Chair’s Corner

by Joseph Kolibal

The year 2010-11 was one of many changes in the Department of Mathematics. We continued to make progress along several fronts, all of which have become increasingly important to the mission of the Department. While there have been some challenges due to the economy, overall the outlook is more upbeat going into the next year.

The academic year began with a reminder that The University is not isolated from the economic downturn deeply affecting the country. The challenge of reduced operating budgets was met in the spring of 2010 with a University-wide review of operational costs with the need to trim spending. Inevitably, in a labor-intensive field such as teaching, this means cutting faculty. By University and IHL rules, this was a complex process, and the accompanying administrative review was costly in time and emotional strain, following a process that required that a thorough, exhaustive review of each operating unit be performed. To its credit, the faculty and staff of the Department met their responsibilities and obligations. The result was a recognition of the vital educational role that the Department has in fulfilling the teaching mission of the University, and we started the academic year 2010-11 on that positive note.

Our goal is to assure the work of the Department continues to be a part of the fabric of South Mississippi long into the future. It defines us, and makes us stand out from so many other places to learn and study in Mississippi.

This newsletter highlights our activities as a Department, and as faculty within the University, and also recognizes the faculty and staff in the Department for so many activities that exceed expectations. These activities include seminars and colloquia, community outreach, research, as well as participating in and supporting the administrative activities which help to keep the Department running smoothly.

I am truly thankful and grateful for having had the opportunity to serve as Department head for the last half year. For the past 18 years since coming to Southern Miss, I have worked with my colleagues to improve education, research, and opportunity in the Department. The Department is its people, and that includes alumni and the community that have so generously supported our programs.

On that note, I urge everyone to become fully engaged, and ask all those with ties to the University and the Department to consider the important contributions we all need to make if we are to continue to succeed at improving the quality of mathematics education and mathematics literacy in South Mississippi, and in the nation.

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The year in pictures tells a story of seminars, classes, lectures, presentations, workshops, recruiting events, retirements and new faculty coming on board. In particular, recruiting has become an important matter for the Department, both at the undergraduate and graduate levels. We are working to improve the quality of our programs and to improve access to the educational opportunities we provide. This includes not only traditional students, but also a greater effort to reach out to the growing community of non-traditional students interested in returning to school, or thinking about doing more mathematics in an increasingly competitive technical world.

If you are interested in participating in the world of mathematics either by augmenting your math skills, by taking on a minor in mathematics or mathematics education, or thinking of a career in mathematics, please contact us. There are a wide range of opportunities at the BS, MS and PhD levels, and there are a limited number of scholarships and assistantships to support talented students. We are growing our programs, and we are interested in working with you.
Dr. Jiu Ding spent the spring semester of 2011 on sabbatical leave from the Department, having gone to China to the Institute of Computational Mathematics and Scientific/Engineering Computing, Academy of Mathematics and Systems Science in Beijing, PRC.

In the summer of 2011, Jiu Ding had two papers accepted by *The Journal of Mathematical Analysis and Applications* and *The Journal of Statistical Physics*, and in July 2011, Jiu Ding gave an invited lecture to the participants of the Summer Mathematics Institute for Teachers organized by Dr. Haiyan Tian in Hattiesburg, on the topic of dynamical geometry – from order to chaos.

He finished a draft of his book and a play on the history of chaos and fractals at the end of this summer. A science documentary film based on the play is being filmed and produced in Hong Kong, and the 100+ page book is scheduled to be published by the Higher Education Press of China. Chapters of the forthcoming text include the following:

- Introduction – “Birds and Frogs”
- The Puzzle of the Three-Body Problem
- Pioneers of Nonlinear Analysis
- The Butterfly Effect
- The Horseshoe Perceived on a Brazilian Beach
- Strange Population Dynamics
- “Period Three Implies Chaos”
- The “Ghost” in the Los Alamos National Lab
- “How Long is the Coast of Britain?”
- The Geometry of Nature
- New Philosophy of Science
- Entropy – The Mathematics of Uncertainty
- Final Words – Brilliant Lives

Dr. Ding has worked and done research in the areas of fractals and chaos, along with doing foundational research on the Perron-Frobenius operator.

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The Department in Review

As of this fall, the Department of Mathematics has more than 128 BS students and LBS students enrolled. In addition, we now have 11 graduate students studying for a Master’s or PhD degree. In particular, the total number of majors (Math BS and LBS combined) is up by about 20% over last year both on the Coast and in Hattiesburg.

The growth in the number of majors, however, is dwarfed by the larger numbers of students attending mathematics service courses in the Department. Mathematics has always had a large service role, and this seems to be growing, particularly as more students enter the University with less adequate preparation in mathematics, and as the number of applied science majors grows in the College of Science and Technology.

To meet this increasing demand, we have had to focus on not only increasing the number of sections being taught, but also examining how we teach. Efficiency is not just a matter of importance to companies seeking to survive in a tight, competitive market, it has become an important part of teaching. We believe we are meeting this challenge, and we are doing this while at the same time working to improve the quality of the educational experience in our service courses and for our majors.

The utilization of computer-based technology in the classroom remains a challenge and an opportunity. The Math Zone, our purpose built facility for teaching Intermediate and College Algebra, has employed the emporium method for teaching in which students participate in a lecture only once each week instead of the three lectures provided in a traditional class. The focus is instead on problem-solving and on self-paced learning done on computers and supported by tutors. These tutors provide individualized attention to students, answering questions and assisting students to gain mastery of the material.

In the fall semester of 2011, we had the opportunity to hire two new instructors, Corwin Stanford and Mary Bullock, to provide additional staffing for the Math Zone. Corwin Stanford was already familiar with the facility and its operational requirements, and he takes on the role of Math Zone coordinator. Mary Bullock is a new addition to the
Department and the University. In 2011 we also had Dr. John Perry promoted to associate professor.

Given the increasing pressure on staffing and programs at Southern Miss, the hiring of these instructors demonstrates the strong commitment the University is willing to make to enhance the quality of mathematics teaching in this vital service area.

At the other end of the teaching spectrum, the Department has sought to expand its graduate program, recognizing the opportunities and the challenges posed by graduate education. While doctoral degree programs are expensive in time and resource, requiring a close tutorial relation between professor and student, they also are the cornerstone of a vibrant research program. We plan on being able to increase the size of the program by about 50% in the future, providing greater opportunities for professional growth in mathematics.

### NEW FACULTY RESEARCH PRESENTATIONS

**Dr. James Lambers** presented his research at the following conferences:

- The Second IMA Conference on Numerical Linear Algebra and Optimization in Birmingham, England in September 2010;
- The Third International Conference on Numerical Algebra and Scientific Computing in Beijing in October 2010; and,
- The Seventh International Congress on Industrial and Applied Mathematics in Vancouver, British Columbia in July 2011, where he also served as a session chair on numerical methods for time-dependent partial differential equations.

James Lambers served as a guest lecturer at the Institute for Computational and Mathematical Engineering at Stanford University, giving a short course in May on Advanced Topics in Numerical Linear Algebra, and in August he visited the Department of Mathematics at the University of Bergen in Norway, giving a short course on Upscaling in the Geosciences.

In August, Dr. Lambers also had the opportunity to travel to Liptovsky Mikulas, Slovakia, to work with Professor Vlado Kompis at the Academy of the Armed Forces on the numerical simulation of composite materials reinforced by carbon nanotubes.

### Mathematics Licensure Program

The Mathematics Licensure program, or Math LBS, within the Department continues to be a cornerstone program, serving a vital community and statewide need for qualified mathematics teachers in Mississippi. The program emphasizes a strong core in mathematics course requirements, combined with a strong curriculum in pedagogy. The program balances education and teacher training with the objective of producing quality, qualified mathematics teachers.

The program has been central to the role of the Department, and the duality of having a combined Mathematics and Mathematics Education department has contributed enormously to the diversity of the faculty, and has led to spin-offs in improving the quality of the lower divisional program that would be improbable in a more narrow, highly focused pure mathematics department.

The Math Licensure faculty also support the mission and objectives of other education programs throughout the university, including the graduate Center for Science and Mathematics Education, and as such are vital to the university. The faculty involved in this program have actively sought to define a role for themselves in the community and within the state, and have sought and successfully secured external funding to further research and teaching aims.

The future is to build on this well-established program, with increased emphasis on building up external funding to support the MS program. The future also entails a greater involvement of these faculty in the development of improved methods for teaching remedial and non-mathematics majors within the Department.

Faculty teaching in the Math LBS program include Dr. Susan Ross and Ms. Mary Peters in Hattiesburg, and Dr. Julie Cwikla and Ms. Marlene Naquin on the Gulf Coast. In addition, Dr. Ningjun Ye has been hired as a visiting assistant professor in Mathematics Education for the Hattiesburg campus.

I am not a teacher, I am an awakener.—Robert Frost
- **Lorrin Debenport**, who graduated with honors in May, gave a talk on her undergraduate research project at the 2011 annual meeting of the LA/MS Section of the Mathematical Association of America.

- **Matthew Dixon**, who graduated with a bachelor’s degree in May and is now a graduate student in the Department of Physics, gave a talk on the Fundamental Theorem of Tropical Algebra at the 2010 annual meeting of the Florida Section of the MAA, held at the University of West Florida.

- **Deanna Leggett**, who graduated with a master’s degree in May, won first prize in the graduate paper competition at the 2011 annual meeting of the LA/MS Section of the Mathematical Association of America. Another paper she co-authored with her adviser and with Dr. Eve Torrence of Randolph-Macon College was published in the January issue of the *College Math Journal*.

- **Alex Cibatorica**, who graduated with a master’s degree in August, has continued on to the Ph.D. program in Computational Science at The University of Southern Mississippi.

- **Megan Richardson**, who graduated with a master’s degree in August, has continued on to the Ph.D. program in Computational Science at The University of Southern Mississippi. Megan attended the MAA LA/MS Section meeting at Ole Miss in the Spring 2011, and worked in 2010 and 2011 with Dr. Tian as a graduate assistant on the Summer Mathematics Institute.

- **Suanrong Chen**, who graduated with a master’s degree in May, has continued on to the Ph.D. program at the Center for Science and Mathematics Education at The University of Southern Mississippi.

### Student Research

**Sparse Matrix Reduction with Fixed Columns (Honors College Thesis May, 2011):**

... The success of the right-to-left algorithm in $\mathbb{Q}$ (compared to the other algorithms) can possibly be explained by the success of the normal strategy (using Buchberger’s $\text{lcm}$ criterion) and the structure of Macaulay matrices. This is somewhat surprising because the Markowitz criterion is best for a generic matrix, and as Example 9 showed, right-to-left is spectacularly bad for a generic matrix.

**Tropical Mathematics (Undergraduate Thesis May, 2011):**

... The tropical semi-ring is, loosely speaking, a ring without the condition that $(\mathbb{R}, \oplus)$ is an abelian group. The condition fails because there are no additive inverses. This fact can be easily verified since we have $\infty$ as the additive identity, and for any given $x$ there is no $y$ such that

$$x \oplus y = \min \{x, y\} = \infty.$$  

... Every dense polynomial can be written uniquely as tropical products of linear tropical factors in the form ...

**Fraction-Free Methods for Determinants (MS Thesis May, 2011):**

... determine the “problem submatrix” $B$ by locating the submatrix of $A$ whose interior has a determinant of zero. We then add a strategic multiple of row one of $B$ to row two of $B$ and use Dodgson’s Method to find the determinant of $B$. If we encounter division by zero while calculating the determinant of $B$, then we add a strategic multiple of the last row of $B$ to row two of $B$ and recalculate the determinant of $B$. We will show that if Dodson’s Method fails a third time, the determinant of $B$ is zero. Whether the determinant of $B$ is zero or not, we then continue with Dodgson’s Method to find the determinant of $A$.

**The Yang-Baxter Equation (MS Thesis August, 2011):**

... A function $f$ is said to be defined on the spectrum of $A$ if the values $f^{(i)}(\lambda_i), \quad j = 0, \ldots, n_i - 1, \quad i = 1, \ldots, s$ exist, where $\lambda_i$ are eigenvalues of $A$ with the corresponding Jordan block index $n_i$, and $s$ is the number of distinct eigenvalues. These are called the values of the function $f$ on the spectrum of $A$.

**A Comparison of Two Different Methods for Solving Biharmonic Boundary Value Problems (MS Thesis August, 2011):**

... Similarly, a multi-dimensional Delta-shaped basis function can be obtained as a product of one dimensional basis functions; therefore, an $N$-dimensional Delta-shaped basis function can be written in the form

$$I_{M, k}(x_i, \xi_i) = \prod_{i=1}^{N} I_{k, x}(x_i, \xi_i).$$

In our calculations of the solutions of PDEs, we use the DBFs $I_{0,4}$ and $I_{20,6}$. The approximate radii of support for these DBFs are respectively 0.473 and 0.319.

**A Piecewise Constant Method for Frobenius-Perron Operators via Delta Function Approximations (MS Thesis May, 2011):**

... Now we use the pulse function $\delta_{\epsilon}$ to approximate the delta function in the definition of the Frobenius-Perron operator. This results in the definition of an operator $P_n : L^1(0,1) \to L^1(0,1)$ by

$$P_n f(x) = \int_0^1 \delta_{\epsilon}(x - S(y)) f(y) dy.$$
External Funding and Awards

• As the principal investigator and the co-instructor, Dr. Haiyan Tian has organized the 2011 Summer Mathematics Institute for teachers. The Co-Principal Investigators are Dr. Myron Henry and Dr. Sherry Herron. The institute was funded with $90,000 by the U.S. Department of Education (No Child Left Behind) and Mississippi Institutions of Higher Learning for the period March 1, 2011- April 30, 2012.

• Dr. Julie Cwikla teamed with Dr. Jennifer Vonk in the Psychology Department at USM to earn a $300,000 grant from the National Science Foundation to investigate children’s naive thinking about problems involving fractions and sharing, and examines the types of prompts that might facilitate problem solving. All of Dr. Cwikla’s research is conducted in the community with schools, non-profit organizations, and area industries.

• Dr. C.S. Chen has been informed that his application for the candidacy of Fulbright Specialist Roster has been approved by the Council for International Exchange of Scholars. The Roster is a list of all approved candidates who are eligible to be matched with incoming program requests from overseas academic institutions for Fulbright Specialists. As a candidate, Dr. Chen will be considered a potential match for program requests that require someone in his research field.

WORKSHOPS AND COMPETITIONS

Dr. Haiyan Tian organized the 2011 American Mathematics Competitions (AMC) held on February 23, 2011, and supported financially by the President’s Office. A total of 108 students from thirteen high schools in grades 9-12 participated. The event consisted of AMC 10/12 competitions in the morning, followed by lunch, and then a presentation on “Problems and Solutions of American Mathematics Competitions”.

The local winners of the AMC competition are awarded certificates and prizes (J. Kolibal and H. Tian, on the left).

Dr. Haiyan Tian also organized the 2011 USM Summer Mathematics Institute for teachers, along with Dr. Myron Henry and Dr. Sherry Herron. The Institute consists of a summer workshop, along with two follow-up sessions, with one in fall 2011 and the other in spring 2012. The Summer Mathematics Institute is in its 9th year. Congratulations.

Provost Robert D. Lyman presenting the completion certificate to a participant on the last day of the summer session of the Summer Mathematics Institute.

It is the supreme art of the teacher to awaken joy in creative expression and knowledge.—Albert Einstein
VISITING SCHOLARS

The Department of Mathematics hosted several visiting scholars who are involved in collaborative research activities with Department faculty. Visitors included the following:

- **Dr. D.C. Lo** (in collaboration with Dr. C.S. Chen) for three months from June 18 to September 18. Dr. Lo is an associate professor in the Institute of Maritime Information and Technology, National Kaoh Siung Marine University. His visit was supported by Hohai University, PRC.

- **Dr. Xueying Zhang** for one year (in collaboration with Dr. J. Kolibal), starting in September 18. Dr. Zhang is an associated professor in the Department of Mathematics, College of sciences, Hohai University (HHU), Nanjing, China. His visit is supported by the HHU Research Funds Abroad for Exceptional Educators.

- **Dr. Qinjie Fan** (in collaboration with Dr. Jiu Ding), for three months starting in September 15. Dr. Fan is a professor in the Department of Mathematics, Jilin Normal University, Siping, Jilin Province, China. Her visit is supported by the National Natural Science Foundation of China.

- **Dr. Junxiao Wu** from the High Performance Computing Collaboratory (HC²) at Mississippi State University completed a two-month visit during the summer of 2011, working with Dr. Zhu on the discontinuous Galerkin methods for partial differential equations in fluid dynamics.

Department Sabbatical Leaves

The Department of Mathematics faculty are offered the opportunity to apply, through a competitive process, for sabbatical leaves after six years of service. A sabbatical provides faculty the opportunity to travel, to collaborate and to explore new ideas in research. This year the Department is proud to have had three faculty selected and approved for sabbatical leaves. These include the following:

- **Dr. Chen**, who is currently on leave (May 2011 – January 2012) at National Taiwan University (NTU), is working with his collaborator Professor D.L. Young at NTU. His sabbatical leave is partially sponsored by the National Science Council in Taiwan and Overseas Visiting Scholar Fellowship in China.

- **Dr. Jiu Ding** (January 2011 – May 2011) had a sabbatical leave at the Institute of Computational Mathematics and Scientific/Engineering Computing, PRC.

- **Dr. Kolibal** (August 2010 – December 2010) had a sabbatical leave at Linyi University, Linyi, PRC, teaching a mini-course on the numerical solution of partial differential equations.

We take this opportunity, on behalf of the Department and all of these faculty, to thank the University for these opportunities. These demonstrate the large commitment to continuing improvement in education and research that the University and the state of Mississippi are making.

Undergraduate Research

Perhaps one of the greatest opportunities which young, aspiring mathematicians can have is to engage in research under the guidance of a faculty member. These type of opportunities were typically reserved for graduate students as a teaching tool, and also as an important first step in the process of developing the next generation of research mathematicians. Faculty who have been particularly active in undergraduate research include Drs. John Perry, Haiyan Tian, Sung Lee, James Lambers and Jiu Ding. In the area of mathematics education research, Dr. Susan Ross is Cononiah Watson’s advisor on her Honors College thesis and on her McNair Scholars thesis. In particular, Dr. Perry has made significant contributions to the Department’s efforts to grow our undergraduate research programs in cooperation with the Honors College. He has worked with several Honors College students (Lisa Palchak, Lorrin Debenport and Matt Dixon). Thanks are also due to the Department’s Honors subcommittee consisting of Dr. John Perry, Chair; Dr. Jeremy Lyle and Dr. Haiyan Tian.

In addition to our usual undergraduate students, Drs. Tian, Lee and Kolibal each worked with an undergraduate research student during the summer semester on an undergraduate research project. These projects were associated with the Alliance for Graduate Education in Mississippi (AGEM).
The Math Zone

We have had record numbers of students in the Math Zone this fall, with more than 1750 students enrolled in over 30 sections of Intermediate Algebra and College Algebra.

These are taught using an emporium method in which students attend one lecture each week and engage in an additional three hours of online supervised learning. Students have convenient access to tutors and faculty to answer questions when they are 'stuck', providing a supportive tutorial learning environment. The online curriculum also allows students to self-pace the learning experience.

Studies show that student performance is strongly correlated with the amount of time students spend working through problems.

**Teacher Education Highlights**

Mary Peters, mathematics instructor, collaborated with Dr. Anita Davis, director of the Center for Research in Creative Learning (music education) in the development of “Think Beyond” – 2011 Summer Institute for Teachers June 27–29, in Pascagoula. Ms. Peters also provided the mathematics connections for mathematics, science, art, language arts, and music teachers in the program. Teachers from N.R. Burger Middle School (Hattiesburg), George County Middle School, East Central Middle School (Jackson County), Oak Grove Middle School, Trent Lott Academy (Pascagoula) and Pass Christian Middle School met at the Pascagoula River Audubon Center in Moss Point to learn the art of paper making using natural and recycled materials.

School teams of cross-disciplinary teachers participated in an interdisciplinary project-based learning experience incorporating the sciences, mathematics, language arts, and arts. Activities included using scientific tools (science and math), paper folding, scientific inquiry, paper acoustics, marketing and finance, and creative writing. Participants are to take the information from this institute back to their schools and create product-based learning environments for their students in collaboration with their team members and supported by the institute.

Mary Peters has been involved in student teaching in the Mathematics Education Program at since 1998. She is actively involved in working with student teachers, visiting students in schools during their praxis semester of student teaching.
In addition to all of these faculty, Ms. Jan Davis (retired) is an adjunct instructor for us in the Math Zone this fall semester, and Dr. Gaston Smith is an adjunct instructor in the Math Tutoring Center. Dr. John Dudley retired in the fall of 2010, Ms. Janice Fletcher retired in the spring of 2011, and Ms. Christina Carson was hired as our new Department administrative assistant this summer, replacing Ms. Cindy Hodge who had been with the Department for almost a decade. Cindy continues with the University, and has taken a position at the USM Foundation, while John and Janice are retired from teaching. Thank you, John, Janice and Cindy, and welcome Christina.

**Faculty Focus**

Dr. Sung Lee took on the responsibility of serving as interim-Director for the Math Zone in May, 2011. This is in addition to his usual duties as a graduate faculty member. The introduction of new software this summer, along with a growing enrollment has been a challenge which has been met with a continued emphasis on improving quality and student success in learning.

**New Staff**

Christina Carson started August 1, 2011, as our new administrative assistant. She has a B.S. in Business Administration from Southern Miss with an emphasis in human resources.

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Life is good for only two things, discovering mathematics and teaching mathematics. — Siméon Poisson
The Gulf Coast

The Department of Mathematics maintains operations in Hattiesburg and on the Gulf Coast. Drs. John Harris, Julie Cwikla and Karen Kohl along with Ms. Marlene Naquin support our operations on the Gulf Coast in both the Math BS and the Math LBS programs, along with providing a large number of mathematics service courses for Gulf Coast students.

Marlene Naquin is coordinator/University supervisor for the Mathematics Teacher Licensure program on the Gulf Coast, and has been a driving force in advocating for a dedicated lab facility for students on the Gulf Coast. She plays an active teaching and service role for the Department of Mathematics on the Gulf Coast, and is dedicated to contributing to the success of students.

The Southern Miss Gulf Coast consists of multiple teaching sites. Math courses are offered at Gulfport/Long Beach, GCRL and Ocean Springs. MAT-099 and MAT-101 are taught in traditional lecture formats on the Coast with the lab used as a resource for assistance with homework and test prep.

Special Thanks

It would be impossible to administer and coordinate the activities of our students and our academic programs without the support and dedication of our faculty and staff. The names and the work done is so often overlooked.

First and foremost, thanks are due to Dr. Sung Lee as interim-director of the Math Zone and also as Curriculum Committee chair, along with Dr. James Lambers, graduate program director, and Dr. Jeremy Lyle, undergraduate coordinator. These three positions together constitute the Executive Council for the Department of Mathematics. Recognition is also owed Dr. John Harris and Dr. Haiyan Tian for the highest standards of professionalism and sensitivity in discharging the mandated responsibilities of the Faculty Personnel Committee. A special thanks also goes to Dr. Susan Ross, NCATE coordinator and SACS coordinator, for the huge effort required to maintain and support the Department’s accreditation efforts.

A heavy service contribution to the Department affecting daily operations is also provided by Dr. Jack Perry, who coordinates and manages the Department Web presence. This job involves posting class schedules, colloquia, seminars, and this year it involved a complex, top-down redesign of our Web pages to conform with revised University standards using Drupal. The developing and coordinating of the semestery class schedules is done by Dr. Haiyan Tian in Hattiesburg and Marlene Naquin on the Gulf Coast (GC).

The CoST-GC Mathematics tutoring lab has grown from two computers the week before Hurricane Katrina in August 2005 (to a shared lab after the storm), finally relocating to a classroom-sized space in the Student Services Center. The CoST-GC Mathematics tutoring lab has 20 laptops and two desktops, a large whiteboard and overhead projector with screen. Students utilize computers for doing homework in math and math education courses, as well as for the ETS field tests in mathematics and biology.

The new CoST-GC Mathematics Tutoring Lab on the Gulf Coast

The challenging task of awarding scholarships falls each year to the Math Scholarship and Achievement Awards subcommittee, ably chaired by Dr. William Hornor, and supported by Dr. Chenhua Zhang, Dr. Huiqing Zhu and Ms. Lue Bell.

In recognition of their University service, we gratefully acknowledge Dr. Haiyan Tian serving on CoST Faculty Council; Dr. William Hornor on the CoST Award Committee and on the CoST Research Committee; Dr. John Perry on the CoST Scholarship Committee; Dr. Jiu Ding on the CoST College Advisory Committee; and Ms. Mary Peters, Professional Education Council Representative. Dr. Ding serves on Faculty Senate, and Ms. Naquin also serves on the Gulf Coast Faculty Council as president from 2010–2011. Ms. Naquin and Ms. Peters are also on the PEC with Ms. Naquin serving as SEC-K12 chair, on GC Faculty Council and on TACMAC – Textbook and Course Materials Advisory Committee.

Most importantly, we gratefully acknowledge the contributions of our alumni who have so generously helped us and our students. Thank you.
2006 –10 Alumni

These are our alumni over the last five years prior to fall 2010 graduation. We are very interested in keeping up our connections; please take the time to contact us. The Department is changing, we’re growing, and we’d like to have you involved. If you are in Hattiesburg, please stop in. We’d love to show you the changes and the improvements we’ve made in our facilities and in our programs. If you cannot make it to Hattiesburg, drop us a note by email to Mathdept@usm.edu.

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<td>Erin Westmoreland BS</td>
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<td>Wendy Runnels BS</td>
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Southern Hall, the home of the Department of Mathematics, is a familiar landmark to those entering campus through the main entrance on Hardy Street. The building dates back to 1922, and was originally called Science Hall. Back then, the University was known as Mississippi Normal College, having been founded by a legislative act as the state’s first state-supported teacher training school.
2010–11 Graduates

Bachelor of Science Fall 2010
  Amanda Pegram  John Corring
  Chesley Darby  Alexandria Harris

Bachelor of Science Spring 2011
  Matthew Dixon  Lorrin Debenport
  Blake Watkins  Zuzana Caso
  Jason Hill     Daniel Johnson

Master of Science Spring 2011
  Deanne Leggett  Suanrong Chen

Master of Science Summer 2011
  Alexandru Cibotarica  Megan Richardson

2010–11 Scholarship Recipients

Jamie Lambert
Fred and Naydene Drews ($1,651)
Chardae D. Cousin
Alton C. Grimes Mathematics Scholarship ($534)
Zuzana Caso
Wright W. Cross ($2,000)
Saydriann Harris
Wright W. Cross ($732)

2010–11 Fellowship Recipients

Eowyn Cenek  NASA/MS Space Grant Consortium
($17,000)

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The University of Southern Mississippi
Room 319, Southern Hall
601.266.4289
601.266.5818 (FAX)
http://www.usm.edu/math
mathdept@usm.edu