Vol. 2, No. 2

fsumath
FLORIDA STATE UNIVERSITY
Mathematics for the New Millennium

Honoring Math for Liberal Arts

The Department has created a new course for honors students – an offshoot of the MGF 1106-1107 *Mathematics for Liberal Arts* sequence we have offered for many years – **MGF 1107H**. Perrin Wright authored the curriculum and taught the first section this spring.

The course was conceived in Summer 2001 as a result of conversations between Associate Chair Phil Bowers and Honors Program administrators. With an increasing number of admitted honors students, a need arose for more honors courses. The Department had long offered honors sections of Calculus I and II, but had never developed a liberal studies honors course.

All FSU students take mathematics and most divide themselves into two groups – those who need a certain level of mathematics to support their majors and those who don't. For the first group, course choices are usually dictated by their curricula. For the second group, the choices are wide open. Honors students who are not on scientific or business tracks do not need calculus. They do, however, need a mathematics course with honors credit.

In late Summer 2001, Bowers asked Wright to create such a course. As he did so, its character quickly became obvious: it should not deal with algebra, trigonometry and calculus; it should be a course that offered many glimpses of mathematics as a discipline and it should make use of the generally higher academic aptitude of honors students.

A new textbook happened to be available at just the right time —*The Heart of Mathematics, an Invitation to Effective Thinking*, by Edward B. Burger and Michael Starbird. The die was cast.

The following are examples of questions the students tackled in the spring course:

- Given ten identical coins, except that one is lighter or heavier than the rest, can we identify the odd coin and its peculiarity in three weighings on a balance scale? Can we do it with twelve coins? Fourteen?
- What is the golden ratio? What is its relation to the Fibonacci sequence and art and architecture?
- What does it mean to say that two infinite sets have the same size? Can two infinite sets have different sizes?
- Why can't we cover a soccer ball with only hexagons in the same way that we tile a bathroom floor?
- Why are there only five regular solids?
- If an art gallery has straight sides but an irregular shape, how many guards stationed at corners are sufficient to monitor the interior of the gallery?

Each of these questions leads to a deeper understanding of an aspect of mathematics and evokes techniques of effective thinking. On the practical side, Wright showed how to turn his pants inside out with a rope tied between his ankles in a conciliatory gesture to those who think education should focus on "skills."

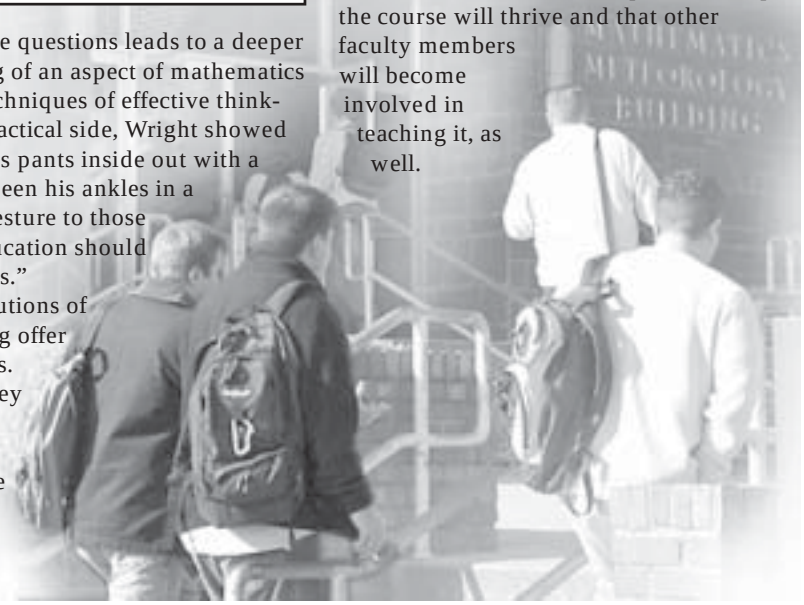
Many institutions of higher learning offer similar courses. Sometimes, they are lovingly called "Math for Poets." The Spring 2002 class included political science, creative writing, English, theatre, education, music, German, anthropology and art majors.

"Mathematicians are a lot like poets, anyway," says Wright. "Poets ask questions, and good poets ask good questions. Mathematicians, like poets, spend just as much time asking good questions as answering them.

"There is no reason why mathematics should be viewed exclusively as a technical discipline. It's the old conflict between education and training. We can teach intelligent freshmen to think like mathematicians without training them to become professional mathematicians.

"Besides, these students' quality of writing is a cut above what you find in the average undergraduate mathematics class. It's a joy to read what they write."

Two honors sections of MGF 1107 will be offered in Fall 2002. The Department hopes the course will thrive and that other faculty members will become involved in teaching it, as well.



View from the Chair…

As academic year 2001-2002 winds down, we have good news to report!

This fall, the Department of Mathematics will welcome a new Eppes Professor, Max Gunzburger from Iowa State University. Max is a world-class applied mathematician and a leading international figure in computational mathematics and the analysis of partial differential equations. His deep theoretical and computational work has direct practical impact in acoustics, gas centrifuges and plasmas.

Appointed jointly in Mathematics and the School of Computational Science and Information Technology (CSIT), Max will continue to build bridges between theory and applications and lead efforts in scientific computation at FSU.

Janet Peterson, distinguished applied mathematician and Gunzburger's wife, will join Mathematics and CSIT, as well. Both Janet and Max will be profiled in our next issue.

Two new majors have been approved for our doctoral program – Biomedical Mathematics and Financial Mathematics. These interdisciplinary majors, both of which reflect departmental growth areas in response to societal needs, are already attracting graduate students.

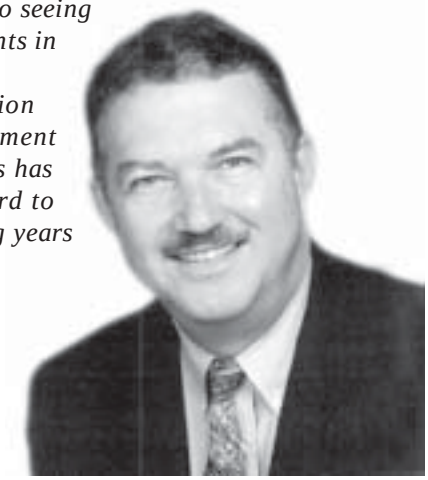
I am pleased to report that our faculty and students have won a number of University awards this year. Sam Huckaba was honored with a 2001-02 University Teaching Award, Wilbur Stiles and Annette Blackwelder received the President's Award for Exemplary Uses of Technology for Instruction (for their outstanding work on computer-assisted instruction in pre-calculus courses), Karen Everage was the recipient of a teaching award from Phi Eta Sigma and Deborah Jones received an Outstanding Teaching Award from the Program for Instructional Excellence of the Office for Distributed and Distance Learning.

The Fourth Annual Mathematics Honors Day was held on April 12, 2002. Goodner Awards for outstanding teaching by Mathematics graduate students went to Roger Vogeler and Doug Windham. CIGNA awards for outstanding undergraduate achievement in the Program in Actuarial Science went to Mike Petrauskas (First Award), Alycia Slyck (Second Award) and Martha Lekwat (Honorable Mention). Following the induction of new members into the Mathematics honorary society of Pi Mu Epsilon, a reception was held in 204B of the Love Building.

In May 2003, six senior faculty members – John Bryant, Robert Gilmer, Chris Hunter, Joe Mott, Perrin Wright and Etiquio Young – will retire. Our colleagues will be sorely missed, but we look forward to seeing them at department seminars and social events in the years to come.

I am happy to report that the Chair Selection Committee nominated me to serve as department chair for the 2002-2005 term and Dean Foss has made the appointment official. I look forward to working with faculty and staff in the coming years to enhance our departmental goals.

De Witt Sumners



A "Top

In 1997, **Robert Michael Kirby, II, aka "Mike,"** was the Computer Systems Manager at FSU's Geophysical Fluid Dynamics Institute.

For five years before that, he had been a Computer Programmer and Research Assistant there under Professor Richard Pfeffer. During this time, he earned a B.S. degree, *summa cum laude,* with a double major in Applied Mathematics and Computer and Information Sciences.

Today, he is a Graduate Research Assistant at the Center for Fluid Mechanics at Brown University and is completing his Ph.D. in Applied Mathematics with a dissertation entitled, "Dynamic Spectral/hp Refinement: Algorithms and Applications to Flow-Structure Interactions."

His story is a good one and his current research is fascinating.

As Mike remembers, "I attended high school in Tallahassee and, upon graduation, was offered scholarships to attend FSU that were sufficient to cover all my schooling needs. I knew several faculty members and asked their opinion on whether I should take advantage of the scholarships or try to go out of state to attend a top-ten school.

"Their response was consistent – FSU allows you the freedom to get a "top-ten" education if you choose to seek one. I decided to stay in Tallahassee, take advantage of the scholarships and seek out my "top-ten" education.

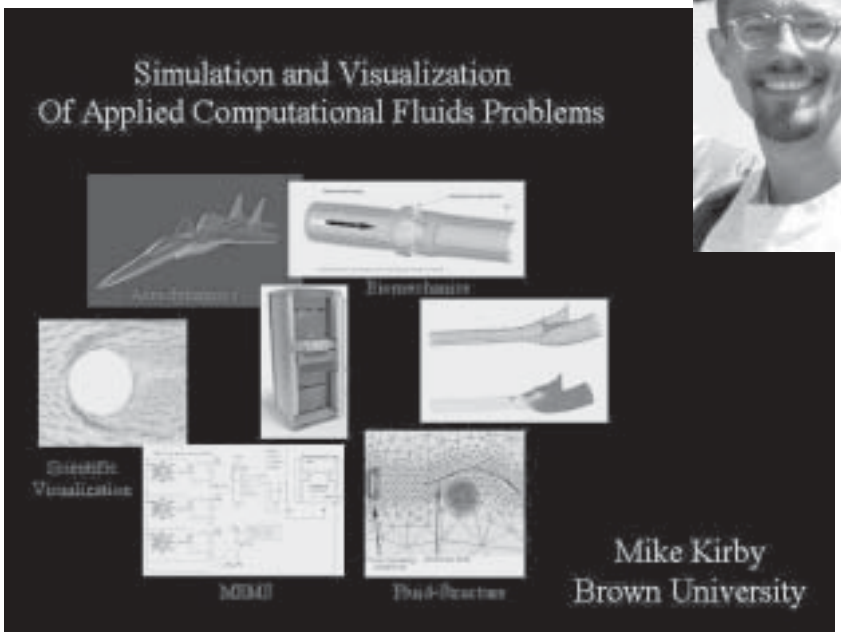
"Of all the faculty members I interacted with at FSU, the most influential to me was Professor David Kopriva in the Math Department. My first class with him was *Numerical Analysis I,* which I took in my junior year. I went on to take three more numerical analysis courses with him

"Ten" Education ...and Beyond

"Trust no one" and "The free-lunch theorem applies here."

— Professor David Kopriva

Professor Kopriva encouraged us to think for ourselves and not to merely trust in what, on the surface, seems to be correct.



during my junior and senior years.

"I still remember, and frequently quote, two phrases that he often repeated in class – "Trust no one" and "The free-lunch theorem applies here." The first was his plea for us to be responsible. As scientists, we are responsible for thinking critically and not relying on others to do the thinking for us. He encouraged us to think for ourselves and not to merely trust in what, on the surface, seems to be correct.

"The second quote referred to situations in which it appeared that you would get something for nothing. He taught us to be leery of situations and things that claimed to have "all the benefits" at "none of the cost." Critical thinkers understand the trade-offs."

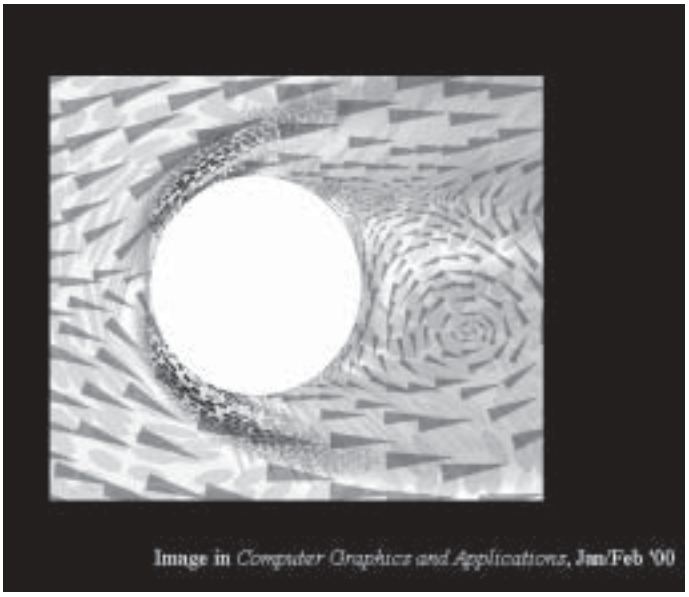


Image in *Computer Graphics and Applications*, Jan/Feb '00

When he came to FSU, Mike was interested in two very different majors: "I thought I would double major in Mathematics and English. I was torn between the two subjects and thought that I would attempt to pursue both. My opinion changed after my first semester; it was not that I disliked English, but that I truly enjoyed Mathematics.

"After taking some computer science courses, I found that I enjoyed the combination of Math and computer science. During my second year, I decided to major in both. Having a double major has been a tremendous benefit to me, since it has allowed me to interact in both areas."

During his senior year, Mike decided to go on to graduate school to study numerical analysis and scientific computing: "I spoke with several faculty members at FSU and decided to apply to four schools. Brown was one of them, as well as one of the few in the country that has a separate Applied Math Department (the Division of Applied Math).

"I received a research assistantship with Professor George Karniadakis at Brown. After consulting with a few of my FSU professors, I decided that was the right choice for me. Having been here now for

(continued on page 11)

Alumni Update 12

A Change of Pla

Before and since earning her doctoral degree in Applied Mathematics at FSU in 1996, Natalia Berloff ***has been a rising star. Her accomplishments have taken her around the world and show signs of great promise for the future.***

From 1986 to 1991, Natalia earned both bachelor and master of science degrees, *summa cum laude*, in Applied Mathematics and Computer Science at Moscow State University. Dmitriy B. Silin supervised her master's thesis, "Convexification algorithms in optimal control systems."

After beginning doctoral studies there, Natalia's plans changed:

"I was a first-year graduate student at Moscow University when the door opened to study abroad. I decided to take a leave of absence for one year, sent my documents to a couple of schools and took the TOEFL in February 1992.

"I received very personal attention from FSU: I was asked to send my publications and my admission fee was waived (I could not have paid it as my salary at the time was $2 per month!). I was accepted in the summer of the same year.

"I liked FSU so much that I decided to stay and finish my Ph.D. here. I was very honored to work with Professor Louis N. Howard, my doctoral advisor, and scientifically, I was strongly influenced by Drs. Hunter, Magnan and Ruby Krishnamurti in Oceanography."

Why did Natalia choose this academic area? "I came from a more traditional Applied Mathematics Department and, at that time, was interested in mathematical theory more than applications. I was fascinated with nonlinear waves, solitons and elegant theoretical tools developed to solve nonlinear evolution PDEs."

After receiving her doctoral degree in Applied Mathematics, Natalia joined the Department of Mathematics at UCLA:

"My husband received a Ph.D. in Physical Oceanography from FSU a week before I did and accepted a position with the Institute of Geophysics and Planetary Physics at UCLA. I wanted to apply for the University of California President's Postdoctoral Fellowship, awarded annually to PhD graduates in various fields of research, which allows fellows to work on a University

When we ask for $$$, what is it for...?

The Department's newly established graduate fellowship fund is an exciting opportunity for you, as alumni, to show your support for students who are working diligently to complete academic and research requirements. The recently announced fellowship is structured to provide domestic graduate student prospects with monetary enhancements from a continuous, interest-accruing balance of $15,000 to $20,000. We invite your financial support of this fund as your way of encouraging students who seek to follow in your footsteps. For more information, and to contribute tax-deductible dollars, please contact Susan Minnerly, Office Manager, at 850.644.8714 or minnerly@math.fsu.edu.

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ns and Scientific Integrity

of California campus.

"In November 1996, FSU held a symposium during which I approached an invited speaker, Paul Roberts of UCLA, and asked him to be my mentor for the program. He kindly agreed and we found a topic that was interesting to both of us – solitary waves in nonlinear Schroedinger equations, used to elucidate different aspects of superfluid behavior. Our proposal was granted the award and I began working at UCLA."

What is Natalia currently researching? "Since I left FSU, I've become interested in more applied aspects of mathematics and have worked in the interface of mathematics and theoretical physics. My research, aimed at understanding the behavior of quantum fluids, superfluid turbulence and Bose condensation, has been funded by the National Science Foundation for several years.

"In 1995, researchers from JILA and MIT experimentally realized the fifth state of matter: Bose-Einstein condensation in alkali metal vapors at extremely low temperatures. This discovery had such a tremendous impact that they were awarded the Nobel Prize last year.

"With the amount of experimental results being generated, this is a very exciting field to work in and includes scientists from disciplines such as condensed matter, solid state, fluid dynamics and applied mathematics. It is fascinating to see how the disciplines interact and enrich each other in the search for understanding of such amazing phenomena.

"Recently, I've also become interested in mathematical modeling in genetics. In particular, I study models based on nonlinear differential equations that describe the regulatory interaction between genes.

"I was granted the Career Development Award from the National Institutes of Health to develop fast algorithms based on these models for detecting regulatory interactions between the genes inferred from expression array data."

Natalia is about to take another professional step: "This summer, I will move to Great Britain, where I have a permanent faculty position at the Department of Applied Mathematics and Theoretical Physics (DAMTP) at the University of Cambridge. DAMTP has prominent research programs in many areas of fluid dynamics and I will be working in quantum fluids and superfluid turbulence.

"Also, a new bioinformatics program is about to start in Cambridge, centered on the medical school, but with mathematics strongly involved. I would like to take part in this program, as well."

Although she may have had a little luck along the way, Natalia has earned her accomplishments. In the last two years, she has presented her research to national and international audiences and has participated in workshops and programs nationwide.

Still, she is quick to credit the help of others: "I've been very lucky throughout my career to have worked with such amazing scientists as Drs. Howard and Roberts. Their brilliance, devotion and scientific integrity set my ideal of a scientist."

Natalia Berloff

Student Spotlight

A Teac

Becky instructs even as she explains her research: "Most people know a little about cryptography, if only that it keeps credit card information secure on the Internet. Public-key cryptography, invented in 1976, was a revolutionary idea that allowed secure communication between people who had never met.

Becky Goforth is gaining a reputation for excellence in teaching while she is still a student. Whatever else she does will be success built upon success.

Accomplishing what she sets out to do is typical for Becky, even as she revises along the way. She does not feel compelled to always take the conventional track:

"I got my B.A. in Mathematics at Trinity University (San Antonio, TX) in December 1994. I anticipate getting my Ph. D. in Mathematics from FSU in August.

"I knew I wanted to learn more math, but I did not like cold winters! When I talked to my undergraduate advisor about where I should pursue my graduate studies, FSU was one of the schools he suggested. I applied and FSU offered me a fellowship, which made the decision easy.

"When I started college, I thought I was a Computer Science major. I took math classes because my major required it and I was good at it. I didn't think I liked math, though, until I took Linear Algebra. That was my first class with proofs and I was hooked.

"All through grade school and high school, math had been about recognizing which method from the textbook one should use to solve a particular problem: there was always a particular way I was expected to proceed. But proofs required creativity.

"Scott Chapman, my advisor in Trinity's math department, encouraged me to go on to graduate school and Paul Myers, my advisor in Computer Science (a major I almost finished), helped me see that math was where I really belonged. Then, of course, my major professor here, Sam Huckaba, has stuck with me through more than one discarded thesis problem."

What about the teaching Becky is known for?""I've taught most of the basic math courses, including Precalculus, Trigonometry, Calculus I and II, Business Calculus and College Algebra. Right now, I'm teaching Modern Algebra, a course geared toward mathematics education majors. It's great fun to teach it because algebra is my area of expertise; I get a chance to tell people about the mathematics I love and also have a small impact (I hope) on the future education of high school students in Florida.

"On the first day of class, I told my students that one of the things I wanted them to take with them into their lives was the ability to tell their high school students that there is more to mathematics than the calculus sequence.

"Many students, upon hearing that I am a math major, have asked, with awe in their voices, "Wow, have you taken Calculus XII?" I think this question comes for the same reasons I didn't like math in high school: the curriculum tends to be focused on preparing students for calculus, with no room for mentioning the other interesting areas of mathematics.

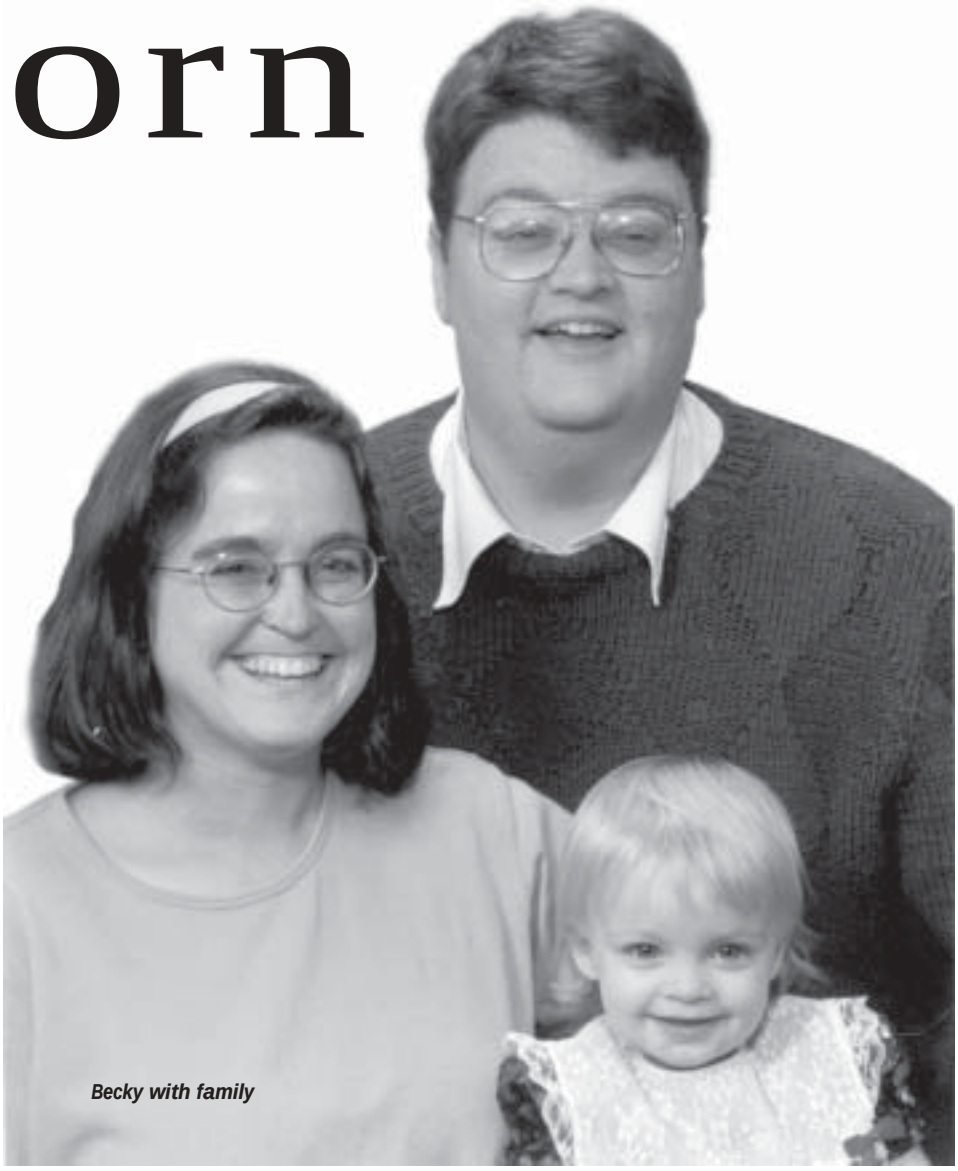
"I work hard on my teaching: it has always been important to me that I do a good job. When I'm in the classroom, I focus on doing what I can to make sure that those students sitting in front of me understand as much as possible.

"One thing I didn't anticipate when I started teaching was that so much of the job is convincing students that they can and should learn the material. Students come into college with many preconceived notions about mathematics, most of which involve it being too hard for most people or not relevant to anyone but math teachers and engineers.

"It has turned out very well for me that the Department has been willing to let me teach so many different courses. It has served me well, both in helping me realize how much I like teaching and in terms of having much more teaching experience than my competition."

Becky instructs even as she explains her research: "Most people know a little about cryptography, if only that it keeps credit card information secure on the Internet. Public-key cryptography, invented in 1976, was a revolutionary idea that allowed secure communication between people who had never met.

her Born



Becky with family

"Old-style cryptography involves keeping the key carefully guarded. If I send you a secret message, I need to first give you the key to decrypt it. This involves our meeting personally or having a trusted courier carry the key to you.

"Public-key cryptography allows you to publish your public (encryption) key on your web page or in some other public place. To send you a message, I look up your public key and use it to encrypt my message. You also have a private (decryption) key, which you use to decode my return message. The security is that the public and private keys are different and it's difficult to obtain the latter without the former.

"RSA, the first implementation of public-key cryptography in 1977, is built into most Internet browsers and software now in commercial use. Its algorithm is simple to state and its security depends on the fact that factoring large numbers (200+ digits) is "difficult" (it would take the fastest computers thousands or millions of years to solve the problem using current methods).

"My research is about NTRU, a system first presented in 1996. It uses polynomials and linear algebra as mathematical vehicles for a system that is demonstrably faster than RSA and seems, so far, to be at least as secure.

"The cryptography world is different than that of pure mathematics. In pure mathematics, research is about trying to proof general results. Cryptography is not so interested in absolute proofs. The goal is to find conditions under which an algorithm will "usually" work.

"My dissertation has several purposes. First, I am collecting facts about the NTRU system into one place. Second, I am nailing down, even proving, some of the details left as "true for all practical purposes" by other authors. Third, I am looking at various generalizations of their algorithm to see if there are any improvements over the original."

After completing her doctoral studies, Becky will launch her career in a way that seems tailor-made for her: "I've accepted a position at Stephen F. Austin University (SFA), a state institution whose mission is teaching, and I'm very excited about it. SFA began as a teacher's college and still has roots in training teachers.

"I'll focus on teaching undergraduate classes, but there is another aspect that made this job particularly appealing to me. In Texas, in many cases, math teachers don't understand what they're teaching. Of course, we see this all over the country, with shortages in math and science teachers everywhere. These are teachers who are certified in other areas, but who have been pulled into mathematics classrooms because there is no one else to teach it.

"SFA has received federal grants to address this problem. In its first year, current teachers have been brought in to teach them math. This has been very successful with the first group of middle school teachers and they are trying to expand the program to include high school teachers. I am very excited about joining this project!

"How much fun will it be to work with people who realize that they need to know more math and understand the impact the knowledge is going to have on their daily lives. Plus, there will be the fun of knowing that I will be having an indirect impact on the education of hundreds of middle and high school kids." This is a classic statement of a born teacher.

When she is not teaching or writing her dissertation, Becky is "a wife and mom. My daughter, who will be two years old in June, is the most fun part of my life." She, and an untold number of future students, are sure to benefit from Becky's decision to teach Mathematics.

Faculty Research

In the faculty section of the Fall 2001 issue of *Mathematics for the New Millennium*, we "introduced" Sergio Fenley and Alec Kercheval, associate professors new to our department. Here, they explain their current research and teaching goals.

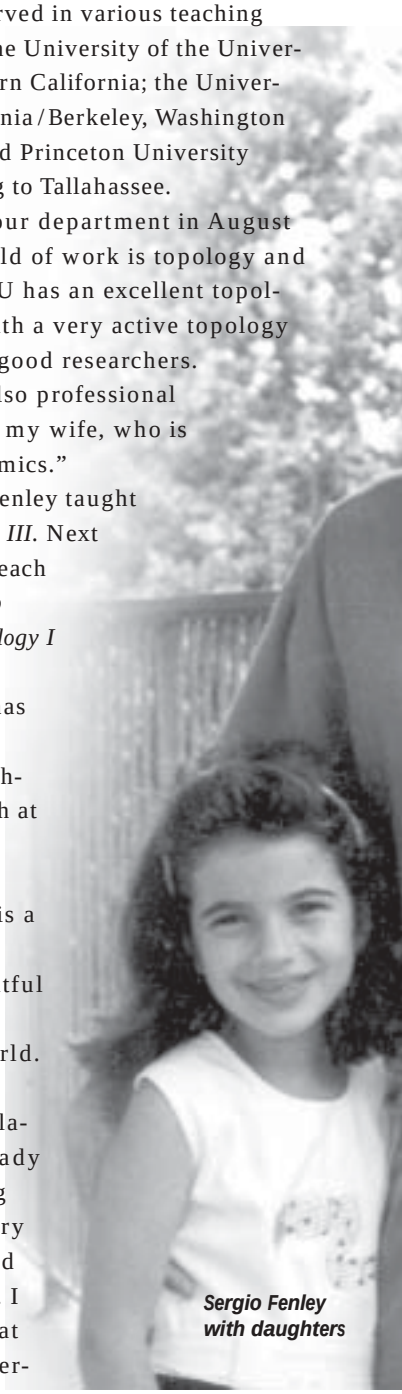
Sergio Fenley's path...

to FSU is a story in itself: after receiving his Ph.D. in Mathematics from Princeton in 1989, he served in various teaching positions at the University of the University of Southern California; the University of California/Berkeley, Washington University and Princeton University before coming to Tallahassee.

He joined our department in August 2001: "My field of work is topology and geometry. FSU has an excellent topology group with a very active topology seminar and good researchers. There were also professional prospects for my wife, who is also in academics."

This year, Fenley taught *Calculus I* and *III*. Next year, he will teach *Introduction to Analysis*, *Topology I* and *Topics in Topology*. He has definite ideas about his teaching goals, both at FSU and in general:

"Teaching is a fundamental and very fruitful part of the academic world. Enabling the college population to get ready for a working career is a very important and exciting task. I like to teach at both the under-

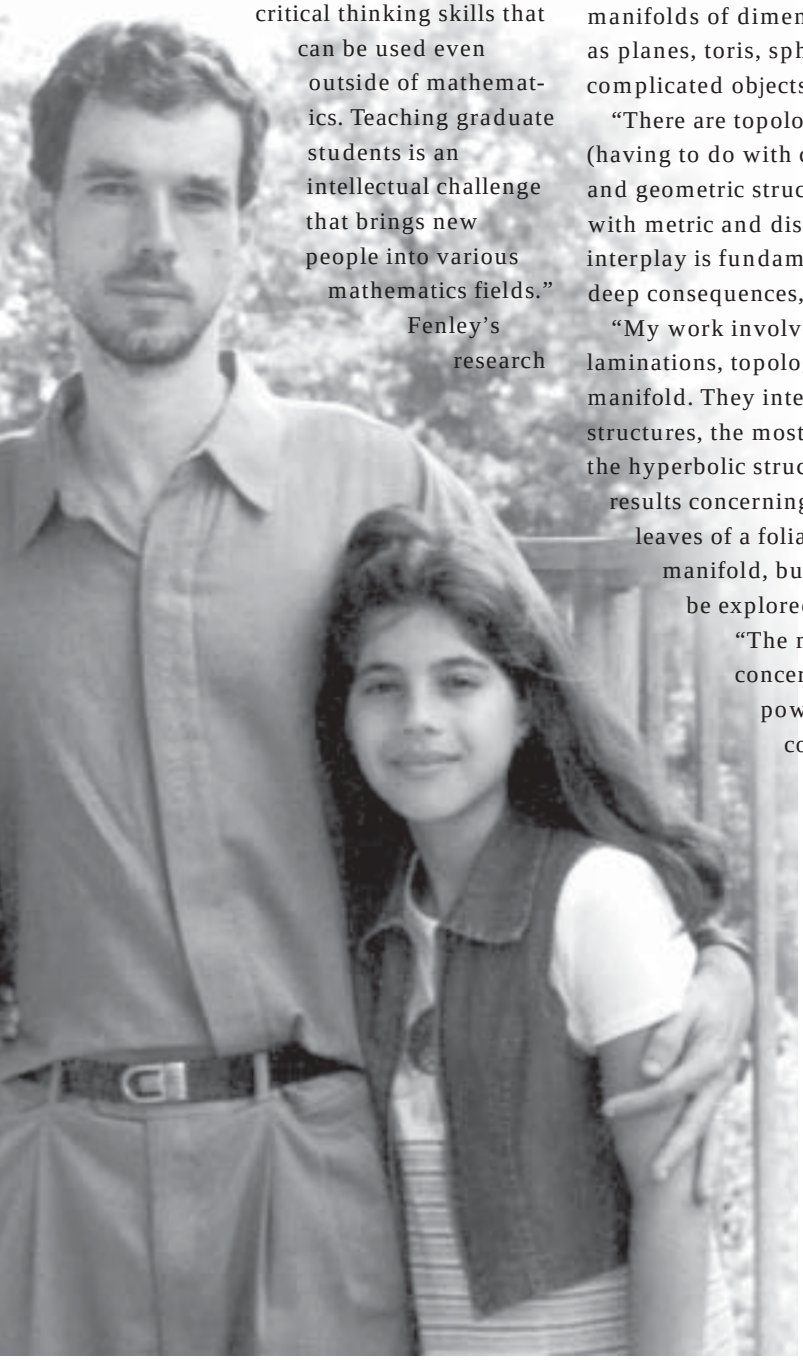


Sergio Fenley with daughters

Fenley h Alec Kercheval

graduate and graduate levels.

"For undergraduates, in addition to giving them with basic tools they will need, mathematics courses provide critical thinking skills that can be used even outside of mathematics. Teaching graduate students is an intellectual challenge that brings new people into various mathematics fields."



Fenley's research is cutting edge, particularly his recent solution of an important problem in his field: "My research is focused on low dimensional topology, that is, studying manifolds of dimensions 2 and 3, such as planes, toris, spheres and much more complicated objects.

"There are topological structures (having to do with continuous functions) and geometric structures (having to do with metric and distance properties). The interplay is fundamental and produces deep consequences, in and out.

"My work involves foliations and laminations, topological structures in a manifold. They interplay with geometric structures, the most common of which is the hyperbolic structure. I have various results concerning the structure of the leaves of a foliation in a hyperbolic manifold, but there is still much to be explored.

"The most recent result concerns laminations, a powerful and very common generalization of foliations. A fundamental question posed by Gabai and Oertel (who invented essential laminations) was whether every hyperbolic manifold of dimension 3 would have an essential lamination.

"I have just proved that *this is not the case* – there are infinitely many hyperbolic manifolds without essential laminations. From this point, one needs to start analyzing even more general structures to see what can be obtained."

With many publications and presentations to his credit, Fenley hopes to continue his strong research program: "The field of low dimensional topology is going through a period of fast and exciting developments, with many important questions being solved in the last few years. I'm involved with some of these forefront questions."

Fenley, confident about the Department's future involvement in this area, says, "I expect FSU will grow stronger in its national standing in topology."

Alec Kercheval...

came to FSU in August 2001 to support the Department's growing program in Financial Mathematics: "FSU has one of the few professional degree programs in Financial Math in the country and it is attracting a lot of interest from students worldwide."

Kercheval had taught in several academic environments before coming to Tallahassee. Upon receiving his Ph.D. in Mathematics from the University of California/Berkeley, he served as assistant or visiting assistant professor at Boston University, Indiana University and the University of Texas. He also consulted for the Lower Colorado River Authority and Barra, Inc.

"Prior to coming to FSU, I had been on the mathematics faculty at the University of Texas at Austin, followed by a couple of years in the research department of a financial consulting firm in Berkeley, CA.

Fenley/Kercheval…

(Continued from page 9)

"FSU found me and made me an offer I couldn't refuse. It's allowed me to return to academia, where I am probably best suited. The relative affordability of Tallahassee compared to Berkeley doesn't hurt either!

"I'll be teaching graduate courses in the Financial Mathematics program, as well as a variety of other courses in the Department. Part of my brief was to develop a new course in the FM program called *Financial Engineering*, aimed at second year master's degree students. I'll be teaching this for the second time in Fall 2002."

Kercheval, a prolific writer and lecturer, explains his research interests:

"I am interested generally in the mathematics behind modern financial practices, including pricing derivatives, portfolio management and risk modeling. My experience is in fixed income risk modeling, so I am especially interested in interest-rate-dependent assets.

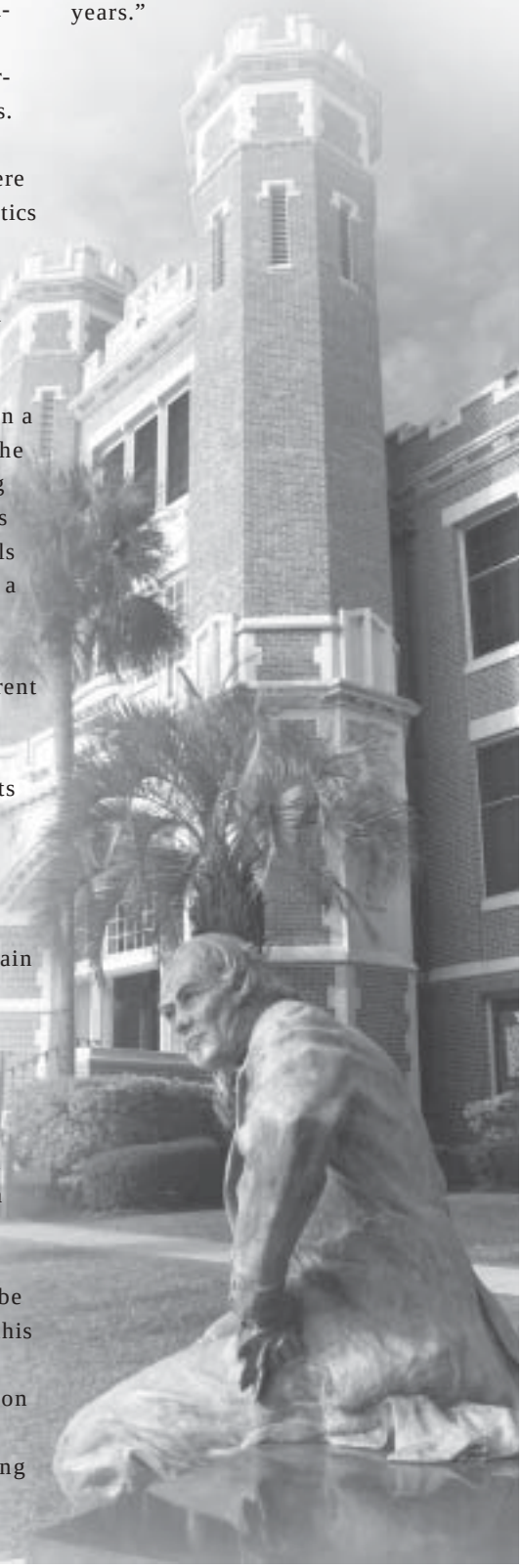
"This field has become very mathematical since the early 1970's and there is a great deal of fascinating mathematics involved, including probability and statistics, stochastic processes, PDE's, numerical analysis, linear algebra and even geometry and topology."

As he describes them, Kercheval's current projects include "…working on a clear mathematical development of the foundations of discrete pricing models, developing methods for aggregating risk models for smaller markets into a consistent whole and looking at models of credit risk across different currencies. I am also looking for ways to incorporate the insights of modern dynamical systems into the field."

Kercheval has a clear picture of what he would like to accomplish: "My main goal at FSU is to help assemble a vibrant research environment in financial mathematics that includes many faculty members in different departments and an active core of graduate research students.

"Our very active Master's Degree program will be a big driver for this activity, in addition to being the subject of ongoing course development. We expect the PhD program in Financial Mathematics to blossom in the next few years."

Alec Kercheval



A "top ten" education... *(Continued from page 3)*

five years, I am convinced I made the right choice.

"During my time at Brown, I have conducted research in two different areas: scientific computing and scientific visualization. The scientific computing work I did as part of my Ph.D. in Applied Mathematics. My scientific visualization work was done while I was earning an Sc.M. degree in Computer Science here at Brown.

"My Ph.D research has been on the use of discontinuous Galerkin methods in the modeling of compressible flows, a continuation of the work of two previous graduate students here. Our group has been developing the computational fluids code NEKTAR. I've been responsible for continuing to develop the compressible fluid version of the code, during which I've worked on both h-p refinement (spatial and polynomial refinement) and fluid-structure interaction (fully-coupled moving body problems) – both necessary to doing real-world problems.

"The computer science research I carried out for my Sc.M. had two parts. The first was the study of the use of painterly methods in the visualization of fluid flow phenomena. The idea of painterly methods is to try to understand from the arts (such as painting) what methods are effective for conveying information. I presented my work at IEEE Visualization 1998.

"The second part of my research was on the use of interactive immersive environments for studying 3D fluid flow problems. Brown has a four-wall immersive environment (called The Cave) that allows the user to see stereo images and interact with data through tracked devices. I used this environment in the study of blood flow in an arterial bypass graft, work I presented at IEEE Visualization 1999."

This summer, Mike and George Em Karniadakis will publish a book entitled *Parallel Scientific Computing in C++ and MPI* with Cambridge University Press. He also has two book chapters, several journal and conference publications, many presentations and impressive teaching experience to his credit.

With so many accomplishments, what are Mike's plans for the future? "I've accepted a tenure-track position in the School of Computing at the University of Utah that begins this fall. I hope to continue studying problems in which I can integrate scientific computing and visualization." The world will hear from Mike Kirby for many years to come.

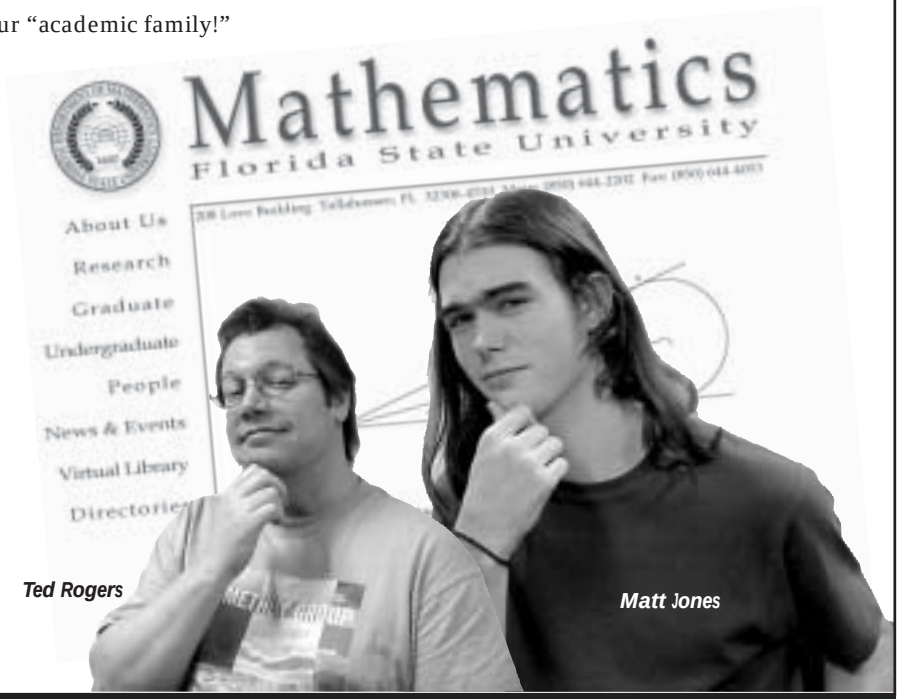
Web Notes

There is no better way to find out what's going on in the FSU Department of Mathematics than to visit our website at http://web.math.fsu.edu/. Until you do, you won't realize what a wealth of current information we maintain for you online.

We'd like to spotlight the three systems managers who do so much to make this possible – Matt Jones, Ted Rogers and Randy White. We also invite you to "meet" our departmental administrators, faculty, graduate students, staff and other computer support personnel online.

Of course, you can also browse graduate and undergraduate program information, research sites, our virtual library and even a tech support area. We offer student and faculty resources and share our current news and events with you.

In short, we try very hard to provide an electronic information source that includes you in what we do. We hope you'll keep in touch with us so we can add you to our alumni database. After all, you *are* part of our "academic family!"



http://www.math.fsu.edu

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 our website if you e-mail us at **alumni@math.fsu.edu.**

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.

Name _____

Address _____

FSU Degree(s) _____ *Graduation Date(s)* _____

Employer _____

Your News _____

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In this issue...

Vol. 2, No. 2

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