# fsu math
## FLORIDA STATE UNIVERSITY
**Spring 2007**

# Sumners to Retire After Influential Career

"I've had fun," said De Witt Sumners, speaking of a 40-year academic career at Florida State University — a career that made an impact on the field of mathematics and on the department of mathematics at FSU.

This is a sentiment that we all hope we can honestly speak when looking back over a lifetime career. Sumners seems sincere when he says it, as he remembers the high points of his adventure and those with whom he was surrounded.

Sumners came to FSU in 1967 as a recent graduate with a Ph.D. in mathematics from the University of Cambridge, where he attended as a Marshall Scholar. Perhaps his influence began then, as Marshall Scholarships are awarded to students who show promise as future leaders — chosen not only to study in the United Kingdom but to strengthen the relationship between the British and American peoples, governments and institutions.

The award was certainly a foreshadowing of his potential. He studied under influential topologists Christopher Zeeman and John Hudson at Cambridge, with Hudson taking him along for a year as a research assistant at the University of Chicago in 1966-67.
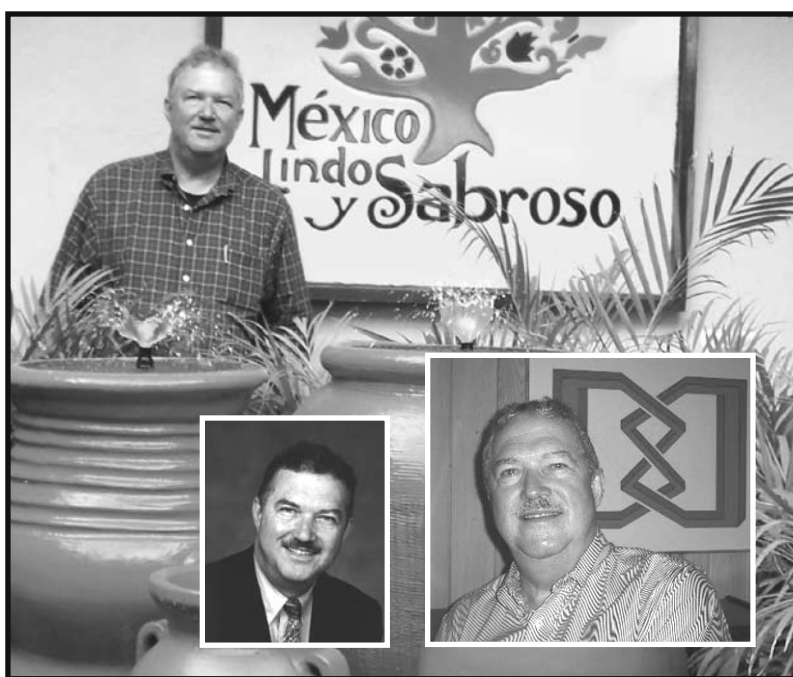


*Large photo: De Witt Sumners poses as he enters a restaurant in Guanajuato, Mexico while attending the first SMM-CMS Mexico-Canada Society Meeting in September 2006; Inset left: Portrait of a younger Sumners; Inset right: Sumners in his Love Building office.*

Having been attracted to mathematics as a high school student in the late 1950s, Sumners' mathematical interests were broad. His multiple interests served him well throughout

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# Mariel Vazquez & Javier Arsuaga:

## Alumni Carry on Family, Professional Standards Developed at FSU

It is not uncommon for students to come to FSU from all over the world to study, especially those interested in graduate study. In fact more than 130 countries are represented in the total student body of more than 40,000.

Students are attracted by the culture, the climate and (not least of all) the academic reputation. They come, they study and they often receive their degrees to move on to build families and launch careers. A common story.

What isn't as common is to meet that special person with whom you will start a family during your graduate study.

But, this is the story of Mariel Vazquez and Javier Arsuaga, successful students who came together and have gone on to find successful careers and build a beautiful family in the magnificent setting of San Francisco.

Their FSU story begins in 1995. Javier arrived from Spain in the morning, having met with FSU math professor De Witt Sumners earlier in the year to discuss studying DNA topology in the Ph.D. program. Mariel arrived from Mexico in the afternoon, attracted to

FSU by Sumners as well — even turning down four other top universities, including Cambridge, to come to FSU. When
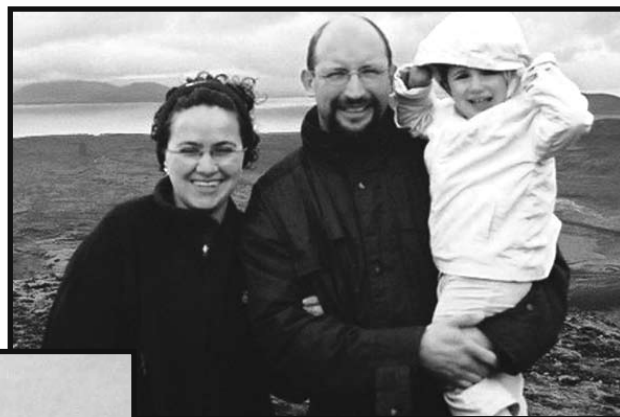


*Above: Alumni Mariel Vazquez and Javier Arsuaga with daughter Eithne Nicole on a family vacation.*

*Left: Eithne Nicole.*

Mariel got off the plane, Sumners had Javier with him to pick her up.

They became instant friends. The two shared a love for mathematics and a passion for molecular biology. In their different countries, they found that they had similar academic backgrounds, which made working together much easier. Finding subtle differences along the way, they share many of the same memories.

Both lived in FSU Housing's Alumni Village. They studied with the same friends. They worked to solve the same problems and pre-

pared for the same exams. And, to offset their long hours, Javier threw parties to make up for what he felt was a dull Tallahassee nightlife, especially compared to Spain. Mariel, of course, was a consistent party guest.

Sometime during the next three years, they discovered a greater bond than just friendship and announced their engagement in 1998.

"I remember some of the faculty and staff being very happy when they heard of our wedding, and we received a warm welcome after our honeymoon," Mariel said. "I don't really know about the immediate reaction [in the department], except for De Witt's."

Mariel and Javier invited Sum-

ners and his family to dinner to share the good news.

"It seems that he didn't even know that we were together, as he lost his voice [when we made the announcement]," Mariel and Javier recalled. "Fortunately, Neddy (Sumner's wife) was there to save the occasion. She quickly raised her glass and warmly congratulated us while De Witt recovered from shock."

They were married later that year in both Zaragoza, Spain, and Acapulco, Mexico.

So, their personal life quickly became deeply interspersed with their professional life, often making it difficult to draw a solid line between work and home. And, that seems to be perfectly fine with them. They feel that sharing the same career goals has allowed them to grow closer to each other — continuing to develop knowledge in their areas of research and discovering something new about each other every now and then as they travel the world through their profession.

They learned quickly that their academic interests were complementary to each, allowing them to collaborate successfully.

"I am more detail oriented while Javier has a broader vision," Mariel said. "I am more a theoretician while Javier has strong computational skills."

When they left Tallahassee in 2000, they moved to Berkeley, California, where they worked for five years at the University of California at Berkeley. Mariel did postgraduate work in the mathematics department there, and Javier was appointed dually in math and molecular and cell biology for three years. For the final two, he served as a staff scientist at the UCSF Cancer Center.

They joined the mathematics faculty at San Francisco State University in 2005. While they have continued to study DNA topology since completing their graduate study at FSU, they have also worked on many other biological and mathematical problems. And, they have found differences in their current department and their first department.

The difference in the settings alone contrast sharply. And, research at SFSU is very young, and the faculty and staff are constantly engaged in building a positive research environment. FSU's department is strongly rooted in a long-standing research culture. There are also several academic institutions in the bay area that allow almost limitless local collaborative opportunities, whereas FSU's institutional collaboration is long-distance.

Similarities do exist. Their graduate experience at FSU prepared them well to deal with some aspects. As faculty members, they have the opportunity to shape their students' research interests and goals. Many are the first in their families to attend college, and Mariel and Javier attribute their success in nurturing them in research and teaching, in part, to the support of their graduate faculty at FSU.

"We always found the faculty in the (FSU) mathematics depart-



*Above: De Witt Sumners (left) poses with alumni spouses Javier Arsuaga (center) and Mariel Vazquez. Arsuaga and Vazquez met while students of Sumners.*

ment very supportive in both teaching and research. For instance teaching in a foreign language in a system very different from yours is always a challenge. The faculty at FSU made that transition very smooth and rewarding," they said.

This has helped them tremendously in dealing with a student body even more diverse than FSU's.

In addition to their professional lives at SFSU, they have found in San Francisco what they believe is "the best place on earth" for their family. They enjoy the city with their daughter, Eithne Nicole, who keeps them busy day and night.

Javier attributes their view on family and career to Sumners. "Something that De Witt showed us was the appreciation for our families. No matter how busy you are or how many deadlines you have, your family goes first."

"We enjoy walking through the city, the food and shops, visiting museums and the activities they have for kids during the weekends, going to the beach or hiking in the nearby woods…going to the Sierras, Napa, or the beautiful coastline. It is truly a terrific place to live." ●

## Sumners Retiring (Cont'd)

well throughout his career, which led him to a number of academic positions — from professor to department chair to conference coordinator, and everything in between.

In fact, a word of advice he offers to up-and-coming faculty is "to keep an open mind." He feels this piece of advice is imperative to keep the field alive.

And, who knows better than Sumners, who was drawn to science and mathematics at the time of Sputnik, pursuing an undergraduate degree in physics. During his baccalaureate studies, he participated in a summer program in which students worked to prove theorems. He was then led in the direction of topology.

After studying internationally and receiving his doctorate from Cambridge, Sumners applied to Florida State University, which had many specialists in knot theory such as Shinichi Kinoshita, Jim Andrews and Sam Lomonaco. He was hired by department head Orville Harrold as an assistant professor and quickly became seen as one of FSU's leaders, conducting research in topology and expanding FSU's visibility with sabbaticals to the Institute for Advanced Study in Princeton and a visiting position at the University of Georgia in the 1970s.

As he traveled the world to conduct research, his interests expanded at a time when the field was undergoing its own changes. The traditional delineations between pure and applied mathematics began to blur, and as a consequence, departmental interests evolved as well.





*Top: De Witt Sumners plays "catch the fish" with Max Neumann (Universidad Nacional Autonóma de México) and Steven Boyer (Université du Québec à Montréal) in Mexico. Bottom: Sumners poses with current doctoral student Christian Laing outide a restaurant in Valencia Guanajuato.*
*(Photos courtesy Christian Laing.)*

Led in the 1980s by Christopher Hunter, the department became very interested in applications of mathematics. Sumners was one of the first FSU faculty members to begin to apply pure mathematics to interdisciplinary problems.

The success of the transition within the department was proven with grant funding by such agencies as the National Science Foundation (NSF) and the Office of Naval Research (ONR) for a number of projects that applied research in topology and knot theory to biology and chemistry. This opened the door to interdisciplinary collaboration with scientists around the world.

Irma Cruz-White (Ph.D., 2003), a former student of Sumners' and current faculty member in mathematics at Chipola College, described his impact on the field: "I believe his impact in the field of mathematics has been tremendous. He is one of the pioneers and important figures in mathematical biology…applying knot theory, which used to be a pure mathematics field, to the study of circular DNA."

This application of research also opened the eyes of some students to new possibilities. "I thought I wanted to obtain my Ph.D. in just pure mathematics. After seeing a presentation given by Dr. Sumners, I was surprised to learn that you could apply pure mathematics in the field of biology and became interested in doing so myself," Cruz-White said.

"After I started working with De Witt, I began looking at any science, technology or education

problem as a 'challenge that needs a solution,' which was an orthogonal shift of my original 'these are the mathematical techniques for solving problems,'" said Ivo Dinov (Ph.D., 1998), another of Sumners' former students.

The culminating moment of the transition between pure and applied study came for Sumners in1987 when he was invited by Nick Cozzarelli (a molecular biologist at the University of California Berkeley) to join the Program in Mathematics and Molecular Biology (PMMB), a multi-university interdisciplinary national research and training consortium. PMMB won an NSF grant in 1987, and NSF funding for PMMB continued through 1997. Sumners became co-director of PMMB in 1995, and the PMMB office moved to Tallahassee from Berkeley.  In 1997 PMMB won one of the first interfaces grants from the Burroughs Wellcome Fund (BWF), and the Program is still in operation today with BWF funding.

Since its origin, Sumners has been intensely involved in achievement of the PMMB's overall goal — the continued expansion of the applications of mathematics, including statistics and computer science, to molecular biology. He has overseen the PMMB-sponsored interdisciplinary research conference series, Mathematics and Molecular Biology, in Santa Fe, smaller workshops and symposia at universities and professional society meetings, a competitive national fellowship program, and interdisciplinary student training and research in PMMB members' laboratories.

"PMMB is an important vehicle to bring together key people in the fields of molecular biology and mathematics," Sumners said,  "people from every aspect of the fields."

Current Ph.D. student Jennifer Mann added that

According to Dr. Wolfgang Heil (professor, FSU Mathematics), the department will honor Sumners with "SumnersFest," schedule for May 4-5. Heil is organizing the event, which is part conference, part social gathering, and will include a number of sessions and speakers. More information can be found at:

**http://www.math.fsu.edu/~jmann/ Sumnersfest.html**

the events hosted by PMMB "encouraged discussion and collaboration through seminars, tutorials and casual dining and conversation."

### As Department Chair

Through all the years of managing his many research projects and overseeing PMMB, Sumners never lost sight of the growth of the FSU Math Department. He maintained a succinct focus on the facilitation of new ideas and endeavors for the department to pursue.

So, in 1999 Sumners took the role of chair of the Department of Mathematics, with his main goal being the increase in interdisciplinary research.  He served in that role for six years.

Under his leadership, the department grew strong programs in financial mathematics and biomedical mathematics. Sumners led the efforts to revise procedures for student qualifying examinations to allow graduate students to participate in interdisciplinary study much earlier in their career than before.

"Real world problems cut across fields, and you have to be willing to reach out and listen to those in other fields," Sumners said. "These collaborations attract a wider range of interest in the field of mathematics. Additionally, students have broader choices for career paths because of broader training."

And, this statement brings us to the human side of it all. Sumners is quick to attribute much of his success and that of the department to his peers. He notes specifically their personal support to him along with their research, data and time put forth into the laboratories and programs.

His students — both past and present — have tremendous respect and admiration for him as a person and a mentor. Sumners reflects on the many mathematicians that were produced from the student population during the last 40 years.

Dinov, currently an assistant professor of statistics at the University of California Los Angeles, has fond memories of him personally, as well as professionally.

"He has published, lectured, advised and reviewed in pure mathematics, statistics, biology, medicine and engineering topics, conferences, papers, etc.," Dinov said. "Hands down, the best adviser any graduate student can have — perfectly balanced between directive, personalized and scholastic. De Witt is a scientific father for all his graduate students."

# Welcome to our newest members!

The addition of new members to our faculty often represents growth and an infusion of new perspectives. This allows evolution within the department and brings fresh ideas to ongoing research objectives. Welcome to our newest faculty members and researchers!

## Brian Ewald
**Assistant Professor, Mathematics**

Brian Ewald joined the faculty in fall 2006 as an assistant professor with a Ph.D. from Indiana University in Bloomington (2002). He also received a bachelor's degree from the University of Michigan Ann Arbor.

Conducting research in probability, stochastic processes, numerical analysis, fluid dynamics and equations of the atmosphere and ocean, his interests complement the department's focus areas.

## Kyounghee Kim
**Assistant Professor, Department of Mathematics**

With active research interests in complex dynamical systems and probability theory, Kyounghee Kim received a Ph.D. in mathematics in 2003 from Indiana University. Kim also holds master's degrees in economics (2003, Indiana University) and mathematics (1997, Seoul National University) and a bachelor's in mathematics from Ewha Woman's University (1995).

In the area of complex dynamics, Kim is specifically interested in the iterations of birational mappings on higher dimension. She focuses her studies of probability theory on probability and its application to mathematical finance (time integrations of stochastic processes, no arbitrage criterion).

## Xiaoqiang Wang
**Assistant Professor, Department of Mathematics and School of Computational Science**

A researcher in applied mathematics, Xiaoqiang Wang's research interests focus on numerical analysis and applied partial differential equations; mathematical biology; image processing, scientific visualization and data mining; and high-performance scientific computing.

Wang received a Ph.D. in applied mathematics from Pennsylvania State University, where he was awarded the Haskell B. Curry Fellowship. Other academic degrees and honors include a master's from the Chinese Academy of Science in the People's Republic of China in 1998; a bachelor's in mathematics from Wuhan University in Wuhan, Hubel, also in the People's Republic of China in 1995; and the SIAM travel award.

"The (FSU) Department of Mathematics is very strong in Applied Mathematics [and] I can work in the School of Computational Sciences, where I can build relationships with the scientists from various fields," Wang said when asked what attracted him to FSU. "Here, I can develop my career, applying math to all kinds if scientific and social problems."

## Jonghoon Bin
**Postdoctoral Researcher, Department of Mathematics**

A researcher in aeroacoustics and acoustics, Jonghoon Bin brings experience in research at a number of prestigious academic institutions in Korea. He received his Ph.D. in 2006 in mechanical and aerospace engineering from Seoul National University and has interests in the areas of fluid dynamics and low-noise design and LES/DNS with parallel computing, as well.

Bin received a Master of Science degree in 2001 and a bachelor's in 1999 — both from Seoul National University in mechanical and aerospace engineering. He has served in research positions at that university in three study centers; the Center for Environmental Noise and Vibration Research, the Institute of Advanced Machinery and Design, and the School of Mechanical and Aerospace Engineering.

He was drawn to FSU because it is "one of the best in my field," Bin says. "I especially like research-oriented universities such as FSU."

## Jan Delfs
**Visiting Courtesy Professor,
Department of Mathematics**

Dr. Jan Delfs is a visiting courtesy professor in the Department of Mathematics, working with Dr. Christopher Tam. With a Dr.-Ing. (the German equivalent to a Ph.D. in engineering) from the Technical University Braunschweig (Germany), his research interests include development and application of methods in computational aeroacoustics; flow noise reduction techniques, including airframe noise; low-noise design; and configuration aeroacoustics.

He received a diploma in mechanical engineering in 1990 from Technical University of Braunschweig with a special field of study — technical mechanics and aerospace science. After receiving the Dr.-Ing. in 1994, he served as a research assistant at Technical University Karlsruhe (Germany), studying hydrodynamic instabilities. He has also served in research positions at Stanford University's Department of Aero- and Astronautics and the Department Technical Acoustics of Institute Aerodynamics and Flow Technology at DLR (German Aerospace Cen-

ter) in Braunschweig, Germany. He currently serves as the head of the Technical Acoustics branch in DLR Institute of Aerodynamics and Flow Technology and Professor for Technical Acoustics at Technical University Braunschweig. He was awarded the Otto-Lilienthal Award of DLR in 2005.

## Tianyu Zhang
**Postdoctoral Associate,
Department of Mathematics**

Tianyu Zhang joined the department as a postdoctoral associate in fall 2006. With a Ph.D. in mathematics from the University of Minnesota (2006), Zhang brings academic interests in areas of applied mathematics, specifically the fields of numerical analysis, scientific computing and biomathematics.

Zhang completed master's study in mathematics in 2000 at Hong Kong University of Science and Technology in 2000 and holds a bachelor's degree from Peking University (mathematics, 1998).

## Behrang Noohi
**Postdoctoral Associate**

Attracted to FSU by common research interests with department faculty, Behrang Noohi is a new postdoctoral associate. He received his Ph.D. in 2000 from the Massachusetts Institute of Technology. His bachelor's degree (1994) is from the Sharif Institute of Technology in Tehran, Iran.

Noohi's interest in mathematics paid off at an early age when he was awarded gold and silver medals in 1990 and 1991 (respectively) at the International Mathematical Olympiads competitions. His research interests include algebraic geometry, homotopy theory and noncommutative geometry. ●



*The Department would also like to welcome new staff member Joshua Bowen. He is our new admissions coordinator.*

# Faculty Awards and Honors

## Gunzburger Invited to Lecture at ICM

Dr. Max Gunzburger (Mathematics/Director, School of Computational Science) gave one of seven invited talks in the category of Numerical Analysis and Scientific Computing at the 2006 meeting of the International Congress of Mathematicians (ICM), held in Madrid, Spain.

The talk, titled "Least-squares finite element methods," surveyed the theory and practice of these important methods and presented some intriguing open problems. Gunzburger's years of distinguished work in this field will be presented in an upcoming book, scheduled for publishing in 2007.

The ICM has been held every four years since 1897 and is regarded as the premier mathematical conference. Invited talks at the 2006 ICM were divided into 20 categories in pure and applied mathematics.

Each invited speaker was presented with a facsimile of a manuscript by Archimedes, one of the pioneers of applied mathematics. The original manuscript is housed in the library at the Royal Monastery of San Lorenzo de El Escorial, world renowned for its rich collection of manuscripts reaching back to the tenth century.

*~Courtesy of Eva Ronquist,*
*School of Computational Science*

## Tempone is First to Receive Dahlquist Award

Assistant Professor Raul Tempone (Mathematics/School of Computational Science) is the first recipient of the Dahlquist Research Fellowship. The Swedish award will cover one year of full-time research at the Royal Institute of Technology (KTH) in Stockholm, Sweden.

The fellowship is intended for a "young, promising numerical analyst who has a Ph.D. dissertation more recent than five years." The recipient is encouraged to pursue his or her own research interests during the year at KTH. The prize has been established by the Institute's School of Computer Science and Communication in honor of the late KTH professor Germund Dahlquist. The fellowship is financed by COMSOL, Inc.

The website for the award quotes the board's reasoning for Tempone's selection:

*Raul Tempone has been awarded the first Dahlquist Research Fellowship for his important contributions to the field of numerical approximation of deterministic and stochastic differential equations, in particular his innovative results on a posteriori error estimates and adaptive techniques for stochastic differential equations are leading the international development. This is a relatively new field with an increasing number of applications in, for example, biology, geophysics and finance. Tempone's research is mainly analytical but he is also considering various applications.*

Tempone plans to move to Stockholm early next year with his family. He is well acquainted with both Stockholm and the university. While he is originally from Uruguay, he earned his Ph.D. at KTH in Stockholm in 2002. He also speaks fluent Swedish. Before becoming a professor at FSU, he spent two years as a postdoc with Professor Ivo Babuška at the University of Texas at Austin, with whom he still collaborates.

Germund Dahlquist (1925–2005) was a Swedish mathematician and numerical analyst who did pioneering work in numerical computing. He was especially known as an international expert in the numerical solution of ordinary differential equations. His famous paper on A-stability is one of the most frequently cited papers in numerical analysis.

*~Courtesy of Eva Ronquist,*
*School of Computational Science*

## Bertram Recognized as FSU 'Developing Scholar'

Associate Professor Richard Bertram (Mathematics) was honored in 2006 with Florida State University's Developing Scholar Award, which recognizes faculty who are several years into their careers and show promise as future academic leaders.

Candidates for the award are nominated by their respective departments and must be associate professors. Recipients are granted a one-time stipend of $10,000, intended for use in promoting the awardee's program of research and creativity during the following academic year.
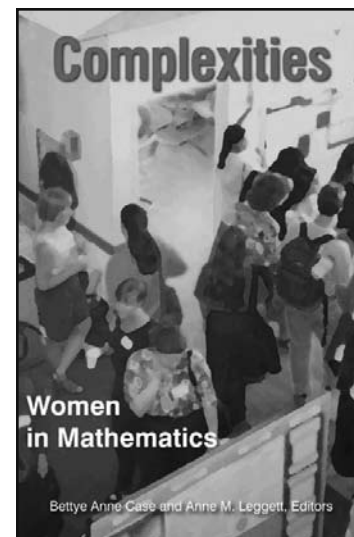
A successful candidate must exemplify a record of superior teaching, research and creativity that has begun to earn external recognition. Often, nominees have participated in such scholarly activities as: holding positions on editorial boards of leading academic journals, serving on review panels of funding agencies, exhibiting ability to attract federal and foundation support for research and creative activity and attract graduate students to the university; publishing extensively in leading journals and/or other scholarly publications.

Bertram was one of only five recipients of the 2006 Developing Scholar Award university-wide. He is currently conducting research in mathematical neuroscience, mathematical physiology and dynamical systems. He received his Ph.D. in mathematics from FSU in 1993.

## Case Honored with Jesuit Book Award

Betty Anne Case, the Olga Larson Professor of Mathematics, was recently awarded a Jesuit Book Award for Complexities: Women in Mathematics by Alpha Sigma Nu, the honor society of Jesuit colleges and universities. Only four books were named winners of the 27th annual Jesuit Book Awards in the category of "The Sciences." The awards are administered by the Association of Jesuit Colleges and Universities (AJCU).

Published by Princeton University Press in 2005 and edited by Anne M. Leggett McDonald (Professor of Mathematics, Loyola University Chicago), the book includes more than 80 articles about 20th century women in mathematics, including biographies and autobiographies. It provides a broad range of both stories and insight, in short biographies of well-known individuals such as Sophie Germain, as well as the personal reminiscences of many contemporary mathematicians.

In its description of the book, AJCU says, "Not only do the authors include those American women in academe, government and the private sector, but also many European, Asian and African women as well. Well-written introductions set the stage beautifully for each chapter. In short, Leggett and Case's book gives us a significant insight into the experience of women in this historically male-dominated field."



Congratulations to Ettore Aldrovandi and Monica Hurdal for recently earning promotion to associate professor with tenure, effective August 2007.

## Sumners Retiring (Cont'd)

And those sentiments go on and on in discussions with students who have worked with him. Pages could be filled with similar comments.

Although Sumners will retire at the end of the Spring 2007 semester, he will continue to travel, write and research. His impact on the field of mathematics will live on through his continued work and that of those students who studied with him.

Perhaps those who were mentored by Sumners are the greatest examples of his influence. FSU Mathematics graduates who worked with Sumners across the years are:

- Wendell Motter (Ph.D., 1973): Department of Mathematics (Emeritus), Florida A&M
- John M. Woods (Ph.D., 1973): Professor of Mathematics, Southwestern Oklahoma State University
- L. Richard Hitt (Ph.D., 1977): Department of Mathematics (Emeritus), University of South Alabama
- Claus Ernst (Ph.D., 1988): Department of Mathematics, Western Kentucky University
- Yuanan Diao (Ph.D., 1990): Department of Mathematics, University of North Carolina at Charlotte
- Biansheng Sun (Ph.D., 1995)
- Isabel Darcy (Ph.D., 1997): Department of Mathematics, University of Iowa
- Ivalyo Dinov (Ph.D., 1998): Center for Computational Biology (CCB), UCLA School of Medicine
- Javier Arsuaga (Ph.D., 2000): San Francisco State University, Department of Mathmatics
- Mariel Vazquez (Ph.D., 2000): San Francisco State University, Department of Mathmatics
- Irma Cruz-White (Ph.D., 2003): Department of Mathematics, Chipola College
- Jennifer Mann (Ph.D., 2007)
- Christian Laing (Ph.D., 2007)  ●

## A View From the Chair...

I extend a warm Chair's welcome to you to peruse this, the Spring 2007 edition of the FSU Mathematics Department newsletter. Our lead article offers a celebration of the career of our own De Witt Sumners, an internationally recognized trailblazer in the applications of mathematics to biology. De Witt retires at the end of the academic year. In May the Department will host "SumnersFest," a conference in honor of De Witt's four decades of contributions to mathematics — first in the pure discipline of topology and then in the emerging discipline of biomedical mathematics. De Witt pioneered the applications of sophisticated topology to the study of the workings of DNA in cells in the 1980s, and his work of the last two decades in the discipline has helped to push this interdisciplinary field to the forefront of current research. Several of his Ph.D. students and mathematical coauthors and colleagues will descend on Tallahassee the first weekend in May to present talks on subjects De Witt has influenced. There will be southern seafood aplenty at the parties scheduled in support of Sumnersfest and, of course, a SumnersRoast and BBQ at Tallahassee's own Brokaw-McDougall House.

Please read about our newest departmental members in this issue. We welcome new assistant professors Brian Ewald (Applied Mathematics), Kyounghee Kim (Analysis and Financial Mathematics) and Xiaoqiang Wang (SCS Applied Mathematics). We welcome postdoctoral researcher Jonghoon Bin (Aeroacoustics); postdoctoral associates Tianyu Zhang (Applied Mathematics) and Behrang Noohi (Algebraic Geometry); and our visitor from Germany, Jan Delfs (Aeroacoustics). We also welcome Josh Bowen to the staff as our new admissions coordinator.

Most deserved congratulations go to Ettore Aldrovandi and Monica Hurdal, two faculty who will be promoted to associate professor with tenure, beginning in August 2007. Congratulations also to Raul Tempone of SCS, who was awarded the first ever Dahlquist Research Fellowship; to Richard Bertram, awarded an FSU Developing Scholar Award; and to Bettye Anne Case, awarded a Jesuit Book Award. Also honored was Max Gunzburger of SCS with an invitation to give a talk at the 2006 ICM, a prestigious invitation by any standard. You may read details of these awards and honors in this newsletter.

The Department now boasts a contingent of about 120 graduate students and will have graduated as many as a dozen Ph.D.s this academic year. This level of Ph.D. production is expected to continue over the foreseeable future.

The Department looks forward to a busy summer of research and teaching and another productive and eventful academic year in 2007-08.

*Philip Bowers*

# *Teaching and Other Awards*

Every year the Department recognizes outstanding achievement among its students at Math Honors Day. The 2006 event was held April 7 and saw a number of students awarded for their accomplishments. Awardees were honored with a reception prior to the ceremony, which included an invited lecture by Dr. Karen J. Berkley, the McKenzie and Distinguished Research Professor in Neuroscience at FSU.

### Dwight B. Goodner Mathematics Fellowship:

Millie and Dwight Goodner established an endowed fellowship fund to recognize teaching excellence in mathematics. Two Goodner fellowships are awarded each academic year to graduate teaching assistants in mathematics – one to a student who has not yet completed the doctoral preliminary examinations or received a master's degree in mathematics and the other to a student beyond the doctoral preliminary examinations.

**Senior Award:**     **Andrew Novocin**
**Junior Award:**     **Kevin McLaughlin**

### D.W. Simpson Scholarship:

This scholarship is awarded to an exceptional rising senior in Actuarial Science.

**First Place:**     **Jennifer Gerrell**
**Second Place:**     **Ikenna Nwagwu**

### Uhrhan Scholarship:

This award provides a two-year award for an outstanding rising junior.

**Fall 2005 Award:**   **Anton Souslov**
                    **Suzanne Ferrell-Locke**
**Spring 2006**      **John Oberlin**
   **Award:**        **Kevin Meek**

### Pi Mu Epsilon:

Math Honors Day also marks the induction of our outstanding students into the Florida Beta Chapter of Pi Mu Epsilon. Pi Mu Epsilon is a national scholarly society in mathematics, consisting of chapters at various colleges and universities. The FSU chapter was established in 1956. Members are able to add their names to a ledger that has been signed by each member since the chapter founding. Both undergraduate and graduate mathematics students are eligible for membership, and undergraduates in other majors may be eligible if they satisfy the national organization criteria for membership. These include a specified overall class ranking as well as sufficient credits and grades in mathematics courses. Members of Pi Mu Epsilon also participate in one or more of the student activities in the department: Florida State Student Mathematical Society, Florida State Student Actuarial Society, Putnam Competition Team, or Graduate Student Seminar. Spring 2006 inductees are:

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|---|---|
| **Walter Ampofo** | **Kevin Meek** |
| **John Bowers** | **Kimberly Millard** |
| **Theresa Brady** | **Stacey Mills** |
| **Christopher Bradley** | **Hong Mu** |
| **Roury Boerner** | **Amelia Powers** |
| **Ivo Calderin** | **Joseph Rhoads** |
| **Chan Chen** | **Kelli Roberts** |
| **Bibhuti Dash** | **Ebo Seisie** |
| **Austen Duffy** | **Anton Souslov** |
| **Juan Gutierrez** | **Judson Stryker** |
| **Ali Mohammad** | **Jason Tabeling** |
| **Hemmati** | **Ahmet Tatar** |
| **Joshua Hernandez** | **Robert Todd** |
| **Artemis Ishmaku** | **Matthew Willyard** |
| **Erdell Maurice** | **Jianfeng Yao** |

Congratulations to **Richard Oberlin**, an alumnus of the Department of Mathematics! Richard recently received the **Excellence in Mathematical Research Award** at the University of Wisconsin-Madison.

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**Many of our graduates have kept in touch with the Department and we invite all other alumni to do the same. In fact, we would like to add your name and contact information to our alumni database and include your information on our website. To be included, email 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 _____

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FSU Degree(s) _____

Employer _____

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You can support the students and faculty of FSU's Department of Mathematics with a tax-deductible gift to enhance our teaching and research efforts.

Checks payable to **FSU Foundation Mathematics Fund No. 0223** may be sent to Dr. Philip Bowers, Chair, FSU Department of Mathematics, Tallahassee, FL, 32306-4510 or FSU Foundation, Tallahassee, FL 32306-2660.

Questions may be directed to Dr. Bowers by phone (850.644.7405) or email (bowers@math.fsu.edu).

*Please help us support the students who hope to follow in your footsteps.*