LITTLE BY LITTLE

UNIVERSITY OF FLORIDA DEPARTMENT OF MATHEMATICS NEWSLETTER

VOLUME 12, ISSUE 1, FALL 1998

A new Chair for the Mathematics Department

On July 1, 1998, **Professor Krishnaswami Alladi** *was appointed as the new chairman of the department of mathematics. He received his Ph.D in 1978 from UCLA and his field of specialization is Number Theory. He joined the department in December 1986. Professor Joseph Glover who stepped down as Chair has now become the Associate Dean for Faculty Affairs in the College of Liberal Arts and Sciences. We wish Professors Alladi and Glover all the best in their new assignments* - **Editor**.

Report from the Chair and vision for the future:

The mathematics department has an excellent faculty who are making significant contributions to research while maintaining a sincere commitment to teaching. My goal is to build on existing strengths and gain increased recognition of our work both within the university and internationally. With this in mind, I have initiated a number of programs aimed at taking us to a higher level of accomplishment and recognition.

Starting this academic year, our department will be initiating two series of distinguished colloquia, one in pure and one in applied mathematics. These special colloquia are to be given by persons of eminence and are to reach a wide audience. The distinguished colloquium in pure mathematics is named after **Paul Erdös**, and the one in applied mathematics after **Stan Ulam**. Professor Paul Erdös, one of the legends of twentieth century mathematics, died in September 1996. Author of over 1500 research papers, he had perhaps more influence on mathematicians than any other person, by the originality of his ideas, by the multitude of research problems he proposed, and by the numerous collaborative research papers he wrote. He visited our university each year in the spring for two weeks and collaborated with many of our members, thereby having a profound impact on our department. Stan Ulam was an outstanding applied mathematician who worked on a variety of problems and projects. He served on the Los Alamos atom bomb project during World War II, and was graduate research professor in our department for many years. Creating these two distinguished colloquia is our way of remembering these great mathematicians and building on our legacy. The first Ulam Colloquium will be delivered on January 11, 1999, by Professor **James Keener** of the University of Utah, an authority on mathematical biology. The title of Professor Keener's talk is "The mathematics of sudden cardiac death". It should attract a wide audience! The first Erdös colloquium will be delivered on March 15, 1999, by Professor **Ronald Graham** of AT&T Research. Graham, an outstanding researcher and speaker, was former President of the American Mathematical Society.

Another distinguished visitor we will have this spring is Professor **Ingrid Daubechies** of Princeton University, who will be give a featured lecture under the Women in Science series. There will be reports on these distinguished lectures in the next newsletter.

Starting in Fall 1999, our department will be conducting two mini-conferences each year, one on the fall, and one in the spring. By bringing established researchers from around the world regularly to these conferences, we will get increased visibility of our work and benefit by the exchange of ideas that take place at such meetings. We plan to publish the refereed proceedings of such conferences.

We are very fortunate that on March 12-13, 1999, a Regional Meeting of The American Mathematical Society will be held in Gainesville. This conference will bring more than two hundred mathematicians from all over the USA and abroad to our campus. There are four featured one hour invited plenary talks at this conference, two of which will be given by our faculty - by **Graduate Research Professor John Thompson** and by **Professor Alexander Dranishnikov**. There will also be several invited twenty minute special session talks given in this meeting. It turns out that our faculty are organizing 14 of these 16 special sessions - an indication of our activity in research and our enthusiasm. An announcement of the conference is enclosed with this newsletter.

Our faculty continue to be recognized for their research by invitations to speak at international meetings, as can be seen from the Faculty Notes section. We are especially proud that **Professor Alexander Dranishnikov** gave an invited address at the International Congress of Mathematicians in Berlin in August 1998.

INSIDE THIS ISSUE

A new Chair for the Mathematics Department . . . 1
Graduate Program Enhancement . . . 2
Graduate Working Seminar . . . 2
Faculty Notes . . . 3
Alumni of the 50's . . . 4
Alumni News . . . 7

A New Chair (*cont.*)

This congress is the pre-eminent mathematics conference and is held once every four years. To be invited to give a talk at this conference is a great honor for a mathematician.

Two of our colleagues Professors **Murali Rao and Alexandre Turull** won the prestigious **PEP Awards** this Fall. These PEP Awards are given to faculty who have been in the rank of full professor for at least seven years in recognition of their scholarship, teaching and service.

Our enthusiasm and commitment to teaching is equally sincere and strong. The mathematics department has always had a very good reputation in teaching. This was further strengthened this year by six of our faculty winning the coveted **TIP Awards**, bringing the total number of such awards won by our department to 29 since they were instituted in 1993. The TIP award winners this Fall are **Douglas Cenzer, Yunmei Chen, David Groisser, James Keesling, Li-Chien Shen, and Jane Smith**. Mathematics courses are required for almost every student, and so we are proud to be of service to the university and pleased by this recognition.

The department continues to hire new faculty of the very highest caliber in its on going effort to expand in various active areas of research. **Shari Moskow** who specializes in partial differential equations, and and **Pham Tiep** whose research interests cover algebra, especially group representation theory, joined the department in Fall 1998 as assistant professors.

The future will undoubdtedly present new opportunities, problems, and challenges. Our strength lies in the fact that we are well balanced in our research, teaching, and service. Thus I am hopeful that we have a bright future and the events of Spring 1999 strengthen this hope.

Krishnaswami Alladi
Chair

Graduate Program Enhancement

by Neil White, Associate Chair

As Professor Alladi assumed the office of Chair in July, 1998, simultaneously three faculty members took on new administrative roles in the department; **Professor Neil White** *as Associate Chair,* **Professor Paul Robinson** *as Graduate Coordinator, and* **Professor Rick Smith** *as Undergraduate Coordinator*–**Editor**.

These are exciting times for our graduate program. The whole university is embarked on an initiative to increase both the quality and quantity of our graduate students. Additional funding has been provided to further these goals. The keystone in this effort will be the Distinguished Alumni Fellows, who will receive $25,000 per year for 4 years, with no duties besides their academic work in some years and teaching and research duties in other years. This program is in addition to various other ongoing fellowship programs. Furthermore, money has been provided directly to the department for stipend enhancement both for incoming and continuing teaching assistants. We are all eagerly anticipating the positive effects this initiative will have on graduate studies in mathematics at UF!

Another item which I wish to mention is a summer program for minority high school students. The Mathematics Department was awarded a GTE Focus Grant of $30,000 to develop such a program over the next two years. The program will begin this coming summer during Summer B, and will involve about 25 minority students from local high schools. The goal is to improve the chances that they will eventually become interested in majoring in mathematics (whether at UF or elsewhere).

Graduate Working Seminar in Applied Mathematics: On a Successful Avenue

by Irene Hueter

Starting in January, 1997, a new seminar was added to the current roster offered by the Department of Mathematics, the Graduate Working Seminar in Applied Mathematics. This weekly seminar was launched by Professor **Gang Bao**, and currently Bao and mathematics graduate student **Tri Van** are co-organizers of this seminar. Recently, we were able to talk with them about this new initiative.

Little by Little: Can you tell us about the purpose and structure of the seminar ?

Gang Bao: The seminar is intended to be a forum for students to participate in research activities. For example, the students get exposed to research talks, mainly by students, they get involved, learn on the spot, are pointed and attracted to interesting subjects to explore, learn to present their own research or talk about other people's papers, have the opportunity to learn to give good talks, they are encouraged to practice a presentation that they plan to give at a local or national meeting, and importantly, they get exposed to questions. The seminar is ideal to discuss and hear about projects that a student pursued in summer internships. Everyone in the seminar benefits from the discussion. Whereas faculty are welcome to attend or speak, the purpose of the seminar is different from the Applied Mathematics Seminar, where one person gets no more than one shot due to a high number of speakers, time pressures to fly over details at times such that chances to learn something new are given away, and the talks are on original research.

LbL: Different in which sense ?

Tri Van: The seminar is informal and a joint effort between the speakers and the audience. Everyone here understands that the best way to learn is to talk about a

subject, to try to convince the audience of its importance, to get exposed to numerous questions, and to accept criticism. The atmosphere is extremely friendly and fruitful. There is enough time to stick to an interesting topic – for instance, grating theory was of great interest to several students – to zoom in and view something from a different angle, and to try again to do better next time. In fact, I very well remember my first talk when certain people were rattling my cage but luckily the talk that really counted, at Vanderbilt, went well (Gang Bao corrects: 'this was an excellent talk'). There is no doubt that all students have learnt a great deal in this joint adventure. Even though the working seminar is more difficult and makes a student work harder than a regular class, the $7-8$ students who regularly participate perfectly enjoy the experience and count this seminar as a full success.

LbL: What are your visions for the future of the seminar ?

Gang Bao: As our department continues to considerably strengthen the program in Applied Mathematics and hopefully some of the submitted major research proposals that include research assistantships will be funded, it is important and timely to identify interested students individually for these emerging opportunities. The seminar is a mechanism to identify these students. We always welcome new students at all levels to join us, and thus, hope to see more faces soon. Hopefully, it will continue be a good source of inspiration and a fruitful learning ground for our students.

LbL: kindly thanks you for the interview!

This fall semester's topics have covered different areas in optics, ranging from grating theory to diffractive and fiber optics.

Faculty Notes

by Paul Ehrlich

Professor **Gang Bao** had a busy summer, giving an invited lecture on "Mathematical modeling of diffractive gratings," to the 1998 Summer Topical Meeting of the Optical Society of America in Kalilua-Kona, Hawaii in June. Then in July, Bao attended the AMS- IMS-Siam Joint Summer Research Conference on Mathematical Methods of Inverse Problems for Partial Differential Equations in South Hadley, Massachusetts, delivering a lecture on "Determination of locations of elliptic foci in the living human brain." Also in July, Bao spoke on "Mathematical modeling of diffractive optics" at the Air Force Institute of Technology Distinguished Lecturers Series in Dayton, Ohio. In August, Bao traveled to his native land, China, and gave colloquim lectures on "Mathematics and computation of diffractive optics" at Beijing University and at Jilin University in Changchun.

Professor **James Brooks** was an invited speaker at the long running annual Wabash Conference in Analysis, held this year in Indianapolis on October 10th. Brooks lectured on "Weak compactness and applications to stochastic processes."

Professor **Yunmei Chen** also traveled back to her native China this past summer, and was pleasantly surprised to receive the Third Prize of "Natural Science Award" awarded by the National Science and Technology Committee of the People's Republic of China. While in China, Chen lectured at East Normal University, Jilin University and Fudan University.

Professor **Jean Larson** has been participating in an Association Review Group of the Mathematical Association of American studying standards being established nation wide by the National Council of Teachers of Mathematics. Larson is quoted in the May/June 1998 Focus Newsletter of the M.A.A. discussing the creation and use of algorithms by students in our mathematics course MAE 3811 for prospective elementary school teachers.

Professors **Jed Keesling** and **Neil White** participated in a regional meeting of the American Mathematical Society held during March 20 - 21, 1998 at the University of Louisville in Kentucky. Keesling spoke in a Special Session on Fractal Geometry and Related Topics on "A practical algorithm for computing the Hausdorff dimension of boundaries of self-similar tiles", joint work with Professors **Andrew Vince** of our department and Professor **Paul Duvall** of the University of North Carolina at Greensboro, who has been a visitor to our department. White spoke in a Special Session on Algebraic Combinatorics on the topic of "Flag matroids", joint work with Professor **Alexandre Borovik** of UMIST and Professor **Israel M. Gelfand** of Rutgers University. White also delivered an invited lecture on "Symplectic Matroids" at a Conference on Algebraic Combinatorics held at Oakland University in Rochester, Michigan, during early May. During July, White attended an international meeting on combinatorics held in Porto, Portugal, and lectured on "Flag matroids." During the summer, Keesling gave an invited talk at the 13th Summer Topology Conference in Mexico City. This October, Keesling was involved in organizing an international Conference on Geometric Topology held in Dubrovnik, Croatia. Keesling spoke on "Homeomorphisms of generalized Knaster continua" at this meeting.

Professors **Chat Ho** and **Peter Sin** participated in a Regional Meeting of the American Mathematical Society held at the University of Kansas in Manhatten, Kansas, during March 27 - 28, 1998, speaking in a Special Session on Groups and Geometry. Ho spoke on "Collineations of finite projective planes" and Sin spoke on "The permutation modules for $GL(n+1, F_q)$".

Professor **Krishna Alladi** participated in a Regional Meeting of the American Mathematical Society held during April 4 - 6, 1998, at Temple University in Philadelphia, lecturing in a Special Session on Modular Identities and Q-Series in Number Theory on the topic of "On a partition theorem of Gollnitz and quartic transformations."

Alladi also participated in a conference held by the American Mathematical Society at Mt. Holyoke College between June 21 and 24, in honor Professor Richard Askey for his 65-th birthday. Alladi's talk at this conference was entitled "Göllnitz' big partition theorem and q-series identities".

During July 1998, Alladi gave colloquium talks at The Raman Research Institute and at the Tata Institute, both in Bangalore, India.

Alladi partcipated in two conferences held in honor of Professor George Andrews for his sixtieth birthday. The first was in Maratea, Italy, during August 31 - September 6, when Alladi spoke on "A generalization and refinement of an Andrews hierarchy of partition theorems". The second conference was at Penn. State University during October 22-24, where Alladi gave a one hour talk entitled "Weighted partition identities and applications".

Professor **Nicolae Dinculeanu** did research during the summer of 1997 at the Laboratorie de Probabilites at the Unversity of Paris, and also lectured at the University of Lille and at the Ecole Polytechnique in Lausanne, Switzerland during June.

Professor **Alex Dranishnikov** gave an invited address at the International Congress of Mathematicians held in Berlin, in the section on Topology, lecturing on "Dimension theory and large Riemannian manifolds." Dranishnikov also participated in the Conference on Geometric Topology in Dubrovnik mentioned above in which Keesling was one of the organizers. Dranishnikov lectured at this conference on the topic of "On coarse dimension of metric spaces."

Professor **Paul Ehrlich** participated in a Conference on Continued Fractions: From Analytic Number Theory to Constructive Approximation" during May 20 - 23, 1998, held at the University of Missouri to mark the retirement at age 70 of Professor **L. Jerome Lange** of that institution, one of Ehrlich's best friends during his eleven years at the University of Missouri. As well as delivering a tribute to Professor Lange at the Retirement Banquet, Ehrlich also spoke at the conference on "The Emergence of the American Mathematical Research Community: Florida, Illinois and Missouri." A few weeks later, Ehrlich was off to St. John, New Brunswick, to participate in the Summer Meeting of the Canadian Mathematical Society. Ehrlich spoke in a Symposium in Relativity and Geometry on "Bochner's technique for compact Lorentzian manifolds (after Romero and Sanchez)."

Professor **Gerard Emch** participated in two conferences in Europe this past summer. First, Emch delivered the first plenary lecture at an International Workshop on "New Insights in Quantum Mechanics - Fundamentals, Experimental Results, Theoretical Directions," held in Goslar, Germany, from August 31 to September 3. Then Emch participated in the International VIENNA CIRCLE Meeting on "Philosophical and Experimental Perspectives on Quantum Physics" held from September 3 to September 6th at the Schroedinger Institute in Vienna.

Graduate Research Professor **John Thompson** was elected to the American Academy of Arts and Sciences this past spring.

Professor **Andrew Vince** was an invited speaker to an international conference on "Graphs, Maps and Complexes" held in Flagstaff, Arizona this past summer. Vince also was an invited speaker at a Workshop on "Aperiodicity" held at the Mathematisches Forschungsinstitut in Oberwolfach, Germany, this past spring.

Professor **Helmut Voelklein** gave an invited lecture at a Conference on Arithmetic of Fields at the Mathematisches Forschungsintitut in Oberwolfach, Germany, during July. He also visited Erlangen University.

The Center for Applied Mathematics held its First Annual Fall Social on October 23, 1998. Faculty members **Gang Bao**, **Phillip Boyland**, **Yunmei Chen**, **Joseph Glover**, **Bill Hager**, **Jed Keesling**, **Bernard Mair**, **Shari Moskow**, **Tim Olson**, **Dave Wilson** and graduate student **Aaron Brask** made short presentations. A tour of the UF Brain Institute was also offered.

Alumni of the 50's : Dr. John Tilley

by Paul Ehrlich

I was very pleased to receive a long letter in April from Professor Emeritus John Tilley of Mississippi State University in which he reminisced about his years at Florida. Tilley received the 39th Ph.D. in January, 1961, from the department, with a dissertation written on "Stress Distribution of a Rolling Limacon" under the supervision of Professor C. Basel Smith. The Biographical Sketch in Tilley's thesis reveals that

"John Leonard Tilley was born June 4, 1928, at Jamaica, New York. In June, 1964, he graduated from Jenkintown High School, Jenkintown, Pennsylvania. In June, 1950, he received the degree Bachelor of Science in Economics from the University of Pennsylvania, Philadelphia, Pennsylvania. From January, 1951, through January, 1953, he served as an instructor in the 3rd Army Supply School, Ft. Jackson, South Carolina. Following his discharge, he enrolled at the University of Florida as a Graduate Student in Education. He received the degree Master of Education in August, 1954. From then until June, 1958, he taught in the public schools of St. Petersburg, Florida; first in the Northeast High School, and then in the St. Petersburg Junior College. At both institutions he served in the mathematics departments. During this period he returned each summer to the University of Florida as a Graduate Student in Mathematics. Having held a 1/3 - time Graduate Assistantship in Mathematics at the University of Florida in the school year 1953 - 54, he applied for and received a 1/2 - time Assistantship in that same department for the school year 1958 - 59 and again in 1959 - 60. He was appointed to

the faculty of that department as an Instructor for the school year 1960 - 61.

John Tilley is married to the former Dolores May Cope. He is a member of the Mathematical Association of America. While at the University of Pennsylvania, he was an active member of the Alpha Delta Chapter of Beta Alpha Psi, The National Accounting Fraternity, and served as student treasurer of that chapter in his senior year."

In the Acknowledgements at the beginning of the thesis, Tilley writes

"The encouragement received from Dr. F. W. Kokomoor, now retired as Head of the Department of Mathematics, throughout the years of the author's graduate study has been most helpful to the successful completion of this work."

Let us see how Tilley himself remembers Kokomoor in his letter to me of April 23, 1998, about 40 years later.

"Dear Dr. Ehrlich,

I have been thinking about writing this to you for sometime now. I received my copy of the LITTLE BY LITTLE newsletter this past week and decided that this was a good time to write. Contained will be some of my memories of the experiences I had from January 1953 through August 1961 with the Mathematics department.

In January of 1953 I enrolled as an MEd student, after having 'fought the battle of Ft. Jackson (Columbia, SC)' for two years. My wife and I had income from the GI bill, $135 per month while in school on a full time basis. My first introduction to the Mathematics Department was with the first course in Calculus, a four hour sophomore level course. As an undergraduate, major in accounting, I had taken, as electives, a four hour college algebra course, a four hour analytic geometry course, and a three hour Introduction to the Calculus course at the University of Pennsylvania. I had no trouble with the first part of the Calculus course, but when it came to the part dealing with trig functions, I was lost. It had been 6 and 1/2 years since I had had a trig course in high school. When I asked the instructor for some help, he told me to read the text (calculus) which I believe was Kells. It was of little help as the only places the trig identities, which I had forgotten, were used (explained ?) were in the examples. I don't know how, but I managed to pass the course.

In those days, the summer school was one ten week term and you took three courses as a full load. This ended about the middle of August and the Fall semester did not begin until after the middle of September. By this time we were living in Flavet III in a two bedroom furnished apartment for $27.50 monthly rental which included $2.00 worth of electricity. I would put $15.00 a week in my wallet and that had to do for the entire week. Hamburger was then 3 pounds for a dollar at the A & P store! We spent the time between semesters at my in-laws near Clearwater as we had no income for that time.

We got back to Gainesville for the Fall semester and registered for a full load of classes which included a geometry course taught by Dr. Kokomoor. About the third day of classes, I was out cutting the grass, a large area by the apartment building, with the push mower the University supplied, when Dr. Kokomoor rode up on his bicycle. I had my first interview for a mathematics teaching position sitting on the front steps of the building in shorts and soaked in sweat with grass clippings all over me. He was short of staff and asked if I would take a third-time graduate assistantship for $900 for nine months, mid-September through mid-June. He said that I was supposed to teach six hours each semester, but that he needed someone to teach the four hour integrated freshman mathematics course. So he would assign me two sections of that course in the Fall semester and one section of it in the Spring and I would have to drop a course I had signed up for that semester. I managed to drop an Education course that was not required for teacher certification. All went well until early November. Dr. Kokomoor called me into his office and said that he had 'fought' with the Graduate Dean, but had 'lost the battle.' This was the first time that the Dean had found out that the third- time graduate assistants were teaching more than six hours in a semester. He threatened to block my GI-bill payments and my assistantship salary because I 'was over worked.' So I was removed from one of the sections I was teaching and given some help-session time to make up the six hours.

In the Spring semester of 1954, I signed up for the Calculus II course. Dr. South was the instructor. By this time they had changed the text and the course outline. The new outline began the semester with integration techniques. I had a help session assignment the hour before my Calculus II session. The other assistant for the help session was a PhD candidate who thought that Calculus was too low a level for him to help with. So all the students who came in with calculus questions were automatically handed to me. Several of them were taking the Calculus II course and I would have to explain problems and concepts that I would be exposed to the next hour. Someone in my section learned of this, and the other students in the class would ask me to work homework problems as soon as I walked in the door of the classroom. Dr. South would come into the classroom while I was still trying to finish up the problems and would take a seat to the side and wait until I had finished. I certainly learned my Calculus II that semester!

I graduated in August of 1954 and took a job at Northeast High School in St. Petersburg. With a Master's degree and two years of experience credit, my salary was $3600 for ten months! The school had just opened that Fall. Each of the next several summers we would return to Gainesville to take courses. I think it was the first summer, 1955, when I took the differential equations

course. Dr. Hadlock taught it in the large second floor classroom on the East side of Walker Hall. He had memorized the number of slates that made up the blackboards in the room and as soon as he walked in the door, he would begin calling out names to go to the board to put up the homework problems. The boards were on three sides of the room. I remember one problem I was given that took me more than my assigned slate. I finally crammed the answer down at the bottom of the board next to the chalk rail. The student next to me had a very similar problem and finished his work in a very few lines. Dr. Hadlock looked at my work and remarked that that was one way to solve the problem but certainly the long hard way!

Each summer I used Dr. South as my advisor. I admired him both as a teacher and a gentleman. I did take his split-level statistics course and made an A grade, but I did not really enjoy the course material, so I never took any more math statistical courses. Later I did have to take an education statistics course and had no trouble with it.

I cannot remember whether it was before I came back to campus as a full time PhD student in the summer of 1958 or one of the summers before that, but I signed up for the split-level topology course. In those days, the full time faculty taught for two summers and were off the third. That particular summer, none of the regular faculty members who taught topology were employed. So we had a man who was interested in Runga-Kutta techniques as the instructor. He was a refugee from World War II and had spent some time in Brazil planning and building roads. Needless to say, we learned little topology, I think we got into the fourth chapter of the text. Never did take another topology course. I much preferred the non-Euclidean geometry course I had at another time.

When I came back to work on my PhD in 1958, for some reason Mr. Lewis put me on the committee that made up the progress tests for C42 and the two semesters of the integrated freshman course. I would get the cards of questions and five answers that the various faculty members had written and had the first pass at checking to see that there was only one correct answer and that the problems were appropriate. I soon learned the various approaches of the different faculty members, including the one who usually had mistakes in his solutions. I soon learned to toss those cards and make up my own questions and answers. When I finished my part, the cards were sent to another faculty member, and then to Mr. Lewis who made up the examination from those questions sent to him. This was sent to the people in the Segal Building and they printed and administered the tests. We, the faculty, did not see the tests only the final results in a print-out distribution after the tests were given. The final exams were always late at night in the two week exam period. After the results were ready we would meet as a group for each of the three courses and select the cut-off points for the various grades. It was toward the end of my time there before any input from the instructor was counted toward the final grade.

I can remember teaching a C42 class in the third floor of Walker Hall, a large room on the West side that had sloped ceilings coming down from the three dormer-like window areas. The green painted chalkboards were placed under the low ceiling in the corners. Since the size of the class was determined by how many chairs were in the room, this was a large class. Early in the semester, a couple of woman students came to me and said that they were graduating seniors in the College of Education and had to pass the course. At that time their final grade was strictly dependent on their two progress test scores and their final exam score. We used Dr. Kokomoor's book for the class which was written with the problems having five given possible answers just as the exams were written. I couldn't tell the women much more than to see me in my 'office' when they had questions.

My 'office' was one drawer in a desk in an L-shaped room on the third floor of Walker Hall. All of the graduate students shared the room and desks. The room was to the left as you headed toward the front of Walker Hall. There was a classroom at the very front of the third floor that also had sloped ceilings to each side of the room with green painted chalk boards on those walls. No one used those boards as they were so low that it was difficult to stand by, and also for the students to see, them. There was a small green painted board beside the entry door that was so covered with chalk that it couldn't be washed off. That was where everyone had to write and it was nearly impossible to tell what had just been written and what was 'stuck' to the board.

My dissertation, 'Stress Distribution in a Rotating Limacon', was done under the direction of Dr. C. B. Smith. During my oral exam, I was asked to state the Fundamental Theorem of Algebra. In my mind's eye, I could see the theorem in my complex variables text book and so stated it. When I looked up at the Committee, I found heads making 'Yes' and 'No' signs. It took some discussion time among the committee members before Dr. Smith told them I had stated the theorem correctly from the complex variables text.

I was 'lucky' in that I had a closed form solution to my dissertation problem. Dr. Smith had two other students at that time and their problems had only infinite series solutions with no apparent simple closed form of a generating function. Dr. Smith sent them over to the 'new' computing machine to see if they could get some numerical results. One student did finish 'on time' summer of 1960, but the other man was still strugging with the programming of his problem when I left in 1961."

To be continued ....

Alumni News

by Paul Ehrlich

Professors **Jane Maxwell Day**, Ph.D. '64, of San Jose State University and **John Mayer**, Ph.D. '82, of the University of Alabama, participated in the Annual Winter Meeting of the M.A.A./A.M.S. in Maryland during January, 1998. Day spoke in an MAA Session on Innovations in Teaching Linear Algebra on the topic "Assignments that stimulate thinking and writing." Mayer spoke in an AMS Session on Topology in Dynamical Systems on joint work with Professor Lex Oversteegen on the topic of "Recurrent critical points and typical limit sets of rational maps." Our current graduate student **Chawne Kimber** participated in a Graduate Student Poster Session in the AWM Workshop, reporting on the topic "The structure of prime ideal spectra in rings of continuous functions."

John Gordon Moore, BS in Math '84, MS in ISE '87, recently wrote us from Houston, Texas, where he is a Senior Engineer at LIC Energy in Houston. He writes

"I reluctantly left my Math Department TA-ship in 1988, soon after Joe Glover jokingly suggested that I 'get a haircut and get a real job.' I began my career with a defense contractor (Sverdrup Technology) and spent my days at Eglin AFB and Edwards AFB as a software developer and flight-test engineer.

I willing left DoD work in 1996 and moved to Houston. I did some consulting work at Compaq and then worked at IMSL. I recently took a job with LIC Energy where we develop modeling and optimization software for the pipeline industry.

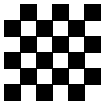
I married the former Sandra Petty Fonte on June 20, 1998. She is a kindergarten teacher and University of Georgia graduate."

Leon Couch III (BS Phyics, BA Mathematics, BM Organ Performance 1992) has accepted an Assistant Professor of Music position at Luther College in Decorah, Iowa. He will be teaching music theory and conducting the collegium (a student choral ensemble). This past year, he served as an Adjunct Professor of Mathematics at the University College, a division of the University of Cincinnati. For the past three years, he has been Music Director (organist/choirmaster) for a German-American congregation at Concordia Lutheran Church in Cincinnati. Last summer, his electronic music composition Sirens was featured in an international conference in Thessaloniki, Greece and Montreal, Canada. He is completing a DMA in Organ Performance and a PhD in Music Theory at the College-Conservatory of Music in the University of Cincinnati.

This summer Couch presented recitals in Cincinnati, OH; Buffalo, NY; Gainesville, FL; and St. Augustine, FL. The all-Bach organ recital at the University of Florida Memorial Auditorium on June 8 at 8PM was part of the Annual UF Summer Organ Festival. The program included chorale singing along with the Passacaglia in C Minor, the Schubler Chorales, Smucke dich, and the Prelude and Fugue in E-flat Major ("St. Anne").

Warren McGovern, Ph.D. '98 with Professor **Jorge Martinez**, has obtained a position at Bowling Green State University.

Little By Little is published twice a year to inform students and alumni of activities of the Department of Mathematics, University of Florida. It is typeset using AMS-TeX.



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