In This Issue

From the Department Head: Michael Neumann
The Actuarial Science Program: Louis Lombardi
Graduate Program News: Evarist Giné
Teaching Assistant Training Program: Sarah Glaz
Prof. Master’s/Financial Mathematics: James Bridgeman
REU: Analysis on Fractals: B. Steinhurst/A. Teplyaev
Undergraduate Program News: Jeffrey Tollefson
Early College Experience Program: David Gross
Sidney Retirement: Wolodymyr Madych
Faculty News and Honors: Gerald Leibowitz
Stu’s Puzzle Corner: Stuart Sidney
UConn Math Club: Keith Conrad
Awards Day: Gerald Leibowitz
Weathering the Fiscal Storm: Alan Stein
From the Department Head
Michael Neumann

The Academic Year 2008/09 was a difficult one for the department, primarily because
of the Governor’s rescission of the University’s budget and its cutbacks as a consequence.
Nevertheless, our faculty, graduate students, and the department as a whole had many suc-
cesses during the year, and we will describe them a little further down.

But first, we are saying goodbye to 5 long–time members of our faculty who are taking
early retirement. Professors Kinetsu Abe, Ron Blei, Robert Knowles, Stuart Sidney,
and Alan Stein have all given decades of their lives to the department and we are
indebted to them. We are also very sorry to see Louis Lombardi leave. As Director of
our Actuarial Science program he made very substantial and lasting contributions to the
program in just 5 years. (Emiliano Valdez will serve as Acting Director in the interim.)
We are also parting with one of our Assistant Professors in Residence, Dr. Kristen Sellke,
and two of our Post-docs, Drs. Matthew Cecil and Nung–Sing Sze, all of whom made
significant contributions in various ways in their 3 years with us here.

We are awaiting with much excitement the arrival of our two new faculty members, Drs.
Arend Bayer and Milena Hering, who were hired over a year ago and took a year’s leave
of absence. They will boost our strength in areas connected with Algebraic Geometry. We
are also looking forward to our replacement Post-doctoral Fellows: Drs. Xiaohong Lan
(PDEs and Probability), Ryan Kinser (Algebra), Olga Pryporova (Numerical Linear
Algebra), and Baio Yin (PDEs).
A remarkable event in our department’s life occurred this Spring. In honor of Stuart Sidney’s retirement and of his lifetime contribution to the department, particularly in encouraging motivated students to achieve excellence and to find joy in Mathematics, Stuart’s children contributed a very large sum of money to the University to establish the Stuart and Joan Sidney Professorship in Mathematics. A top priority in the next year or two will be to find an internationally reputable mathematician, with a very strong interest in education, to take up the professorship.

Another remarkable turn of events concerns the Center for Actuarial Research headed by Professor Jeyaraj Vadiveloo. In November 2008 a private donation of over $1M was made to the Center by Janet & Mark L. Goldenson, and the Center will henceforth be named after them. The donation is expected to generate annual revenues of $50K to $60K to be used to support students in UConn’s Actuarial Science Program. The center will be guided by an advisory board. A ceremony to launch the center will be held in June.

A further notable personal achievement is that of one of our faculty, Professor Maria Gordina, who was awarded the Ruth J. Michler Memorial Prize by the Association for Women in Mathematics. This national prize, which awards its recipient a fellowship to spend a semester in the Mathematics Department at Cornell without teaching obligations, is a recognition of the recipient’s excellence in research and professional activities.

Our graduate program has also done very well this year. First, 11 students will be receiving their PhD degrees. Six have so far found positions, which is probably what one can expect in the present economy. The department has also graduated 40 students with a Master’s degree. The program has had a very strong recruitment season, with 11 new, well qualified, and mostly domestic students. One should mention that our professional Master’s in Applied Financial Mathematics Program now generates all the funds to support the TAs in the program. Our Master’s in Actuarial Science generates a considerable sum of money for the University from which the Mathematics Department does not benefit directly. This situation must change.

One of the 11 PhD students mentioned above, Oscar Levin, won the Institute of Teaching and Learning (ITL) Outstanding Graduate Teaching Award for 2009 in recognition of his deep commitment to his students and his wide ranging activities in the service of the Mathematics Department’s teaching mission. This is the highest teaching award conferred by the university on a graduate student. Oscar is the third mathematics TA to receive this honor since it was established in 1999.

We have done well in the undergraduate program too this year. Of particular note is the Advanced Calculus sequence Math 2141 – 2144. This four–semester, accelerated program for talented freshmen and sophomores is described in more detail in the article on the Undergraduate Program later in this issue. Other elements of our undergraduate studies, such as the the undergraduate program in Actuarial Science, the Math Scholars program, and the Math Club are continuing to be strong.
We now come to the difficulties and setbacks that we suffered this year as a result of the rescission.

- A 3.5% cutback to the total budget (including salaries) of the department, stretching into Fiscal Year 2010. This has cost us 6 TA positions, the letting go of several of our long term adjuncts, and a further shrinkage of our operating budget.
- No hiring this year to compensate for an accumulation of people – faculty and administrative staff, who have left or retired in the past two years and even prior to that.
- In addition to the 3.5% cut in the budget, our Pilot Project funds, some $125,000 per annum, were taken away. This is something that is very hard for us to absorb. Our department used these funds to support research, to support visitors, and to support personnel.

The response of our department to the difficult situation created by the rescission had some positive aspects. Many in the department showed understanding and made efforts to overcome it. For example, given the directive of the university of “no student left behind”, we redesigned our central calculus sequences and raised the numbers of students in the classes from an average of 35 to 150–200. To maintain quality, a decision was made that only faculty will teach large classes, but to accommodate the class size, the number of direct contact hours with the students per week would rise from 4 to 5, of which 2 hours were recitations with TAs.

Another action to overcome the rescission was to be able to know where to make the mandated cuts. Here our Financial Assistant, Monique Roy, was of enormous help in building various models of the consequences of each cut.

Let me close this letter by reminding you that 2–3 times a year we have departmental events, such as the departmental picnic in the Fall and Awards Day in the Spring, and we would very much welcome your participation. Indeed, several weeks beforehand our Director of Alumni Relations sends an e-mail to all alumni on our list inviting you to join us for the event. We very much hope for an increased attendance from you. I also want to call on you to make a donation to one of our funds. How to donate will be detailed in the message from Emeritus Professor Alan Stein, our Director of Alumni Relations.

June 10, 2009
The UCONN ACTUARIAL SCIENCE PROGRAM, 2008-2009
Louis Lombardi

Highlights
- The program has approximately 190 undergraduate students, 40 graduate students and 6 PhD students — another school record.
- 75% of our undergraduate students passed one or more actuarial examinations before graduating.
- Forty students graduated with either a bachelor of arts or a bachelor of science in actuarial science, and nine with a master’s degree.
- Representatives of thirty-five companies attended our actuarial science career fair.
- Approximately 250 job interviews with employers were held in the Mathematics Department, which resulted in twenty-two summer internships and nineteen full-time positions for our students.
- Thirty-two students were awarded an actuarial scholarship with the average award approximately $2,500.
- Alumni and sixteen organizations donated approximately $195,000.
- ING committed to provide $5,000 for the next three years to pay to staff the course Introduction to Actuarial Science.
- Mass Mutual committed to provide $15,750 for the next three years to pay to staff the courses Loss Models and Programming for Actuaries.

Doctoral Program
We handled 20 applications to join the Ph.D. program with the intention of writing an actuarial science dissertation (up by 1/3 from a year ago). We offered admission (in succession) to 3 of these applicants, but none accepted our offer. We will try to poll them during the summer to find out whether there is something making our offer unattractive. We will begin Fall 2009 with 6 returning Ph.D. students who plan to write a dissertation on a topic in actuarial mathematics. These 6 students are using only 1.5 TA of department support, with the balance coming from full time jobs in industry (for 2 of them), Watson Wyatt, the Janet and Mark L. Goldenson Research Center in Actuarial Science, the Q-Center, and personal or family resources. One is on track to defend a dissertation and graduate in December 2009.

Master’s Program
We handled 99 applications for the Master’s program (down 13% from a year ago), offering admission to 69. To date, 21 have accepted the offer of admission (including 4 who started in Spring 2009). We can anticipate a few more acceptances before Fall. With returning students, we will begin Fall 2009 with 45 to 50 active students in the Master’s program, and another 7 enrolled while only preparing for exams. The department provides 1.75 TA of support to this whole group. The balance comes from personal or family resources, ING, Watson Wyatt, the Janet and Mark L. Goldenson Research Center in Actuarial Science, and the Q-Center.
GRADUATE PROGRAM, 2008 - 2009

Evarist Giné

a) Pure and Applied Mathematics Program

The Graduate Program in Pure and Applied Mathematics, excluding the Master’s in Actuarial Science and the Professional Master’s in Applied Financial Mathematics, has at present 45 students (52 last year), all of them PhD students but 2, who are Master’s students. This program offered 13 courses in the Fall (15 last year) and 11 in the Spring (14 last year), with an average enrollment of eight students per course (last year, slightly above six). It has graduated 12 Ph.D.’s (3 last year), and at least five more are expected to graduate during the Summer of 2009. It received 106 applications (108 last year), made 16 offers (23 last year) and 11 of these offers were accepted (12 last year). They were all our first choices, ten of them from outside the University of Connecticut system and one within the system (a Master’s student). Differences with previous years: a) this year we have a very large graduating class, about twice the usual size, b) the proportion of offers that were accepted is also larger (2/3 vs. 1/2), and c) the ratio of domestic/foreign has changed.

The six Fall 2008 graduating Ph.D. students were well placed, at Sri Balai College of Engineering and Technology in China, U. Waterloo in Canada, U. Rhode Island with tenure track, U. Cincinnati, and Trinity College (Hartford). More than half the students graduating this Spring or in the Summer have jobs, as follows: Bob Wooster will join the US Military Academy at West Point as a three year post-doc; Tyler Markkanen will be a tenure track Assistant Professor at Saint Mary of the Woods College in Indiana; Rusell Prime will be a Visiting Assistant Professor at Clarkson University in Postdam, NY; Lin Je has accepted a visiting Assistant Professorship at Mississippi State University, Meridian, and Matt Jura has accepted a visiting Assistant Professorship at Manhattan College, the Bronx. Oscar Levin will be an Assistant Professor in Residence in our department.

This year, we organized ad hoc recruitment visits, for students living within driving distance plus one from Michigan, and of the eight that visited, five accepted our offers. The support for the visits came from savings from last year’s Graduate School recruitment grant as no call for proposals occurred this year. We certainly need funds for next year, and the success of our program is heavily dependent on this. Alumni and other friends of the Graduate Program are therefore encouraged to help us by donating to one of our graduate funds with the UConn Foundation.

b) Actuarial Science Program

During the academic year 2008-2009 the Actuarial Science program had 9 Master’s degree graduates and no PhD graduates. All have found either a job or an academic program for the coming year. Another 7 students have completed their Master’s coursework but not yet their exam requirement. In some cases the delayed exam progress may reflect lack of a job opportunity.

Six of the Mathematics PhD students intend to write a dissertation on a topic in actuarial mathematics. Hence, this year we planned to accept at most one more PhD student intending to work in Actuarial Science, but the offer was not accepted. These 6 students are using only 1.5 TA of department support, with the balance coming from full time jobs in industry (for 2 of them), Watson Wyatt, the Janet and Mark L. Goldenson Research Center in Actuarial Science, the Q-Center, and personal or family resources. One will almost certainly defend a dissertation and graduate in December.

We handled 99 applications for the Master’s program (down 13% from a year ago), offering admission to 69. To date, 21 have accepted the offer of admission (including 4 who started in Spring 2009). We can anticipate a few more acceptances before Fall. With returning students, we will begin Fall 2009 with 45 to 50 active students in the Master’s program, and another 7 enrolled while only preparing for exams. The Department provides 1.75 TAs
of support to this whole group. The balance comes from personal or family resources, ING, Watson Wyatt, the Janet and Mark L. Goldenson Research Center in Actuarial Science, and the Q-Center on campus.

c) Applied Financial Mathematics Professional Master’s Degree Program

For details about this program, please read Jim Bridgeman’s article elsewhere in this issue of Math CONNections.

d) Teaching Assistants

A very large proportion of the lower division courses offered by the Mathematics Department are taught by graduate students. TAs teach a large share of our 1000 level (freshman) courses, and three 2000 level (sophomore-junior) courses, and class sizes are larger than last year. In addition, an increasing number of TAs self-coordinate or take on course coordinating duties, as the number of adjunct faculty who coordinated in the past declines. More than ever we need to provide all TAs with support for performing their teaching duties. This support is particularly crucial for first time TAs, who are often fresh out of college and have no prior teaching experience. Our support is geared toward helping the TAs balance their teaching duties and student responsibilities in a way that neither suffers. Our support is also geared toward improving their classroom performance to the benefit of their students, and for minimizing problems and complaints that necessarily arise with inexperienced teachers. It is with great pleasure that we report that, in spite of the difficulties, our TAs’ teaching performance this year exceeds all expectations: of 92 sections taught in the Fall by TAs, 36 obtained teaching evaluations of 9 or more, and 6 more, 8.9, and only 3 received less than 7 (6.5).

Much of the success of the TA program is due to the training and support the department provides. The Department offers a Pedagogy and IT course for 5 to 6 weeks to new TAs, that starts with the pre-semester orientation (an intensive one week program that prepares the TAs for day one), and is complemented by class observations and individual teaching consultations. Part of the success is also due to a good match of the students to the courses and to good course coordination.

e) Some highlights

Several students in our program published or got accepted articles in mathematics journals this year, often as co-authors with their own advisers, or sometimes alone or with other researchers in the department. Among them this year, Lin Je is the co-author of two articles accepted by the J. of Functional Analysis; Ben Steinhurst of two, respectively in Journal of Physics A and in Fractals; Prasad Upendra of three papers respectively in Operators and Matrices, Linear Algebra and Applications, and Electronic Transactions in Numerical Analysis; Mang Wu of a paper accepted by Communications in Stochastic Analysis. And Pavel Zhlobich had two co-authored papers in refereed volumes.

Two of our TAs received awards from outside the Department: Eli Glatt was honored on Faculty Appreciation Day by the UConn Softball Team and Oscar Levin was honored by the Institute of Teaching and Learning with the highest TA award conferred by the University, the Outstanding Graduate Teaching Award for 2009. And Mingfeng Zhao, a new graduate student, won an Outstanding Scholar Fellowship from the Graduate School (for three years starting this fall). We congratulate all of them.

Regarding graduate alumni, Eugene (“Bud”) Boman (PhD 1993, adviser: Israel Koltracht; ecb5@psu.edu) and two co-authors received the 2008 Carl B. Allendoerfer award of the Mathematical Association of America for expository writing, in recognition of their article “Mom, There’s an Asteroid in my Closet,” Mathematics Magazine, April 2007. Bud is an Associate Professor at the Harrisburg campus of Penn State, located in Middletown, PA. Donna L. Beers (B.A. honors, 1970, M.S. 1971; PhD 1976, adviser Eugene Spiegel; donna.beers@simmons.edu) was honored in 2007 for her long and meritorious service to the
Mathematical Association of America and its Northeastern Section. Donna is a Professor of Mathematics at Simmons College, Boston, Massachusetts. And Tom Bella (PhD 2008, adviser Vadim Olshevsky; Web address http://www.math.uri.edu/~tombella) organized the first New England Numerical Analysis Day, held at the University of Rhode Island on Saturday, April 4, 2009. Tom is an Assistant Professor at URI. Of course, every advancement in the profession by each of our alumni, and particularly every article that each one of our alumni publishes each year in a good Mathematics journal constitutes a highlight for our program, and, fortunately, these are too many to report here in any detail.

f) Acknowledgements
Thanks to our Director of Graduate Admissions, Alexander Teplyaev; the Associate Director of Graduate Studies for Instructional Development, Sarah Glaz; the Graduate Director for the Actuarial Program, James Bridgeman; and our Program Assistant, Monique Roy, for their invaluable help in running our program.

MATHEMATICS DEPARTMENT TA TRAINING PROGRAM 2008 – 2009
Sarah Glaz

A large share of the lower division courses offered by the Mathematics Department is taught by graduate student TAs. This academic year, we offered 15 courses at or below the Differential Equations level, divided into 205 sections with average enrolment of 35 students per section, and 4 classes with enrolment of 150 to 250. Out of the sections, 159 sections were taught by TAs (fewer but larger sections than last year), including 40 by first year graduate students. In spite of the strain imposed by budget cuts, we continued our efforts to help the TAs balance their teaching duties and responsibilities as students in such a way that neither suffers and toward improving TA classroom performance for the benefit of their students and the benefit of their future careers.

Entering graduate students started their TA training in the week before the beginning of the Fall semester with a bonding and pedagogy-learning lunch, followed by faculty-mentored sessions of teaching practice. They continued in a semester-long Mathematics Pedagogy Course team-taught by Chuck Vinsonhaler and Sarah Glaz (Mathematics), and Tom DeFranco (Education), assisted by Steve Miller (MATH). Last year’s initiative of providing all new TAs with individual classroom observations and teaching consultations was continued, by Eugene Spiegel (MATH, emeritus), Steve Miller, and Sarah Glaz. In addition, most lower division courses taught by TAs were coordinated by faculty, providing TAs with additional support. Also, this year there was a concentrated effort to make the TA Training Program web pages more informative and useful. The result is available at: http://www.math.uconn.edu/TAPProgram/taprogram.php.

Job applications to academic institutions require applicants to write a Teaching Statement, along with a Research Statement. This Fall we organized, for the first time, a Teaching Statements Workshop, run by Catherine Ross, Associate Director of UConn’s Institute of Teaching and Learning. Our TA, Oscar Levin, helped with the organization, and also prepared a summary with samples, which appears on the TA Training Program website for the use of future TAs. The workshop, in the making for over a year, turned out to be more timely than anticipated, since the number of graduate students, Post-Docs, and APRs who applied for jobs this year was a record high.

Our efforts and our TAs’ natural talents rewarded us with a successful year of teaching. All indications, including student evaluations of teaching, show that the quality of instruction provided by our TAs exceeds all expectations.

To this year’s recipients of the department’s TA awards, Congratulations! We are proud of your accomplishments.
PROFESSIONAL MASTERS DEGREE PROGRAM IN APPLIED FINANCIAL MATHEMATICS

Jim Bridgeman

The Professional Master’s Degree program in Applied Financial Mathematics conferred five degrees in August and December 2008 and May 2009, which makes twenty-three degrees awarded in the program’s history. Twenty six students participated in the sixth full year in operation in 2008-2009, thirteen returning from the prior year and thirteen newly admitted students.

Chia-Jui Lin graduated in August ’08, Qian He in December ’08, and in May ’08 Wei Li, Marcy Reda and Hua Zhu. Four of the five had jobs in the field of finance or investments upon graduation. We expect five more degrees from this group in August and December upon completion of exit projects. The difficult job market may account for the slow pace in completing exit projects.

Two students have transferred to the Actuarial Master’s degree program and a dual-degree student left the program without finishing the Financial Math degree upon completion of his Mathematics PhD and landing a teaching job. The remaining thirteen are expected to enroll in Fall 2009 along with fifteen to twenty newly admitted students for an anticipated program high of about thirty enrollees.

In Fall 2008, we expanded a successful one-credit series of practically-focused seminars and continued the new Introduction to Financial Institutions as a requirement for all new students. The recently developed course on Yield Curve Models received very high reviews in its first fully developed year. We maintained program approval from the International Association of Financial Engineers and approval for our students to attend their prestigious annual Career Fair in New York City.

The financial market bust has taken its toll on internship availability. This year at least ten students will be working an unpaid internship with the program director because they have not been able to locate an internship in industry. In a first, one student chose that opportunity over a paid internship!

The most difficult issues facing the program remain (1) lack of financial aid to attract new students and (2) inability to guarantee paid summer internships to all of the students who want one. Other program leaders contacted through the International Association of Financial Engineers confirm that these problems are common to almost all such programs.

RESEARCH EXPERIENCES FOR UNDERGRADUATES – FRACTALS

Ben Steinhurst and Alexander Teplyaev

Summer 2008 was the first year for the Fractals REU at our department. We had Kevin Romeo (UConn) and Daniel Ford (Providence College) as our first students, and we pursued two projects with them. The first project, with Kevin, was a computation of the vibrational modes of the so-called Laakso fractal spaces. The computations and following theoretical work are to be published in the journal Complex Analysis and Elliptic Equations. The second project, with Daniel, was a continuation of the work that was done with undergraduates before in a Mathematics Scholar course. The latter paper has been submitted for publication. Both Daniel and Kevin presented their work at the AMS Sectional meeting at Wesleyan last Fall. More information and pictures can be found at http://www.math.uconn.edu/~teplyaev/fractals/. Summer 2009 will be our second REU summer, with five students. Matthew Begue (UConn), Levi deValve (UConn), and David Miller (Salve Regina University) will be working this summer to generalize the results of Kevin Romeo, while Shotaro Makisumi (Princeton University) and Grace Stadnyk (Hamilton College) will be investigating fractal networks associated with the Towers of Hanoi game.
Calculus: Math 1131-1132

Beginning this fall, Calculus I & II will be taught in large lectures (3 hours per week) accompanied by small discussion classes (2 hours per week). The extra hour per week will be used to enhance the students’ calculus experience by providing a more hands-on experience, working in groups on problems or projects that would be too challenging to assign as ordinary exercises. Professor Alvaro Lozano-Robledo is leading a team of faculty and TAs that will plan and create course materials for these Calculus labs. In addition, clickers and pre-lecture partial class notes (posted online) will be used with the large lectures in order to more fully engage students in the lecture and improve learning.

Advanced Calculus: Math 2141-2144

When we begin the fourth year of this honors sequence this Fall, we will have 50 students in the first semester course and 21 continuing on with the third semester of the sequence. This is a four-semester, accelerated program for talented freshmen that provides a rigorous treatment of the mathematics underlying the main results of one-variable and multi-variable calculus and provides an introduction to calculus from an advanced point of view, differential equations, and linear algebra. It is a theory-oriented course unlike any class these students have seen before. For example, on the first day last Fall the instructor explained and analyzed the structure of a proof. Students completing the sequence are ready to take any upper-level Mathematics course and even the introductory graduate courses. This program also appeals to some students who are not mathematics majors since, besides getting a superior background, they can fulfill all the requirements for a Minor in Math by completing the 4-semester sequence. Admission is competitive and this Fall we will admit students to the program based on high SAT scores, AP Exam scores, recommendation letters from high school teachers and personal interviews. This course should help make UConn an appealing choice for highly talented students as this sequence surpasses or rivals any such course in the country.

The UCONN EARLY COLLEGE EXPERIENCE PROGRAM

David Gross

The Mathematics component of the ECE is a concurrent enrollment program that serves some 1500 students in mathematics classes across the state annually. CT high school teachers who want to teach UConn Math courses at their high school can apply for certification. Certification is dependent on the strength of their mathematical background and the support from their local high school. The Program offered 6 Mathematics courses in AY 2008-2009: Elementary Discrete Mathematics, Elementary Mathematical Modeling, Introductory Calculus 1 and 2, and Calculus I and II. The program, which some readers may remember as the Cooperative Program for Superior High School Students, has been in its current form, accredited by the National Alliance of Concurrent Enrollment Partnerships since 2007.

The overriding importance of this program is undoubtedly its impact on students’ success in their upcoming college careers. Even those who did not earn grades high enough to be given UConn credit benefit from the program in that they are now more aware of what a college mathematics class is like and what it will demand of them.

I have been fortunate to be the Math coordinator for this program since Jim Hurley retired from it in 2006, 3 years after his Mathematics Department retirement! I benefit from his sturdy stewardship of some 15 years overseeing this program from its fledgling years to the large program it is now. I hope to do him proud in the years to come.
SIDNEY RETIREMENT

Our dear friend, colleague, and teacher, Stuart Sidney, retired this year after thirty-eight years of service to this Department and University. A dinner party was held in his honor on the afternoon of Sunday, May 3, 2009 at the Alumni Center. (As a past president of UConn’s Phi Beta Kappa chapter, Stu regretted having to miss this year’s initiation, which occurred at the same time.) It was a very festive occasion attended by members of his family and many friends, including current and retired members of our Department and former students. Various speeches and announcements were made remarking on and praising Stu’s service to the Department, the University, and the local community in general. A good time was had by all.

Stuart Sidney obtained his undergraduate degree from Yale in 1962 and his PhD from Harvard under the direction of Andrew Gleason in 1966. He was hired by the former head, Elliot Wolk, to begin work here at UConn in the fall semester, 1971. However, before setting foot on campus Stu was offered an opportunity to spend a year in France. This presented somewhat of a problem for the young Mathematics professor. Should he take advantage of an exciting opportunity or, for the sake of his growing family, accept the offer of a relatively secure position? Fortunately the administration of the Department and College made the appropriate move in dealing with the highly desirable recruit. He was allowed to spend his first year as a UConn employee on leave in France, an opportunity for which to this day Stu is very grateful. Apparently this was the first time that such an unusually early leave of absence was permitted by the University and, subsequently, paved the way for analogous early leaves for others.

After establishing himself at UConn, Stu continued to take leaves, including sabbaticals, away from campus mainly to France but also to Ottawa, Hawaii, and New Mexico. In fact his third child was born in France.

As a professor at UConn, Stu thoroughly enjoyed the various mathematics classes he taught and students he came in contact with. He likes to start each semester by relating the story that three of his children, the first, second, and fourth, were born in Connecticut on the same date, December 2, in different years. With any luck this naturally leads to a discussion concerning the probability of such an event and to one of Stu’s favorite activities, teaching students by posing and solving interesting mathematical problems. It is no accident that he is one of the Mathematics Department’s most admired and successful instructors and the recipient of the Alumni Teaching Award for 2005.
Stuart’s main mathematical research areas are functional analysis and Banach algebras. He has published over thirty highly regarded articles on these and a few other subjects in first class journals devoted to mathematical research. Stuart has had five very successful PhD students here at Connecticut, the most recent being Ryan Mullen in 2007.

Over the years and at various times Stu has been the graduate chair, undergraduate chair, and the departmental scheduler. But the service that he is most noted for and to which he has devoted, and continues to devote, the most passion is the running of the various mathematical competitions, including the Putnam and the annual calculus competition. It should come as no surprise that one of his sons, Raymond M. Sidney, was a Putnam fellow while a student at Harvard.

Stu was and continues to be an active member of the Beth El Congregation of Mansfield. He is particularly fond of the study group led by Rabbi Alan Ullman and finds the material considered to be very interesting and enlightening. He also enjoys singing with the Mansfield Senior Center Chorus.

Congratulations Stu, on a great career!

FACULTY NEWS AND HONORS, 2008-09

Among the organizers of special sessions at the Fall 2008 Eastern Section meeting of the American Mathematical Society, which took place at Wesleyan University, Middletown, Connecticut on October 11 and 12, 2008, were current or recent members of our department: Luke Rogers and Alexander Teplyaev organized the session on Analysis on Metric Measure Spaces and on Fractals, and Asher Kach, Joseph Miller and David Reed Solomon organized the session on Computability Theory and Effective Algebra. Maria Gordina was awarded the prestigious Ruth J. Michler Memorial Prize. Masha is only the third person to win the Prize, awarded by Cornell University and the Association of Women in Mathematics. The award will support her residency at Cornell to work on research on infinite dimensional spaces. Ralf Schiffler has been awarded an NSF grant on Cluster Algebras and Tilting Theory, to run from November 2008 to August 2010. Stuart J. Sidney was elected to membership in the Connecticut Academy of Arts and Sciences and installed at a ceremony in April 2009. Milena Hering has been awarded the Oberwolfach Leibniz Fellowship to spend a total of 3 months in the summers of 2009 and 2010 doing research at the Oberwolfach Mathematics Institute in Germany. The Board of Trustees awarded tenure to Keith Conrad and Xiaodong Yan and promoted both to Associate Professor as of the beginning of the 2009-10 academic year. Undergraduate Coordinator David Gross was honored in Spring 2009 by the University’s Early College Experience Program (formerly the High School Co-op Program) with its “Faculty Coordinator Award for Excellence in Curriculum and Adjunct Faculty Development.” And David and Jeff Tollefson were winners in the 2009 Provost’s Competition for their proposal “Math 1131Q Calculus I” while Alvaro Lozano-Robledo won for his proposal “Math 1132Q Calculus II.” More news about faculty honors and recognition may be found on the Department’s Web pages.
This year’s puzzle comes from the world of “recreational mathematics,” and some of you may have seen it before. Still, it is a neat puzzle, and at first glance it might seem that there is not enough information (there is!).

Three brilliant logicians get together to have fun. We will call them $P$ for “product,” $S$ for “sum,” and $Q$ for “quizmaster.” Each has the ability to instantly deduce all logical consequences of any finite set of premises. $Q$ selects two integers $A \leq B$ strictly greater than 1. $S$ records the product $AB$ on a slip of paper that $S$ tapes to $P$’s hat, and likewise tapes to $S$’s hat a slip of paper upon which appears the sum $A + B$. Thus $P$ can see the sum but not the product, and $S$ can see the product but not the sum. The following dialogue ensues:

$S$ (after looking at the product on $P$’s hat): “I don’t know what the two numbers are.”

$P$ (having heard $S$, and after looking at the sum on $S$’s hat): “I don’t know what the two numbers are, either.”

$S$ (having heard $P$): “Aha!, Now I know what the two numbers are.”

$P$ (having heard $S$): “Aha! Now I also know what the two numbers are.”

So what are the two numbers $A$ and $B$?

Alumni, I hope you’ll keep in touch. Please offer suggestions or solutions via e-mail to: sidney@math.uconn.edu, or via surface mail to:

Stuart Sidney  
Department of Mathematics, Unit 3009  
University of Connecticut  
Storrs, CT 06269-3009
The talks in the Math Club this year covered topics from probability, cryptography, knot theory, graph theory, and number theory. The new dean of CLAS, Jeremy Teitelbaum, gave one of the most popular talks of the year, on the Vigenère cipher. Shortly after the U.S. presidential election, Dan Bochicchio (E.O. Smith High School) gave a talk on mathematical aspects of voting.

In the spring there were several talks by undergraduate and graduate alumni. Four students from the Mathematics Education program (Fred Carofano, Mike Cioe, Dan Czuchta, and Monique Ethier) led a panel discussion on teaching mathematics in middle school and high school, Tom McCabe (MSc 1966) spoke about how he used mathematics to develop his own company (McCabe Software), and Rachell Schwell (PhD 2007) gave a talk about disease detection and the distance formula. Eight members attended the Symposium for Undergraduates in the Mathematical Sciences at Brown University and five attended an intercollegiate mathematics competition at CCSU. The trip to Brown and some of the talks were partially supported by funding from the USG and the Department.

Student officers this year were Christine McMeekin (president), Tyler Engel (vice-president), and Jay Hartley (treasurer).

AWARDS DAY, APRIL 2009

The Annual Awards Ceremony of the Department of Mathematics took place on April 16, 2009. Dr. Jeremy Teitelbaum, Dean of the College of Liberal Arts and Sciences, welcomed the audience of undergraduates, graduate students, families, and faculty members. Stu Sidney was the master of ceremonies. Various awards and honors were presented in recognition of student achievements.

Winners in the Department’s CALCULUS COMPETITION were

- First Overall: Vi Ha
- Second Overall: Lun Li
- Third Overall: Weini Qiu
- Fourth Overall (Tie): Colin Carlson/Wei Yu

Honorable Mention:
- Craig Blouin/Antoni Brzoska/Long Tu
- First Intermediate: Lun Li
- Second Intermediate: Weini Qiu
- Third Intermediate (Tie): Colin Carlson/Wei Yu
- Honorable Mention Intermediate: Antoni Brzoska
- First Beginner (Tie): Colin Carlson/Wei Yu
- Third Beginner: Antoni Brzoska

Honorable Mention Beginner: Briana Hennessy

Honored for Noteworthy Performance on the WILLIAM LOWELL PUTNAM COMPETITION were Craig Blouin, Tyler Engel, and Wei Yu. The CIGNA AWARD for the Outstanding Actuarial Science Major went to Yiyiing Luo. And Timothy Bui, Alexander Melesko, Andrew Phillips, and Carla Wilson were initiated into PI MU EPSILON.

Graduate students honored: Philip Lombardo won the LOUIS J. DELUCA MEMORIAL AWARD for Outstanding Teaching Assistant; Matthew Jura and Russell Prime the CONNIE STRANGE GRADUATE COMMUNITY AWARD; and Jessica Todd an EXCEPTIONAL DEPARTMENTAL CONTRIBUTION AWARD.

Awards Day always closes with an invited address by a guest speaker. In 2009, the address on “Great Moments of the Riemann Zeta-Function” was given by Dr. Jennifer Beineke of Western New England College.
ENDOWED CHAIR

Stuart Sidney’s children, Daniel, Raymond, Larry, and Jennifer, have established an endowed chair in the Mathematics Department, the Stuart and Joan Sidney Professorship. This news was first made public at the May 3rd dinner party in honor of Stu’s retirement. The Department is grateful for this very generous gift.

The first holder of this chair, determined by Stuart’s wife, Joan, in consultation with Dean Jeremy Teitelbaum, is our current head, Professor Michael Neumann. Congratulations Miki!

HELPING THE MATH DEPARTMENT WEATHER THE FISCAL STORM

Alan Stein

Some are calling the current economic downturn “The Great Recession.” Regardless of terminology, it has created hardship for many, many people and a tremendous budgetary problem for the State and the University of Connecticut. Along with the rest of the University, the Department of Mathematics is facing the need to serve a larger group of students, as families hit by the recession find UCONN even more attractive, at the very time allocations from the state budget are being dramatically cut.

Please consider helping our Department continue to provide the quality our students expect and deserve by making a gift to one of the University of Connecticut Foundation funds which help support the Department of Mathematics.

These funds include, among others, The Louis J. DeLuca and Constance Strange Memorial Fund, The Richard L. “Dick” London Fund, The Charles Vinsonhaler Fund and the newly established Stuart and Joan Sidney Professorship in Mathematics. A complete list may be found on the Math Department web site, which also provides a method for online giving using a credit card. Go to http://www.math.uconn.edu and select the “Giving” near the top.

Checks made payable to The University of Connecticut Foundations, Inc. may also be sent by mail to
Frank Gifford, College of Liberal Arts and Sciences, Unit 4098, Storrs, CT 06269-4098.

Please specify the fund to which you are contributing.

For more information about investing in our present students and the future of the Mathematics Department, contact either Frank Gifford, Director of Development, CLAS, by phone at (860) 486-6798 or email at fgifford@foundation.uconn.edu or Heather McDonald, Assistant Director of Development, CLAS, by phone at (860) 486-1190 or email at hmcdonald@foundation.uconn.edu.
Math CONNections 2009

EDITORIAL STAFF
Jerry Leibowitz leibowitz@math.uconn.edu
Wally Madych madych@math.uconn.edu

Math CONNections
is published annually by the
Department of Mathematics, The University of Connecticut
196 Auditorium Road, Storrs, CT 06269-3009
Phone: (860) 486-3923 FAX: (860) 486-4238