returned to the university."

Dr. Kopriva received his BS degree in Physics at Harvey Mudd College in 1977, and MS and Ph.D. degrees in Applied Mathematics from the University of Arizona in 1980 and '82. After working as a staff scientist at the Institute for Computer Applications in Science and Engineering from 1982 to '84, he taught Applied Mathematics at the Massachusetts Institute of Technology for a year.

He came to FSU in 1985 and rose through the ranks of assistant, associate, and full professor of Mathematics. He has also served as faculty associate with the Supercomputer Computations Research Institute, as courtesy associate professor of the Department Mechanical Engineering, and as director of Applied Mathematics.

Dr. Kopriva's research interests include computational fluid dynamics, computational electromagnetics, and numerical solution of partial differential equations by spectral methods. He says, "One aspect of my resume that was of interest to the NSF when I interviewed for this position is that I have published papers in astronomy, astrophysics, space science, numerical analysis, computational fluid mechanics, computational acoustics, and computational electromagnetics."

Extensive consulting, research support, visiting scientist positions, and professional activities have had to be scheduled among presentations, impressive publishing, and independent and sponsored research. Dr. Kopriva is used to a full calendar.

"I've had exposure to a variety of fields. I've also worked at a number of national laboratories and observatories (as an undergraduate and graduate student) – Big Bear Solar Observatory, Sacramento Peak Observatory, Arecibo Radio Observatory, Los Alamos and Livermore National Labs, NASA Ames and Langley Research Centers. Now I'll add government to the list."

Alumni Updates 123

Not long ago, Andrew Thies e-mailed this message to the department:

My years at FSU have served me well in industry. Often I hear people complain about how they never use what they learned in university. Perhaps it was the proper list of courses, or the way the courses were taught, or how the courses overlapped my research and mentoring, or some of each – but, for whatever the reasons, I find that I use the skills I learned nearly every day.

You might be interested to hear about my latest project so you can relay to your students that they never know when they'll need a good math background.

One of the large missile defense systems on which I work relies on using a table of data generated from the output of a high-fidelity simulation. Because legacy computer code was being used for the command and control development on this system, the table started with two dimensions.

It was discovered that the system didn't have two independent variables – it had six to eight. Using information storage and retrieval methods present in the legacy code, many hundred gigabytes of memory would be required. Also, the simulation was much too slow to be run real-time. The system seemed to be at an impasse.

To the rescue came CFD. The performance contours in their region of effectiveness looked to me an awful lot like streamlines in a divergent nozzle – oversimplification, but it gets the point across. A very efficient storage approach in CFD would be to map the streamlines within the complex flow geometry onto a square and represent the streamfunction by a Fourier-Chebyshev expansion.

Long story short, the same approach works for storing the results of this many-variable simulation. The data will now be stored in a couple of hundred megabytes and will be rapidly available for quick decision-making by the system, if my guys and I do everything right.

The moral of the story is that a little knowledge is rarely wasted. I received some uncommon knowledge at FSU that has helped me significantly.

Today, Thies shares his time between Washington, D.C. and Huntsville, AL. Schafer Corporation, for whom he works, is creating a new division, Schafer Wireless Technologies, focused on technological solutions in wireless communications.

He explains: *The path of Radio Frequency (RF) signals can be impeded by buildings when wireless networks are set up in dense urban areas, leading to dead zones in coverage. People drop their providers for this, so companies go to great lengths to eliminate dead zones, usually by driving through every street in the network to find them so they can patch the holes with new towers. Our products help providers predict dead zone locations.*

This depends on the accuracy of 3-D structural maps of an area. The Geo-Spatial Products Division, which I direct, was initiated to develop and market these maps. We fly over cities, record aerial measurements, and construct the mathematical maps, which have applications inside and outside telecommunications.

After FSU, I went to Lockheed Martin Aeronautical Systems in Atlanta, where I worked on aircraft noise reduction projects, often with Dr. Tam. In 1997, I came to Schafer because of its entrepreneurial environment, where I've focused on missile system analysis/testing and command/control algorithms, and have helped develop next-generation missile control systems, system architecture simulations, missile design evaluations, and battle management planning.

Pedra Raspopovich received his Ph.D. in August 1990 with a dissertation in Topology of 3-dimensional manifolds. Wolfgang Heil was his major professor. He remembers:

The next year I was Visiting Assistant Professor at the University of North Florida. Then I went back to Yugoslavia and spent a year as Assistant Professor at the University of Montenegro.

During those two years, together with Wolfgang, I finished two papers that were later published — "Incompressible Surfaces in Punctured Klein Bottle Bundles" and "Dehn Fillings of Punctured Klein Bottle Bundles" with Dr. Heil.

As war broke out in Yugoslavia, I left for Canada, where my fiancée (now wife) was. By the way, Margaret and I met at FSU, where she received her master's degree in 1991. I left in a hurry, and missed deadlines for university job applications.

While waiting to get my academic career back on track, I worked at The Kingston Group, a consulting firm in Canada, for a couple of years. During this time, I decided to put all my efforts towards my budding career as a computer professional.

I began working for a consulting firm in Canada called M.R.S. Company and haven't looked back. Employment availability, salary flexibility, and location choice are attractive, but vacations aren't as plentiful and in academia.

Within two years at M.R.S., I was offered a research position as a software engineer at LSI Logic Corporation. Since December 1996, I've been working in its Advanced Development Lab in Silicon Valley. LSI is a leading custom semiconductor company, expanding into DVD, communications, and other areas.

The work I do involves difficult mathematical and engineering problems, with a lot of combinatorics, some graph theory, and more. I have co-authored fourteen patent applications, one of which was issued a few days ago.

Pedja declined to be specific about the exact nature of his work due to the company's intellectual property rights.

Joseph (Joe) A. Alfred

(BS, Math w/Physics minor, 1970)

Employer: AT&T

I am now Intellectual Property Director in charge of Network Licensing for AT&T. Married with three children – Nadia (17), Irene (15), and Joey (15). My wife, Siham, received her doctorate in Math Education in May 1999.

(Editor's Note: Mr. Alfred contributed the Department's first newsletter gift!)

Bob Dalton

Winchester, MA *(MS, Math, 1982)*

Employer: Raytheon Company, Bedford, MA

Congratulations to DeWitt on his ascendancy! Except for M. Zemankova wedding in VA in '96, haven't seen anybody since Abe Kandel at a Fuzzy conference in 1993. Maybe had a Mary Platt sighting in Lowell, MA in '95. My wife, Judy, and I celebrated seven years of marriage in July. She is from Marblehead, MA (and I was born in Boston)

Amir Gerges

Pittsburgh, PA *(BS, Math, 1990)*

Employer: New Boston Systems, Pittsburgh, PA

After graduating from FSU in May 1990, I went to Rice University in Houston, TX, where I earned an MA ('95) and a Ph.D. ('97) in Math under the supervision of Dr. Tim Cochran. My thesis was on "Surgery, Bordism, and Equivalence of 3-Manifolds." I have since moved to Pittsburgh, PA, where I am working as a computer programmer!

Caroline Dean Hollingsworth

Valdosta, GA *(BS, MS, PhD, Math, 1973)*

Employer: Valdosta State University

I've been a professor at VSU for twenty-seven years, teaching math education courses for teachers. I am one of two recipients of VSU's Faculty Scholar Award for excellence in teaching and a sustained record of scholarly activity in one's field. I've published over thirty articles in national and international journals, and have presented over forty papers at professional meetings.

Martha Oglesby Lisle

Kensington, MD *(MA, Math, 1957)*

Retired Associate Professor of Mathematics, Prince George's Community College

I am enjoying retirement. I taught at Prince George's Community College for fourteen years after many years overseas. I do some tutoring, play the flute, sing in the choir, play lots of bridge, and make quilts. Hard to believe Nick Heirema is still teaching!

Lynda Johnston Santoni

Mooresville, NC *(BS, Math/Computer Science, 1978)*

Employer: Husband, Jerry, and two children, Nicholas and Christopher!

I thoroughly enjoyed Mathematics for the New Millennium! What a great newsletter! Keep it up. I had no idea that such exciting things were happening. After a career in computer software development, I am now thoroughly enjoying raising two small children. I keep in touch with fellow computer science major Diana DeAgro, but I wonder often about my other math and computer science classmates.

More About our Year 2000 Graduates

F. J. Arsuaga
At this time, I am a postdoctoral fellow in the Mathematics Department at UC, Berkeley, CA. My work is mathematical/computational biology. I will be hooded by DeWitt Sumners in December. My wife, Mariel, will also receive her doctorate at that time.

David Arlander Barge
I'm a quantitative analyst in the Energy Marketing and Trading Division of Florida Power and Light, N. Palm Beach, FL, researching the use of risk Metrics methodology for analyzing Value at Risk and Credit Risk; forward curve construction in Oil, Natural Gas, and Electricity; and automated derivative asset valuation, particularly options on physical and energy commodities.

Brian Felkel
I'm an assistant professor for the Department of Mathematical Sciences at Appalachian State University in Boone, NC, where I hope to gain tenure, continue my research in Fourier Analysis and participate in math teacher education.

Amanda Hua
I'm an actuarial analyst for Towers-Perrin in Jax, FL, and will complete my exams to become a Fellow of the Society of Actuaries.

Hong Qi Jia
I am working as a System Engineer for server side software development at Verizon Data Services (formerly GTE Data Services), housed in Verizon Labs, Waltham, MA.

Rain Qunying Shen
I'm a research analyst for BARRA, Inc, in Berkeley, CA, a financial service company that provides informative solutions to big money managers. I develop loading and updating data processes and redesign risk models.

Greg Solomon
I've been working as a quantitative analyst for Florida Power and Light, N. Palm Beach FL since completing my master's degree.

Denise Szecsei
I'm an assistant professor of Mathematics at Stetson University, and plan to continue my research in mathematics, physics and chemistry.

Darlene Taaffe
In early June, I began working for Tillinghast-Towers Perrin in Jacksonville, FL. I work in software, developing TAS (Tillinghast Actuarial Software) from the liability side.

Maria Elena Vasquez
I am a Visiting Assistant Professor and postdoctoral fellow in the Mathematics Department of the University of California, Berkeley. I will teach one course per semester and learn computational techniques to solve Radiation Biology problems.

Guang Yang
I am in the FSU Computer Science Department now to pursue another master's degree, so I will be in Tallahassee for another two years.

Many of our graduates have kept in touch with the Department, and we invite all other alumni to do the same. In fact, we are in the process of creating an alumni database and would be happy to include your returned contact information on website alumni@math.fsu.edu.

Web Notes

Mickey Boyd

We are quite proud of the Virtual Library of Mathematics, a world-wide collection of math-related links and information we have maintained since 1993. Ours was the second web server on campus, and we host the most complete collection of Math-related web information extant. Daily Access Stats show that many people around the world are making heavy use of our Virtual Library, averaging over 5000 visits a day. Webmaster Kevin Beason received this email, praising his work and our commitment to providing this Math-related information to all:

Hello—

I want to take a few moments to share some personal insight with you regarding your website. I am a 44-year-old man who completed two years of high school, and only by happenstance received a GED certificate.

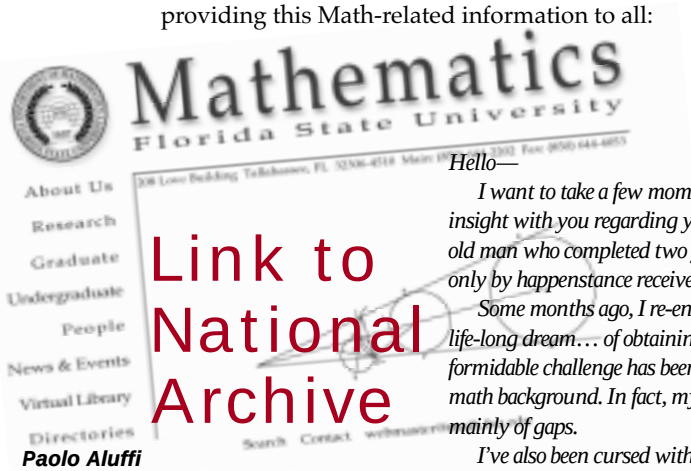
Some months ago, I re-entered academia to fulfill a life-long dream… of obtaining a degree. My most formidable challenge has been addressing the gaps in my math background. In fact, my math background consists mainly of gaps.

I've also been cursed with an innate fear and dread of mathematics. I've never done well in math, and that has always dogged me. So significantly has this affected my life that it's given me a lack of confidence in other areas. My math ineptitude has made me feel like a failure all my life.

Suddenly, purely by chance, I stumbled upon this wonderful resource. It is a wonderful place that is saturated with opportunities to learn. At last, I feel a glimmer of hope that aided by this tremendous collection of knowledge and instruction, I will have a chance to be mathematically literate. It's a great feeling.

You see, I've always felt just like a man who couldn't read—that there was a whole world I couldn't partake of and enjoy because the concepts of algebra, statistics, trig eluded me. Math competency is a gateway to a better life. I truly believe this. By offering this website and its wonderful content freely to all, you are doing a service that is more noble than you can imagine.

Thank you,
P. Bennett



Paolo Aluffi

The FSU mathematics department was one of the first in the country to use the World Wide Web in order to make research results immediately available to the largest possible public. Since 1994, http://www.math.fsu.edu/~aluffi/eprint.math.archive has been a repository of preprints reporting on the current research of members of the department. The archive now contains well over 100 papers, and has been accessed thousands of times from over 30 countries around the world. We are in the process of merging our repository with the main U.S. world-wide-web archive.
Be on the lookout for more web developments in the months to come.

IN THE SPOTLIGHT

Jeff Denny, a Year 2000 graduate, is now Dr. Denny.

"During my first years at FSU, Dr. Jack Quine began a collaboration with Professor Tim Cross at the National High Magnetic Field Laboratory. He asked me to spend some summers at the Mag Lab to see if I was interested in that sort of research."

Dr. Denny's research interests include the study of methods of determining protein structure from solid-state nuclear magnetic resonance (SSNMR) data, and geometric models of coiled coil proteins that can be used to simulate and/or fit SSNMR data. He has published papers with Dr. Quine and biophysics collaborators and students in field journals.

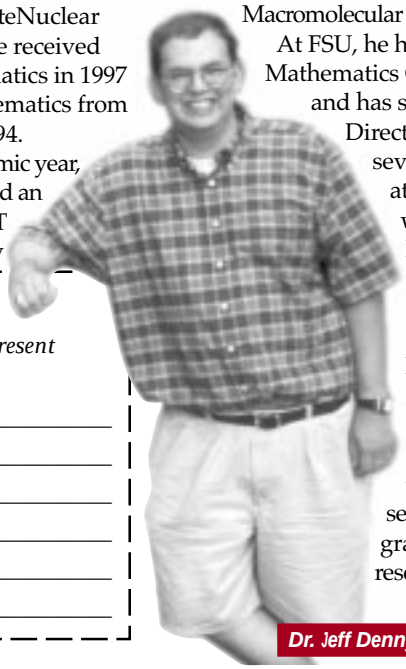
"Since I grew up in my father's microbiology lab, I've felt very much at home working with scientists. Dr. Cross' work on a protein from the Influenza A virus really fascinated me, so I was eager to join his work on protein structure determination."

Dr. Denny's doctoral dissertation was entitled "Geometry of Proteins with Applications to Solid-StateNuclear Magnetic Resonance." He received an MS degree in Mathematics in 1997 and a BS degree in Mathematics from Furman University in 1994.

For the 2000-2001 academic year, Dr. Denny has been selected an Exxon/Mobil Project NExT Fellow. Project NExT (New Experiences in Teaching) is also sponsored by the Mathematical Association of America. Fellows attend workshops on innovative teaching techniques, participate in an electronic discussion forum, and attend three national conferences. He was also awarded the FSU Goodner Teaching Award (1997) and a National Science Foundation Research and Training Grant Fellowship in Macromolecular Assemblies (1997 – 2000).

At FSU, he has been very active in the Mathematics Graduate Student Seminar and has served as the Graduate Co-Director of Pi Mu Epsilon at FSU for several years. As an undergraduate at Furman University, he was inducted into Phi Beta Kappa and Pi Mu Epsilon, and was a Furman Advantage Teaching Fellow.

Today, Dr. Denny is at Mercer University: "I am very excited to join the faculty here. Mercer offers opportunities to teach a variety of courses and to work with students in many settings. I hope to direct undergraduate students in summer research projects and to develop a computational biology course."



Dr. Jeff Denny

Keep Us Posted!

We'd like to hear from you! Please return this form, with a note about your present affiliation to the address below.

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