

PRIME BITS

Department of Mathematics Newsletter
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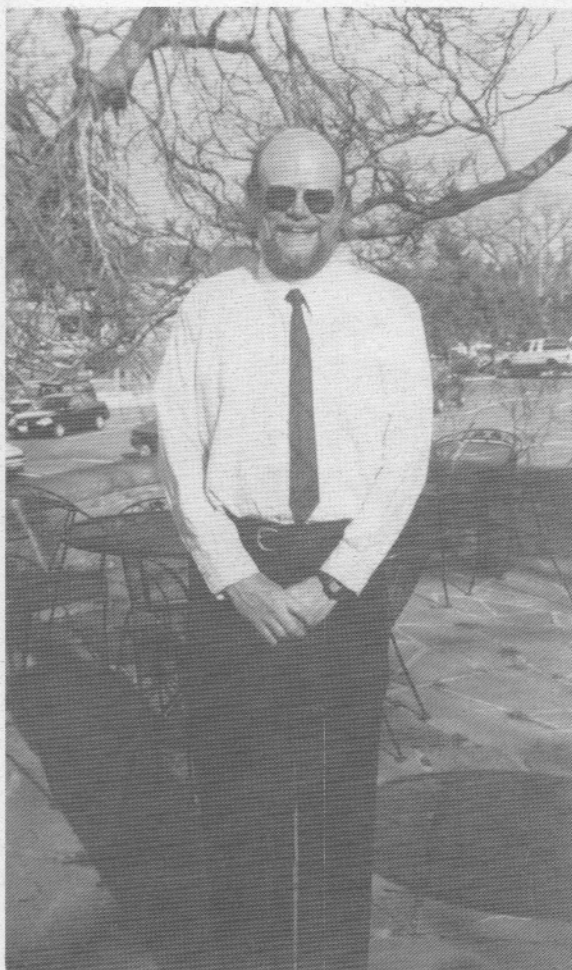
PRIME BITS brings news of current activities and events in the life of the Mathematics Department at Boulder to alumni and friends. Please send news items for inclusion to PRIME BITS (editor, W.B. Jones).

DEPARTMENT CHAIR

Professor Martin E. Walter is beginning his third year as department chair. In July 1996 Walter succeeded Professor Robert Tubbs who served the department valiantly as the chair during a period of turmoil and transition (1993-1996). In the first two years of Walter's chairmanship the department lost six senior faculty members, five from retirements and one from death (see later articles). Three new tenure track faculty have been hired for fall 1998 and more hires and retirements are expected in the next years.

Professor Walter received his B.S. from the University of Redlands in 1966. He did his graduate work at many campuses in the University of California systems, working with four thesis advisors along the way, including Takesaki at UCLA and Russo at UC-Irvine. After receiving his Ph.D., he spent a couple of years in Canada where he solved a duality problem for groups. Prof. Walter came to CU in 1973, bought a ten acre farm, proved theorems, built a house, and taught math. He currently sits on the Executive Committee of the Rocky Mountain chapter of the Sierra Club and is a co-founder of Ancient Forest Rescue.

Marty Walter was born in Lone Pine, California—the high Sierras—about the same time the first nuclear weapons were being detonated nearby. Some of the most influential people in his life during his formative years were his teachers. He got along with all of his teachers in elementary school except Mrs. Forsythe, who during fourth grade locked him in a closet for half a day—with orders to



Prof. Marty Walter, Department Chair since July 1996.

copy *Bartholomew's 500 Hats* (a story in their reader). Unfortunately, the light switch was on the outside and he had to copy the story by the light from a crack in the door. Fortunately he did not have to go to the bathroom during that half day and his parents, wondering what had happened to him, came and picked him

up at the end of the day. One of his problems was that he listened to Mr. Wizard on Saturday, and then contradicted (politely) Mrs. Forsythe when she said that oil tankers rode low in the water because they were heavy when full. He pointed out that it was the density that mattered.

He had a great high school experience in San Jacinto, California, with Mr. Pawley—his math teacher and tennis coach. There were only 52 students in his class but he managed to win a berth at the National Science Fair in Seattle in the year the Space Needle was built. He won the big prize at the fair, a job with the Army Chemical Corps in Dugway, Utah, where nerve gas was being tested. While he was there, he learned a great deal of mathematics from Dr. Thompson. During this job with the Army, he became concerned with environmental issues and became an environmentalist.

STUDENT NEWS

Tour Scholarships were recently awarded to the following: **Clark Dollard, Stacey McIlwaine** and **Wendy Sweet**. Each year one J. Tour Scholarship of \$750 is awarded on the basis of merit and financial eligibility to an undergraduate mathematics major who will graduate the following December or May. The Tour Scholarship was established by the bequest of Isabelle S. Tour of Pueblo, Colorado.

Veronica Furst, an undergraduate mathematics major was awarded an Undergraduate Research Opportunities Program grant for AY 1998–99. Her research advisor is **Professor Karl Gustafson**.

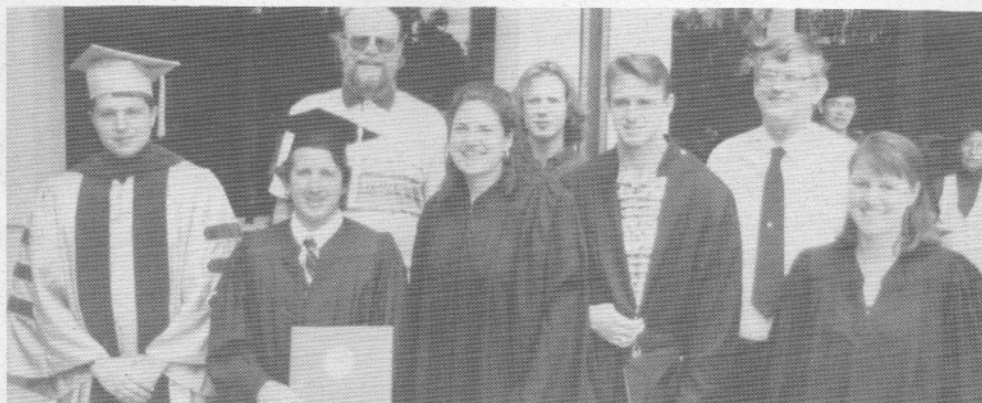
Phi Beta Kappa has recently elected the following mathematics undergrads: **Rebecca Berry, Clark Dollard, Kendra Feinstein, Jessica Ill, Krista Shouse, Wendy Sweet** and **Michelle Wyss**.

Dave Tuller is the fall 1998 organizer of the graduate student weekly colloquium series known as SLOW PITCH. These are Wednesday afternoon (4:15 p.m.) lectures aimed at undergrad and grad students in mathematics.

Grad Student Softball

The following report for the 1997 season is in the words of team captain **Dee Dee Shaulis**: "Another softball season has drawn to a close. And (not too) surprisingly, MATH did not bring home the trophy.

I have to admit that the MATH team has improved over the years that I have been playing. We rarely fall over while batting or stumble on the way to first base. Unfortunately, we play in the Staff Council League during the summer and don't quite match up to the competition. Most of these teams have a core of players that have been together for years. Since most of our players are graduate



Math graduates at the spring, 1997 commencement reception Front row: 1. Christopher Moretti, 2. Dylan Nicolette, 3. Cathy McDavid, 4. Eric Billeland, 5. Julies Hoggan. Back row: 1. Prof. M. Walter (Dept. Chair), 2. Collin Olson, 3. Prof. Kent Goodrich.

students and we are not supposed to stay around for too many years (although some of us try), we are mere babes in a softball world of grown-ups.

Luckily, we survived the years with no major injuries. I set a bad example last year when I tried to catch a line drive with my nose. But I learned, and I now choose to use my glove for such activities.

We certainly lost more games than we won (quite a few more). We have a record that looks worse than the Tigers. We ended the season with a record of 2-15. At least we have two wins during the season. (A subtle wink goes out to the team.) Now, if someone could just find a way to recruit Vinny Castilla."

Gwyn Coogan won the Houston Marathon (the U.S. National Marathon Championship), running 26.2 miles in 2 hours, 33 minutes and 37 seconds. Gwyn overcame a number of difficulties for her victory: heat (66° F), humidity (95 percent), and wind. More seriously, she took a fall at the 3 mile marker, thus losing several seconds. Asked what a doctoral candidate in mathematics at CU-Boulder thinks about to get her through the last few miles, she replies "I told myself if I can sit through an algebraic geometry seminar for 50 minutes I can run for 50 more minutes." The win gave Coogan \$30,000 and a berth in the 2000 U.S. Olympic Trials. Gwyn's husband Mark Coogan is also an Olympic marathoner and their daughter, Katrina, is now 4 years old.



Members of grad student softball team celebrate at spring, 1997 commencement reception. Front row: Loren Woo, Dee Dee Shaulis (captain), Rob Claus; Back row: Rob Chiamonte, Joe Polacco, Nat Beagley and Doug Norris.

**WILLIAM LOWELL PUTNAM
MATHEMATICAL COMPETITION
(WLPMC)**

Each year about 2500 undergraduate students from more than 400 colleges and universities in the U.S.A. and Canada participate in the WLPMC. Each institution selects a team consisting of three students and rankings are given both to teams and to individual participants. The WLPMC is administered by the Mathematical Association of America (MAA) and the level of competition is extremely high. Listed here

are CU-Boulder's teams and their rankings in recent years:

1995 team: Chris Hall, Tao He and Mahesh Mahanthappa. Rankings: 1st in Colorado, 90th in USA & Canada.

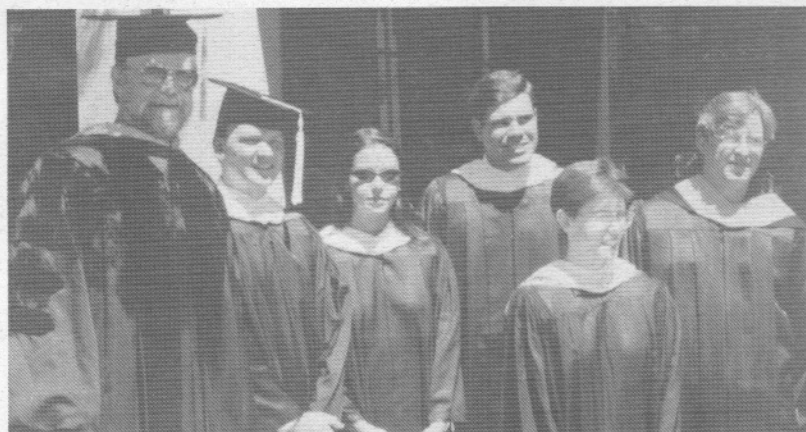
1996 team: Chris Hall, Tao He and Gregory Geihlsler. Rankings: 1st in Colorado, 36th in USA & Canada

1997 team: James Barron, Kevin Hall and Tao He. Rankings unknown.

See photo with two of our team members.

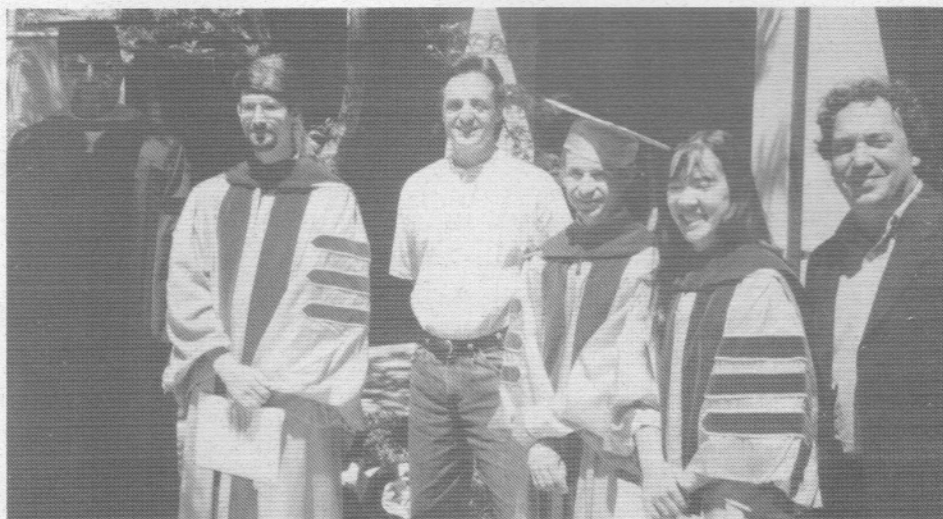


Students at the spring, 1997 commencement reception in the Math building courtyard. Two of these were members of our Putnam Competition team: Mahesh K. Mahanthappa (left) and Christopher J. Hall (right). Kevin Manley is in the center



Masters degree graduates for Spring 1998 (l. to r.: Prof. M. Walter, Aaron Strong, Carrie Muir, Wayne Jensen, Emily Salvo, Eric Weber.

Spring 1998 Ph.D. graduates and faculty (l. to r.: Prof. M. Walter (Chair), Dr. Don Vestal, Prof. Eric Stade, Dr. Robert Ream, Dr. Dee Dee Shaulis, Prof. David Grant.



FRANCES C. STRIBIC FELLOWSHIPS

An endowment for the Frances C. Stribic Fellowship was created in the CU Foundation by a single gift in honor of the many contributions of Professor Stribic in the UCB Mathematics Department. Fellowships are granted

each semester from the endowment income to two female graduate students in the Mathematics Department who are chosen by the faculty for their excellence as graduate students of mathematics. Recent recipients of the Stribic Fellowships have been:

1993-94 Catherine M. Bonan-Hamada
Cathleen M. Craviotto

1994-95 Faan Tone Liu
Delphy (DeeDee) Shaulis

1995-96 Delphy (DeeDee) Shaulis
Helen Kim

1996-97 Diana Boyd
Missy Richey

1997-98 Diana Boyd
Missy Richey

1998-99 Jennifer Courter
Sharon Schaffer

BURTON W. JONES TEACHING EXCELLENCE AWARD

An endowment for the *Burton W. Jones Teaching Excellence Award* was established in the CU Foundation in 1984 by gifts from the Mathematics Department faculty in memory of our distinguished colleague, Burton W. Jones. Each year income from the endowment is awarded to a Department of Mathematics graduate student who is chosen by the faculty of the department as the outstanding teaching assistant. Recent recipients of the award have been:

1996, Robert Chiaramonte with honorable mention: Brian Hagler and Melissa Richey.

1997, Jenni Taggart.

1998, Wayne Jensen with honorable mention: Bob Cohen and Kerri Kimberly.

Burton Jones was a graduate of Grinnell College and received his Ph.D. at the University of Chicago in 1928. He taught in the Mathematics Department of Cornell University from 1930 until his appointment at the University of Colorado in 1948. He served as chairman of the Department of Mathematics from 1949 to 1963, during which time under his leadership the department grew to a position of national prominence for its programs and faculty. He served again as department chair in the spring semester of 1967. Professor Burton Jones received the Distinguished Service Award of the

Mathematical Association of America in 1971 and an honorary doctorate from Grinnell College in 1973.

De LONG LECTURES

This lecture series is funded by an endowment given by Professor Ira M. De Long, who came to the University in 1888 at the age of 33. Professor De Long essentially became the Mathematics Department by teaching not only the college subjects but also the preparatory mathematics courses as well. Professor De Long was a prominent citizen of the community of Boulder: president of the Mercantile Bank and Trust Company, organizer of the Colorado Education Association and president of the charter convention that gave Boulder the city manager form of government in 1917. After his death in 1942, it was decided that the bequest he made to the mathematics department would accumulate interest until income became available to fund De Long prizes for undergraduates and De Long Lectureships to bring to the campus each year an outstanding mathematician from elsewhere.

The De Long Lecture series was started in 1962 and the list of De Long Lecturers during the past 34 years contains many of the world's most prominent mathematicians of the 20th century. This lecture series has contributed enormously to the academic climate in mathematics on the Boulder Campus. Its value to faculty, students and others who attend the lectures far exceeds the monetary proceeds of the endowment.

Barry Mazur, Professor of Mathematics at Harvard University presented the thirty-third annual De Long lectures September 3-5, 1997. Topics covered by his lectures were: "The ABC-Conjecture, Elliptic Curves and Modular Forms". Mazur spent two years (1955-57) as an undergraduate at MIT, then went to graduate school at Princeton for AY 1957-58. The first half of the next academic year was spent in Paris after which he returned to

Princeton and received a Ph.D. at the end of the spring term, 1959. Following this, Mazur spent one year at the Institute for Advanced Study and thereafter has been on the faculty at Harvard.

The thirty-fourth annual De Long lecture series was presented by **Professor Alain Connes**, March 31–April 3, 1997. Professor Connes holds the Léon Motchane Chair at the Institute des Hautes Etudes Scientifique. Since 1984 he has also been a Professor at the College of France. Connes has received many honors for his contributions to mathematics, including the Fields Medal (1983) which is, for mathematicians, the nearest approximation to a Nobel prize. Connes' lectures dealt with topics in noncommutative geometry and applications in physics.

ULAM CHAIR. When Professor Stanislaw Ulam retired in 1977, the Math Dept. decided to use his position to bring distinguished visitors (both long-term and short-term) to the department. During recent years the following have been ULAM visitors for all or part of the given year or semester:

Guennade Kasparov from the University of Marseilles, France lectured on Operator Algebras, Spring 1997, and April 1998.

Joseph Appaloo from South Africa lectured on Mathematics, Biology and Evolution, June–August 1997.

William Moran from Flinders University at Adelaide, Australia, lectured on Harmonic Analysis on Discrete Nilpotent Groups August–September 1997.

Guihua Gong from Puerto Rico lectured on Operator Algebras, December 1997–February 1998.

William Duke from Rutgers University lectured on Analytic Number Theory, spring 1998.

During AY 1998–99 the department will host the following ULAM visitors:

Jakob Bernasconi from Asea Brown Boveri, Ltd., Baden, Switzerland, and Adjoint Professor at the ETH (Swiss Institute of Technology) at Zürich, lecturing on Neural Net-

works and Financial Engineering, September–October 1998.

George McNulty from University of South Carolina, Columbia, SC lecturing on Equational Logic, Fall 1998.

Edward Burger from Williams College lecturing on Mathematics for Liberal Arts Majors (QRMS) AY 1998–99.

NEW FACULTY

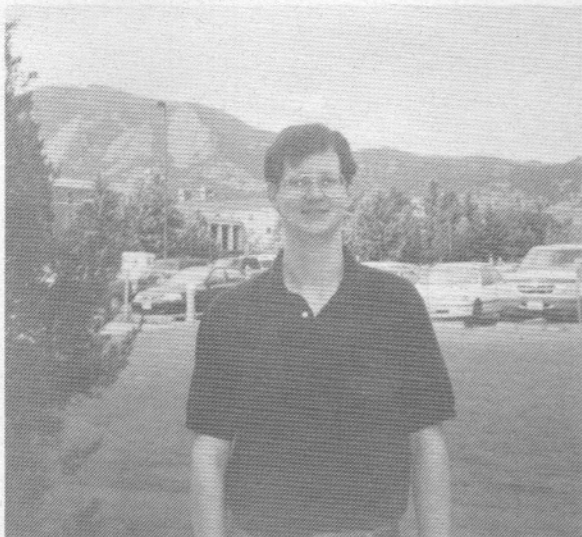
Jeanne Clelland came to UCB in August 1998 as an Assistant Professor of Mathematics with a Ph.D. from Duke University. Jeanne spent two years (1996–98) as a National Science Foundation Postdoctoral Research Fellow at the Institute for Advanced Study in Princeton, NJ. Her research interests are in differential geometry and the geometry of partial differential equations. Her husband, Rick, is also a new member of the Math Dept. faculty. Jeanne's other interests include martial arts, hiking, and (hopefully) learning to ski.



Jeanne Clelland, a new faculty member in Fall, 1998.

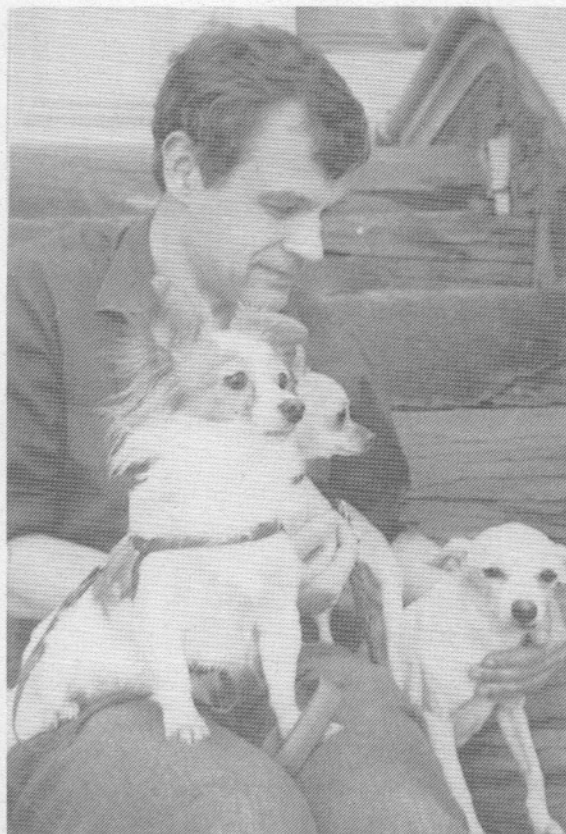
Richard Clelland came to UCB in August 1998 as an Assistant Professor of Mathematics with a Ph.D. from Duke University. Rick has spent two years as a NSF Postdoctoral fellow. The first year was spent in the Applied Mathematics and Statistics Department of SUNY Stony Brook (1996–97), the second at the

Courant Institute at NYU (1997–98). His research interests are in numerical partial differential equations with applications to fluid and granular flow and multi-scale simulations. His other interests include hiking, cooking and playing bridge. He is also very happy to be married to Jeanne Clelland, another member of the UCB Mathematics Department.



Richard Clelland, a new faculty member in Fall, 1998.

Sergei Kuznetsov joined the CU–Boulder Mathematics faculty in fall, 1998. Kuznetsov studied at the Moscow State University, earned his Ph.D. (Candidate of Physics and Mathematics) in 1967 from the Kiev Institute of Mathematics of the Academy of Sciences. He got his Doctor of Physics and Mathematics degree in 1983 from the Vilnius State University. [Like other European countries, Russia has another advanced degree beyond Ph.D.] For many years, Sergei held a research position at the Central Institute for Economics and Mathematics of the Academy of Sciences in Moscow. From 1993 to 1998, he was a Visiting Professor at Cornell University where he taught a variety of undergraduate and graduate courses. His research interests are in probability, statistics, and differential equations. His wife Olga is a software engineer. His other interests include hiking.



Sergei Kuznetsov, a new faculty member in Fall, 1998.

FACULTY SPOTLIGHTS (News flashes about recent activities of note)

Jerry Dwyer is currently an instructor in the Math. Dept. teaching courses for QRMS (Quantitative Reasoning and Mathematical Skills) and collaborating with elementary school mathematics teachers in developing innovative hands-on approaches to aid in learning mathematics. For support of the latter, Jerry has recently obtained four grants totaling \$32,000. These include: \$3000 from Continuing Education for outreach to Ute Mountain Native American schools in Ignacio, Colorado; \$3000 from the Greenlee Family Foundation and \$6000 from the John S. and James L. Knight Foundation Fund for elementary school math tutoring at Douglas Elementary School (Boulder Valley School District); \$20,000 from new Century Energies

Foundation (formerly Public Service of Colorado) for math tutoring in several Boulder Valley Schools.

Peter D.T.A. Elliott is the author of *Duality in Analytic Number Theory*, published in the fall of 1996 by Cambridge University Press. Professor Elliott gave a plenary (1 hour) address at an International Conference on Analytic Number Theory in 1996 at Kyoto, Japan. He presented a paper at a conference on Analytic Number Theory also in 1996 in honor of Professor Heini Halberstam, who has had a distinguished career at the University of Illinois. On a different note, at the Halberstam Conference, Elliott gave a piano concert which included works of Haydn, Beethoven and a composition of his own which had an historical connection with Halberstam.

Carla Farsi collaborated with other faculty members (Jeffrey Fox and Guoliang Yu) to organize a special year (1995–96), a summer conference and a workshop, all focusing on Index Theory, Coarse Geometry and Topology of Manifolds. Fifteen distinguished mathematical researchers gave invited lectures at the July 1996 conference on the Boulder campus, to celebrate the 60th birthday of Professor Paul Baum. Each of these events provided outstanding learning opportunities for our students. Professor Farsi also received a grant from NSF for Research Planning and she qualified for the Freestyle IV level in figure skating. She believes she is the only mathematician who figure skates. Please contact Carla if you know of other mathematician figure skaters. (Editor's comment: Mathematicians are expected to be good with "figures".)

In spring of 1998 Professor Farsi spent a sabbatical leave at the University of Copenhagen, Denmark investigating spectral theory of orbifolds; these are generalized manifolds, examples of which are footballs and teardrops. At the beginning of August she participated in a conference on geometry at Copenhagen followed by the International Congress of Mathematicians in Berlin.

In a different direction, May 1998 found Carla Farsi climbing Denali (also called Mount McKinley), the highest point in North America (approximately 20,000 ft above the sea). On May 17 she flew to Talkeetna on the glacier from which the expedition began. She writes "After waiting for a break in the weather for over a week—which is quite normal for that mountain—I was finally able to reach the summit on May 31. It was an incredible experience; the views are fantastic, and the mountain is awesome."



Carla Farsi at summit of Denali (Mt. McKinley) May 31, 1998.

Robert Kent Goodrich recently designed, instituted and taught a new course on Operations Research dealing with both constrained and unconstrained optimization methods such as linear and nonlinear programming and the simplex method. This material has wide applications in engineering, business and economics. Examples are transportation and network flow problems. This course is part of the new Actuarial and Science Certificate program that was approved in spring 1997.

Karl Gustafson was awarded Honorary Membership in the International Solvay Institutes of Physics and Chemistry in Brussels, Belgium. This distinguished honor was presented by Professor I. Prigogine (Nobel Laureate and Director of the Institutes) and by

President J. Solvay (President of the Institutes). Their official letter to Gustafson expressed the hope that this action will contribute to tightening the close relations that Prigogine and Gustafson have had in the past. Gustafson presented a lecture on "Rigged Spectral States" at the Solvay Institutes.

Other invited lectures by Gustafson were given at universities and international conferences held in Xanthi, Greece; Istanbul, Turkey and Tokyo and Kyoto, Japan. The distinguished lecture series in Japan was organized by the Soc. for Applied Math. of Japan, and the Japanese Nat. Res. Institute of Math. Sciences. A special memorial volume entitled *Lectures on Computational Fluid Dynamics, Mathematical Physics and Linear Algebra* will be published by Kaigai Publishers. Gustafson is a co-author (with Professor D. Rao, Collegio Bolivar, Cali, Colombia) of another book, *Numerical Range: The Field of Values of Linear Operators and Matrices*, published by Springer-Verlag. Rao (Ph.D., 1972 from UC-Boulder) was a student of Gustafson.

In 1998 Gustafson visited Iran to give keynote lectures at the annual Iranian National Conference of Differential equations and Dynamical Systems and Their Applications, held at Isfahan University of Technology May 1-3. Gustafson's three lectures covered recent developments in computational fluid dynamics, mathematical physics and linear algebra. He also gave a joint mechanical-chemical engineering department colloquium on May 5 in Isfahan, and a mathematics department seminar on May 10 at Sharif University of Technology in Tehran.

Earlier this year Gustafson was an invited speaker at the First International Conference on Unconventional Models of Computation in Auckland, New Zealand where he spoke on ergodic learning algorithms. He was also an invited speaker at the 34th annual Australian-New Zealand Applied Mathematics Conference in Coolangatta, Australia, where he spoke on antieigenvalues and applications. He presented his results, "Internal

Dynamics of Backpropagation Learning", at the Ninth Australian Conference on Neural Networks in Brisbane.

Henry Hermes presented an invited (1 hour) plenary lecture entitled "Smooth Stabilizing Feedback Controls" at the 2nd International Conference of Nonlinear Analysts held at Athens, Greece. Well known for his fundamental work on geometric control theory and its applications to spaceship orbits, robotics, etc., Professor Hermes recently extended his research activities to the analysis and control of cardiac arrhythmias. This work is being supported by a new NSF grant for research on "Nonlinear Control; Feedback Stabilization and Cardiac Arrhythmia Control". Professor Hermes organized an American Mathematical Society Summer Research Institute at CU-Boulder from June 29 to July 19, 1997.

Richard Laver has recently given invited lectures on his research at Ohio State University and in Marseilles and Paris, France. He has hosted the following mathematical visitors at UC-Boulder: Professors T. Carlson from Ohio State University, Y. Kimchi from Tel Aviv, Israel, and F. Tall from the University of Toronto. To support his research program, Professor Laver received a three-year grant from NSF and a NATO grant for a three-person research project in France.

In 1997-98 Laver gave invited lectures in San Diego, Pretoria, Washington D.C., Merida (Venezuela) and Marseilles (France).

In a somewhat different direction, Laver has been in correspondence with a resident of the Colorado corrections system who is interested in mathematics. During the past years his student has been studying advanced calculus, set theory and logic. He states that he has plenty of free time to work on these subjects, can do 95% of the homework problems and wants to enroll in Graduate School at UC-Boulder when he gets out. At one point he was explaining mathematics to other inmates.

Albert T. Lundell completed a three-year term as chair of the Math. Dept. Graduate Program. The department is grateful for the excellence with which Professor Lundell performed this vital administrative service. Lundell was the thesis advisor of John McNamee who received a Ph.D. degree in mathematics at UC-Boulder in August 1996. McNamee's thesis title was "On Unstable Complex James Numbers".

Donald J. Monk's latest book entitled, *Cardinal Invariant on Boolean Algebras* was published by Birkhäuser-Verlag in May 1996 (300 pages). Of the 11 books he has published at this time, two are textbooks and 9 are research monographs. He has been the sole author of four books, co-author of three and co-editor of four. Professor Monk recently spent a sabbatical doing research at the Eidgenössische Technische Hochschule (National Institute of Technology) at Zurich, Switzerland.

Arlan B. Ramsay initiated a biweekly newsletter, called *The Integral News*, for Math majors and all students interested in mathematics. Each issue contains information about careers in mathematics, student advising, a faculty profile, a problem of the week, and upcoming activities in the Math. Dept. Graduate student Loren Woo has co-edited *The Integral News* with Professor Ramsay. Congratulations and thanks to Arlan and Loren for this creative, useful service!

Ramsay recently gave two lectures on "Polish Groupoids" at the International Workshop on Descriptive Set Theory and Dynamical Systems held at the Centre International de Rencontre des Mathématicques (CIRM), Marseille-Luminy, France. The aim of the meeting was to bring together specialists from descriptive set theory, ergodic theory and dynamical systems who are interested in recent interactions of these subjects. Arlan was on the ergodic theory side of this discussion.

Wolfgang Schmidt has recently given invited lectures at Madras University, the Alladi Institute in Madras, India and at conferences

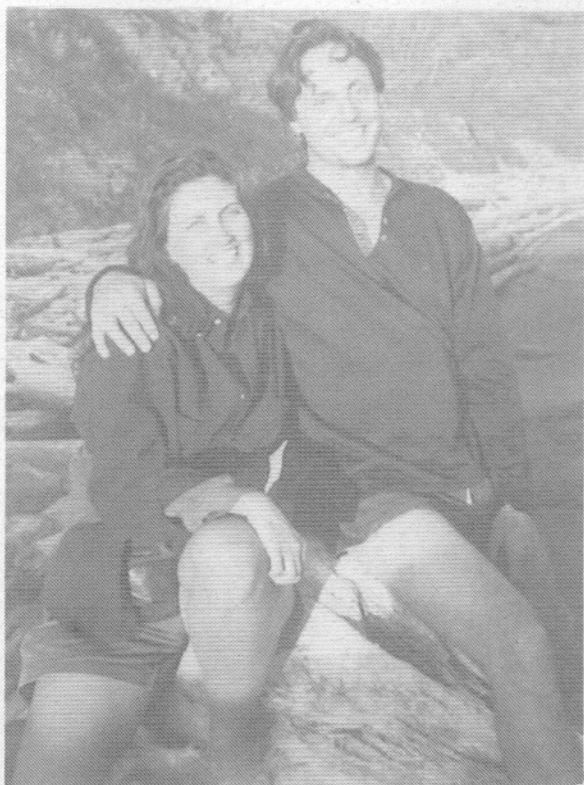
on various topics in number theory, discrete mathematics and applications held in the following locations: Trichy, India; Oberwolfach, Germany; Vienna, Austria; and Ankara, Turkey. Professor Schmidt's latest Ph.D. student, Scott Ahlgren, accepted a position as assistant professor at Denison University of Ohio. Schmidt also supervised the Ph.D. thesis for a visiting student, Leonhard Summerer, from Vienna, Austria. With a Faculty Fellowship during AY 1997-98 Professor Schmidt attended meetings at Luminy (Marseilles) in France and Oberwolfach in Germany and lectured at Marburg, Germany. He worked on research with Professor Waldschmidt in Paris and with Professor Zannier in Venice.

In 1997 Schmidt became a member of the Polish Academy of Science and received the membership document at a ceremony held at the Polish Academy in Washington, D.C.

Eric Stade has brought a great deal of energy and creativity to the UCB Mathematics Department. Recently he has attended a workshop at Colorado State University on new methods, strategies and paradigms for teaching undergraduate statistics. He participated in a special program on Automorphic Forms at the Math. Sciences Research Institute at Berkeley. Eric has been promoted to Associate Professor with tenure and has assumed the responsibility of Associate Chair for Undergraduate Studies in the Math Dept.

He and Elisabeth Cote Greenhalgh (Beth) were married on July 13, 1996. Beth is also a mathematician (M.A., May 1995), has taught mathematics at UCB and is currently working on a doctorate in the School of Education (see photo of Beth and Eric).

He spent the spring 1997 semester on a sabbatical at Queen's University of Northern Ireland in Belfast, working with the Department of Applied Math and Theoretical Physics on some mathematical problems using discrete Bessel transforms to solve Schrodinger's equation. He also worked on problems in number theory.



Professor Stade and Elisabeth Greenhalgh married on July 13, 1996.

Rebekka Struik attended a three-week summer meeting at the Institute in the History of Mathematics and its Uses in Teaching (IHMT) at American University. The meeting was sponsored by the Mathematical Association of America and funded by the National Science Foundation. Professor Struik has had an interest in the history of mathematics and frequently teaches an upper division course on this subject.

Struik continues to be active in ecological matters. She is a bicycle commuter in all kinds of weather and for years has been an Eco-Cycle Block Leader. For her work as a volunteer she has been awarded three "Oscars" by Eco-Cycle. In this case an "Oscar" is a small copy of Oscar, the Sesame Street character, who lives in a garbage pail. These are given out once per year to honor outstanding volunteers. Struik is also active in the League of Women Voters.

Professor Struik has three adult daughters. Marion does research on polio and leukemia at Louisiana State University; Margo works for the *San Francisco Chronicle* (is married and has a five year old daughter); Louise is an actress in New York City.

Lynne Walling and Carl Lienert attended the Canadian Number Theory Association Meeting in Ottawa. Walling gave a contributed talk entitled "Explicit Formulas for measures of Representations by Indefinite Quadratic Forms". Walling was awarded a Visiting Professorship for Women (NSF grant) to be in the University of California at Berkeley Mathematics Department from June 1997 to May 1998. Walling has held faculty positions at St. Olav College and Bates College. She is now a tenured Associate Professor in the CU-Boulder Mathematics Department.

Guoliang Yu has recently become a tenured Associate Professor of Mathematics. He recently gave invited talks at Schloss Ringberg, the Max-Planck Institute of Mathematics at Bonn, the University of Heidelberg and Oberwolfach Research Center (all in Germany), and the University of Tel Aviv, Israel. He also was a co-organizer of a summer conference held in Boulder. Professor Yu and his wife Jenny are new parents of a little girl, Alexandria, born October 16, 1997.

VISITING FACULTY

Edward Burger, Professor of Mathematics at Williams College who visited the department in the spring of 1995, has returned this year as an Ulam Visiting Professor. While his research interests are in number theory, he is about to complete two books for non-math folks: a math textbook for liberal arts students and a tradebook for the general public. Both will be published by Springer-Verlag next year. He also has completed the first-ever interactive, video calculus virtual text on the web. Check it out at www.thinkwell.com. Professor Burger's current e-mail address is: eburger@williams.edu

1997 FACULTY RETIREMENTS. On April 18, 1997 a party was held at the University Club to honor two retiring faculty members who served the University during the following years:

Professor Irwin Fischer, 1957–1997. Professor William B. Jones, 1963–December 1996.



Faculty of the University of Colorado Department of Mathematics, Spring 1997.

1998 FACULTY RETIREMENTS. On May 4, 1998 a party was held at the University Club to honor three retiring faculty who have served the University during the following years:

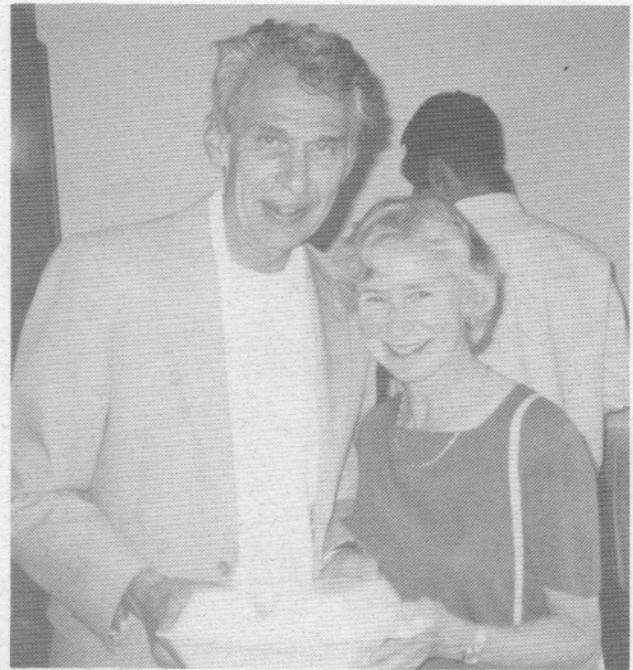
Professor George Clements, 1962–1998. Professor Henry G. Hermes, 1966–1998. Professor Duane Sather, 1969–1998.



Mathematics Dept. faculty, staff, spouses and friends, Spring 1998.



Irwin and Laura Fischer at retirement party for Professor Fischer.



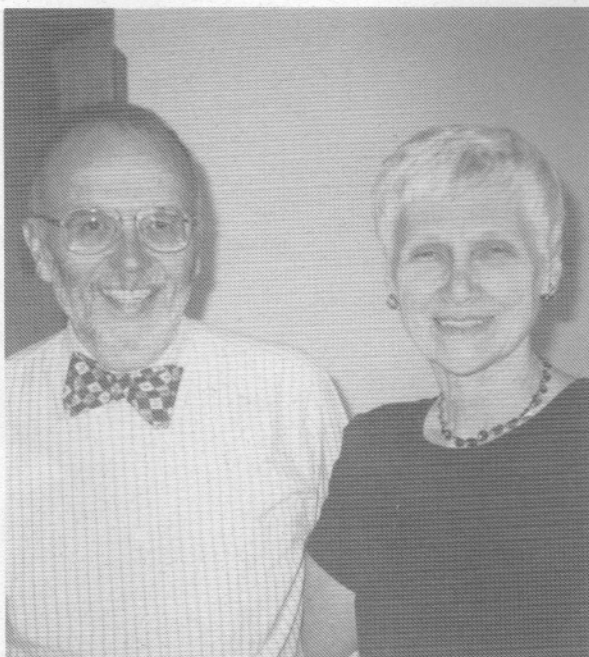
Hank and Imelda Hermes at retirement party for Professor Hermes. Hermes served as Chairman of the Mathematics Dept. from 1974 to 1976.



William (Bill) and Martha Jones at retirement party for Professor Jones. Jones served as chair of the Math Dept. from 1987 to 1990.



Duane and Helen Sather at retirement party for Professor Sather.



George and Anna Clements at retirement party for Professor Clements.

RETIRED FACULTY

William E. Briggs recently served as facilitator for the discussion between the representatives of the Program in Applied Mathematics and the Department of Mathematics on the future of mathematical sciences on the campus. The intent was to strengthen teaching and research in both groups. One decision was to make the applied math. program into a department. He has also served on the Retired Faculty Association as they've wrestled with improving medical and dental benefits for retirees, among other concerns.

Robert Ellingwood retired in 1988, but continued teaching algebra for the module program saying, "Teaching is still fun, so why stop?" In 1997, after 45 years of service at CU, he really retired!

William B. Jones was a co-organizer of three international meetings. The first was a research conference held at Campinas, SP, Brazil. The 24 participants at the conference represented 6 countries: Belgium, Brazil, Bul-

garia, Norway, Spain and the U.S.A. The conference proceedings (edited jointly by Jones and Professor A. Sri Ranga, from Brazil) were published by Marcel Dekker, Inc., in July 1998.

The second was a reunion of the International House Program (IHP) at Jacksonville State University (JSU) in Alabama. This reunion celebrated the 50th anniversary of the founding of the IHP in 1946 by Dr. James H. Jones. The program's main purpose has been to improve understanding and build friendships among people from different cultures in order to create a more peaceful world. During its first 50 years, students from 65 countries have been participants. The 250 former students and their families who attended the reunion made contributions of \$20,000 for the endowment of scholarships.

The third was a research conference at CU-Boulder, in spring 1998, celebrating the 80th birthday of Professor Emeritus W. J. Thron. Thirty mathematicians from 6 countries participated in the conference.

Ben Kriegh has kept his hand in mathematics in 2 very different ways. One is organizing mathematical subjects in a developmental scheme, from semantics to logic to sets to the number systems, algebraic structures and elemental topology. This, along with calculus, would enable students to prepare for more abstract areas of mathematics.

The second is studying the probabilities of gaming. He says he can usually give himself an "edge" of about 1%, using his techniques. His efforts have led several casinos to change their procedures to try to thwart him! He hastens to say he is really not a gambler, but it's an entertaining challenge.

He collects historical poker chips and tokens as works of art, and edits a Collector's Guide for other interested hobbyists. He also edits a publication for collectors of barbed wire! Lawrence Barrick from the old Department of Applied Math, got him started in 1967.

Burnett Meyer writes, "I am now living in Denver, but I get to Boulder fairly often. I have been attending the Seminar on Complex Analysis, which has been going for many years. Bill Jones has organized this seminar, also attended by Wolfgang Thron, Peggy Magnus (widow of Arne Magnus), Cathleen Craviotto (Ph.D. 1995), Brian Hagler (Ph.D., 1997), graduate student Guoxiang Shen, and Lee Goldstein. Since my retirement I have taken a winter vacation of several weeks in Palo Alto, California, to get away from the snow and ice. In 1996 I attended the Summer Mathematics Meeting at Seattle and was glad to see Fred Stevenson and Ellen Reed, whom I had not seen for many years. Unfortunately, this was the last summer meeting sponsored by the AMS. The MAA plans to continue the summer meeting in future years. I am tutoring a Russian immigrant in English." In July 1998 Prof. Meyer attended the Math Fest in Toronto where he was honored for being a 50-year member of the MAA. Meyer also enjoys the opera performances at Central City and Opera Colorado and the Colorado Rockies baseball team at Coors Field in Denver.

Wolfgang J. Thron became an octogenarian on August 17, 1998. The occasion was celebrated by an international research conference held at CU-Boulder from May 26 to June 4, 1998. In addition to presenting a lecture at this conference, Thron has published two research papers in 1998. One paper is on the life and work of Frederick Riesz for a book, *History of General Topology*, edited by Charles Aull. (Aull received a Ph.D. degree from the CU-Boulder Math Dept. in 1962; W. J. Thron was his thesis advisor.) A second paper on "Truncation Error of Continued Fractions" is to appear in the *J. Comput. and Appl. Math.* Thron continues to be an active participant in an on-going research seminar (with students and faculty) that he initiated in the early 1960's.

STAFF NEWS

Gail Becker joined the Mathematics Department as our Office Manager in March 1997. Her job is essential for the department to carry out its mission to our students, in particular, and to the University in general. It includes supervision of the other staff employees, handling business affairs such as faculty appointments, visitors, budgets and a myriad of other important matters. She works very closely with the department chair and the executive committee to ensure smooth sailing of the mathematical crew. Gail came to the Math Dept. with excellent credentials, having worked in the business world as an office manager and in the education world as an elementary school teacher in northern New Mexico and Southern Colorado. Her New Mexico school served children from the 5 northern pueblos of N.M. where students speak both English and native American language called Keres. It is one of the few uni-cultural schools in the U.S. The department is grateful for her cheerful, friendly and effective contribution to mathematics education at CU-Boulder.



Gail Becker, Math Dept. Office Manager since March, 1997.

Wanda Knopinski received a diamond pin in 1997 from UC-Boulder Chancellor Richard Byyny in recognition of 30 years of service at the University of Colorado. In April 1966 she began to work at the College of Business Research Division and transferred to the Mathematics Department in 1967. Professor Stanislaw Ulam was Chair of the department at that time. Over the years Wanda has worked with every Math. Dept. Chair, faculty and staff member and with thousands of students, providing continuity that would otherwise have been impossible. She commented that a major factor contributing to that longevity has been working with a great group of faculty and staff. Wanda plans to retire in the near future but has promised to keep in touch.

Carol Deckert has the following reflections on being the Graduate Program Assistant after having helped a whole class of graduate students through their degrees.

"Helping our students is not a job, it is a treat; without the students I would be just spinning my wheels on a daily basis. The students in the Mathematics Department are wonderful. I receive daily ego trips from them; they make the getting up and driving away from my home in Nederland worthwhile. I have been lucky to have worked under two outstanding Graduate Chairs, Prof. Al Lundell and Prof. Richard Holley, who both truly care about our students and put in many extra hours making our graduate students' lives easier. Our faculty here in mathematics are fine professors; I do not always agree with everyone's point of view, but I truly like everyone. It would be a pleasure to stay with mathematics until I can retire to a more flexible life style. I have learned much and have grown as a person being with the Mathematics Department."

Liz Stimmel has served the Math Dept. primarily as our technical typist-word processor since 1983. During these 15 years Liz has typed countless exams, letters, curriculum vitae, research papers, proposals, reports and

a large number of scholarly books and monographs. This service always comes with a friendly smile.

She completed a B.A. degree in psychology in summer, 1997 from CU-Boulder. Now she is enrolled at Iliff School of Theology in an M.A. in Religion program and is planning a second career as a chaplain for a hospital or hospice. In her quiet way, Liz is a help and an inspiration to all who know her and we wish her well in her endeavors.

GRADUATE DEGREES AWARDED

The following students received graduate degrees in mathematics between December 1995 and August 1998. They are listed below by: NAME; degree (faculty advisor) and employment positions if known.

December 1995

GAO XIA, Ph.D. (W. Schmidt); returned to China.

Jamie YEE, M.S. (R. Holley); Lockheed Martin

May 1996

Scott AHLGREN, Ph.D. (W. Schmidt); Denison University.

Edward BONAN-HAMADA, Ph.D. (J. Malitz); Mesa State.

Scott ELLETT, M.S. (W. Jones); .

Deanne ESTEP, M.A. (L. Walling); industry.

Benjamin LEE, M.A. (K. Goodrich); industry.

Christopher MORETTI, Ph.D. (R. Tubbs); Kenyon.

Matt MUNRO, M.A. (J. Malitz); .

Angela PIGNOTTI, M.A. (R. Holley); industry.

Melissa RICHEY, M.A. (L. Baggett); continuing with Ph.D.

Daluss SIEWERT, M.A. (E. Stade); continuing with Ph.D.

Molly SLAZAS, M.A. (J. Fox); continuing with Ph.D.

John WILLIAMS, M.A. (K. Goodrich); continuing with Ph.D.

Loren WOO, M.A. (K. Goodrich); continuing with Ph.D.

August 1996

John MCNAMEE, Ph.D. (A. Lundell); Clairon.

December 1996

Fatima AZMI, Ph.D. (J. Fox); Post Doc here.

Denise PHILLIPBAR, M.A. (D. Grant); industry.

May 1997

Nathaniel BEAGLEY, M.S. (K. Goodrich); government.

Matthew CONROY, Ph.D. (P. Elliott);

Jennifer COURTER, M.S. (L. Baggett); continuing with Ph.D.

Keith DESROSIERS, M.A. (W. Schmidt); teaching.

Brian HAGLER, Ph.D. (W. Jones); Instructor for UCB.

Keri KORNELSON-TEAGUE, M.S. (J. Fox); continuing with Ph.D.

Darren MANN, M.A. (H. Ellis).

Risa MASUDA, M.S. (A. Ramsay).

December 1997

Diana BOYD, M.S. (R. Holley); continuing with Ph.D.

Karen JANDA, M.S. (); working for CU Foundation.

David MERRILL, M.S. (B. Fornberg); continuing with Ph.D.

Jenni TAGGART, Ph.D. (E. Stade); Rutgers.

May 1998

Richard ANDRUSIAK, M.A. (L. Baggett);

Stephen CAULK, M.A. (W. Schmidt); continuing with Ph.D.

Wayne JENSEN, M.S. (P. Elliott); teaching.

Carrie MUIR, M.A. (R. Laver); teaching.

Robert REAM, Ph.D. (P. Elliott); teaching.

El Sayed SALLAM, Ph.D. (A. Ramsay); returned to home country.

Delphy SHAULIS, Ph.D. (D. Grant); MODS/QRMS at UCB.

Aaron STRONG, M.A. (K. Gustafson); teaching.

John WILLIAMS, M.S. (K. Goodrich); continuing with Ph.D.

Donald VESTAL, Ph.D. (E. Stade); Winona State.

August 1998

Andrea BROSE, Ph.D. (R. Holley).

Monica TODD, M.A. (L. Baggett); teaching.

Correction to Graduate Degrees in Summer, 1994 that appeared in *Prime Bits*, Vol. 4, Fall 1995:

Thomas HUNTLEY, M.A. (K. Gustafson), Hughes Aircraft.

ALUMNAE/ALUMNI NEWS

The following items were received in response to the last issue of *Prime Bits*. We appreciate your sending us news about yourself and your family (personal or professional) because your former classmates and faculty enjoy reading about you. We would also like to receive reminiscences of what CU-Boulder was like in earlier years from those of you who were here then. It is good to preserve for future generations the memories of the university that some of you have.

Nancy Anderson (B.A. 1952) recently retired as Professor Emeritus in Psychology at the Univ. of Maryland in College Park, MD. She remembers courses from Stribic, Kemper. B. W. Jones and Briggs. (5316 Hibiscus Dr., P.O. Box 515, Chincoteague, VA 22336.)

Marlene Pratte (B.A. 1960) teaches computing classes at Univ. of North Carolina at Greensboro. She was the originator of the Sigma Xi Puzzle Contest for middle school students. Marlene remembers Arne Magnus ("best teacher") using his necktie as a "compass" to draw circles, and Bill Briggs teaching a jr. level algebra class to H.S. teachers here for 1 year along with the regular students. (413 S. Chapman St., Greensboro, NC 27403.)

David P. Ambrose (M.A. 1964) and his wife are living most unusual and interesting lives in Lesotho, Africa, teaching, writing books on local history and on environmental law and working on a standardized 1:250,000 map of Lesotho. He recalls cycling along old mining trails and up mountain roads in the Boulder area when it was considered eccentric to do so! He also hiked up many mountains with Arne Magnus. David was awarded the MBE in the January 1994 Queen's New Year's Honours List "for services to education in Lesotho". A sequel was the occasion later in the year when he went to an Investiture at Buckingham Palace to receive the decoration in person. (National Univ. of Lesotho, P.O. Box 180, Lesotho, Africa.)

Diana Kifer Ten Eyck (B.A. 1968) is a V.P. at Snyder Oil Corporation in Denver. (10885 Linda Vista Drive, Lakewood, CO 80215.)

Gail A. Carpenter (B.A. 1970) went on to earn her Ph.D. in Math at Univ. of Wisconsin at Madison, and is now a professor at Boston University. She's worked in several leadership roles with the Neural Network Society. (Boston Univ., Dept. of Cognitive and Neural Systems, 677 Beacon St., Boston, MA 02215.)

Luis H. Diez (M.A. 1970) retired after teaching for 20 years at the University of Antioquia in Colombia. He wrote a book, "Math for Freshmen", and received several teaching and service awards from the university. Several CU professors are remembered with great appreciation: W. J. Thron, B. W. Jones, L. W. Baggett and John H. Hodges. He now chairs the Math Dept. of Eastern Catholic Univ.,

Rionegro, Antioquia. (Apdo Aerea 53076, Medellin, Colombia.)

William L. Briggs (B.A. 1971), a professor at UCD, was selected as a 1997 President's Teaching Scholar. Asked what it means to him, Bill wrote: "My selection...was an award and an honor for about five seconds... [Then] I realized that there are so many truly deserving teachers on the CU faculty. Suddenly it became a huge responsibility, and it has remained an inspiring responsibility ever since... One is viewed as an expert in all teaching matters. The reality is that teaching scholars are in the classroom just like everyone else, having good days and bad days, never arriving fully at mastery, hopefully improving a bit each year. So being a teaching scholar provides plenty of incentive to work even harder on teaching...and to foster good teaching throughout the faculty ranks." Briggs received M.S. and Ph.D. degrees in Applied Mathematics from Harvard and is currently a Professor of Mathematics at the University of Colorado at Denver. (825 7th Street, Boulder, CO 80302.)

David Field (Ph.D., 1971) has been a research mathematician at the General Motors Research and Development Center in Warren, MI for many years. He currently is President of the SIAM Great Lakes Section which is hosting a SIAM workshop of "Mathematical Foundations for Features in CAD Engineering and Manufacturing".

William Myers (M.A. 1971) is serving as Director of Academic Computing and Assoc. Professor of Computer Studies, Belmont Abbey College, Belmont, NC. He also serves the Consortium for Computing in Small Colleges. (124 Maple Circle, Belmont, NC 28012-2628.)

Jim Loats (Ph.D. 1977) was recently promoted to full professor at Metro State College of Denver. He co-authored "Algebra Unplugged", about concepts of beginning algebra. He's now working with an NSF grant to reform math and science preparation for sec-

ondary teachers. (3505 Endicott Dr., Boulder, CO 80303.)

Sarada Ganti writes that she works for Philips Lighting Company as a forecasting analyst. She was planning on entering Rutgers to work on an MBA. (3 Rachel Drive, East Brunswick, NJ 08816.)

Estevan Salazar (B.A. 1981) is a senior associate programmer at IBM in Boulder. (P.O. Box 17745, Boulder, CO 80308.)

Marc Weiss (Ph.D. Math-Physics. 1981) is working at NIST. (NIST 845, 325 Broadway, Boulder, CO 80303.)

Mary Porter (TA in 1985–87) breezed through Boulder and saw fellow math students Regina Aragon and Dennis Cumro. She lives in South Bend, IN, teaching at St. Mary's College.

Matthias Kawski (Ph.D. 1987) is teaching at Arizona State University. In August, 1990 he married Etsuko Koya. (Tempe, AZ 85287; (602) 965-3376.)

Alan McRae (B.A. 1987) earned his Ph.D. in math from SUNY at Stony Brook. After that he was a visiting Assistant Prof. at Indiana University in Bloomington. (Indiana University, Dept. of Math, Rawles Hall, Bloomington, IN 47405-5701.)

Nancy Wyshinski (Ph.D. 1991) has been promoted to Assoc. Professor with tenure at Trinity College in Hartford, CT. (56 Johnson Road, Marlborough, CT 06447.)

Amie J. Elcan (Ph.D. 1993) is working at U.S. West Advanced Technologies in Boulder. She and her husband have a son, Thomas, born in April, 1995.

Nicolas De Toustain (B.A. 1993). After earning a B.A. (1993) in both Math and French, then an M.A. from Boston University, Nicolas De Toustain has combined both talents to work for VALTECH in Paris. He writes: "Gordon Gee had it right when he called CU the 'Harvard of the West'. CU enjoys an excellent reputation—academic and

otherwise—back East." (Nicholas de Toustain, chez Mr. RIDEAU, 7 avenue de la tranquillité, 7800 Versailles, Grand Siècle, FRANCE.)

Robert Matuschek (M.A. 1994) is teaching in Glenwood Springs (Colorado) High School.

Scott Ahlgren (Ph.D. 1996) currently holds a post doctoral position at Penn State University for the academic years 1997–98 and 1998–99.

Don Vestal (Ph.D. 1998) is currently a fixed-term faculty member at Winona State University in Winona, MN. His e-mail address is: dvestal@vax2.winona.msus.edu

CENTER FOR NUMBER THEORY (Prof. Wolfgang Schmidt, Director)

The Center for Number Theory has hosted several long-term visitors since the last issue of Prime Bits. These Include: Prof. H. Deboussi, University of Paris (March–April), Prof. T.N. Shorey, Tata Institute of Fundamental Research, Bombay, India; Prof. R. Hudson, Nottingham, England; Prof. H. Halberstam, University of Illinois; Dr. P. Voutier; and Professors Leo Murata (Meij-Gakuin University, Tokyo), W. Duke (Rutgers Univ.), Algirdas Maciulis (Vilnius Univ., Lithuania), and Edward Burger (Williams College).

These and other visitors plus faculty and students from UC-Boulder provided speakers for the weekly seminar on Number Theory.

BURTON W. JONES HONORED BY MAA

The Rocky Mountain Section of the Mathematical Association of America (MAA) voted at the spring meeting (4/18/98) approving a motion to re-name its distinguished teaching award. Hereafter it will be known as the **Burton W. Jones Distinguished Teaching Award**. Jones was a member of the mathematics faculty of the University of Colorado at Boulder from 1948 until his retirement in 1971. (See article on the "Burton W. Jones Teaching Excellence Award" for more information about his life.) He was a lifelong advocate of excellence in teaching at all levels and a strong supporter of the MAA, its members and programs. To endow a fund to support this award, members of the MAA and others who wish to remember Burton Jones or to recognize teaching are encouraged to donate to the JONES TEACHING AWARD FUND. Contributions may be sent to: William C. Ramaley, Sec./Treas., Rocky Mtn. MAA, Dept. of Math, Ft. Lewis College, Durango, CO 81301. (Editor's Note: Readers are cautioned not to confuse the B.W. Jones teaching award given by the MAA with the award given by the Math Dept. of the University of Colorado at Boulder.)

IN MEMORIUM

Irwin Fischer (1927–1997) died at the age of 69 on September 30, 1997, after a lengthy illness. Following his Ph.D. degree from Harvard in 1953, Professor Fischer worked as a cryptographer for the U.S. Air Force, served in the U.S. Army, was a mathematician at the Air Force Cambridge Research Center, and was an instructor at the University of Minnesota (1954–55) and at Dartmouth College (1955–57). He was a member of the CU-Boulder Mathematics Dept. from 1957 until his retirement in 1997. Professor Fischer is remembered for the impact he had on mathematical research and teaching, for the gen-

erous sharing of himself with colleagues and students and for the twinkle in his eye that said let's be friends.

John Stanley Maybee (1928–1997) died on May 2, 1997 from a heart attack. After completing his Ph.D. from the University of Minnesota in 1956, Professor Maybee took a postdoc at the Courant Institute followed by a faculty position at Purdue University. He was a member of the mathematics and applied mathematics faculty at CU-Boulder from 1967 until his retirement in 1993. Maybee's career was honored with a special meeting and a special issue of *Linear Algebra and its Applications* at his retirement. Those who attended one of the lovely dinners hosted by John and Carol were certain to remember the experience; John was nearly as good and inspired in the kitchen as in mathematics. His enjoyment of mathematics and of life was infectious and he will be greatly missed by those who knew him.

William Nelson Reinhardt (1939–1998) died from cancer at the age of 59. After receiving a Ph.D. from the University of California-Berkeley in 1967, Professor Reinhardt joined the mathematics faculty at CU-Boulder and remained there until his death. Interested in the foundation and philosophy of mathematics, he was invited to teach courses in the UCB Dept. of Philosophy. A central focus of his work was the search for new axioms in mathematics which helped initiate a world wide research program. Dr. Reinhardt was active in many professional organizations including the AAUP, AMS and Amer. Phil. Soc. He also chaired a panel of the Nat. Acad. of Sci. for selection of NSF graduate fellowships in mathematics. Bill was a member of the Religious Society of Friends (Quakers) and the Rocky Mtn. Skeptics. He loved classical music, hiking and folk-dancing. Professor Reinhardt's untimely death was a great loss to the University and to those who knew him.

KEMPNER COLLOQUIUM ENDOWMENT

A few years ago the Mathematics Department drew up an agreement with the CU Foundation to establish a \$50,000 endowment for the department's weekly, public colloquium series. The distributable income from the Endowment will pay travel expenses and small honoraria for colloquium speakers who are *not* on the faculty of the CU-Boulder Mathematics Dept. Mathematical lectures on topics of broad interest help to maintain a vibrant learning environment for both faculty and students.

The Kempner Colloquium was initiated in 1963 in honor of Aubrey J. Kempner who came to the University in 1925 as Head of the Mathematics Department, and remained in that position until retirement in 1949. Professor Kempner gave the inaugural lecture for the colloquium series and continued to take an active interest in the Department until his death in 1973. The idea of naming the colloquium for Kempner came from three members of the faculty in 1963: Professors Arne Magnus, Robert McKelvey and Burnett Meyer.

Raising \$50,000 to endow the Kempner Colloquium is a significant challenge. We believe that it can be achieved by gifts from the faculty, alumni, and friends of the CU-Boulder Mathematics Department. At this time contributions to the endowment fund exceed \$8000. Almost every member of the Mathematics faculty has made a contribution. *We hope that CU alums will help us in meeting this challenge by sending tax deductible gifts to the CU Foundation for the Kempner Mathematics Colloquium Endowment Fund.* (see enclosed form for Math Dept. 1998 Annual Fund). The Kempner Colloquium Endowment project gives each of us an opportunity to make a lasting contribution toward the teaching and learning of mathematics at CU-Boulder. Your help can make a difference. Please join us in establishing this endowment for the University of Colorado.



Aubrey Kempner and Burton Jones in Kempner's house, 1952

Professors Aubrey Kempner and Burton W. Jones in Kempner's house, 1952.

MATHEMATICS DEPARTMENT 1998 ANNUAL FUND

We invite you to designate your 1998 CU Annual Fund gift to the Mathematics Department, University of Colorado, **Boulder**. To ensure accurate processing of your gift, please complete this form and mail it along with your tax deductible contribution to the **University of Colorado Foundation, Arts and Sciences Development, Campus Box 462, Boulder, CO 80309-0462**.

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I wish to designate that my contribution be used for:

Amount:

- ___ (a) \$10 to defray cost of printing and mailing the newsletter (Prime Bits)*
- ___ (b) Kempner Colloquium Endowment**
- ___ (c) Burton W. Jones Teaching Excellence Award Endowment***
- ___ (d) Scholarships
- ___ (e) Math Dept. General Fund

***EDITOR'S NOTE:** If you wish to continue receiving the Mathematics Department Newsletter (Prime Bits), please check item (a) above and send this page with a \$10.00 check for that purpose to the CU Foundation (address given above). The Department now has no other source of funds that can be used for the printing and mailing.

**See description of the *Kempner Colloquium Endowment* preceding this page.

***See the discussion of the Burton W. Jones Teaching Excellence Award earlier in this issue of Prime Bits.

ATTENTION ALUMNI:

Please return this form to the address below if you have moved or if you have news to share. We are interested in what you have been doing since graduating from the University of Colorado. We will publish this information in subsequent newsletters.

Newsletter Editor
Department of Mathematics
Campus Box 395
University of Colorado
Boulder, CO 80309-0395

NAME _____

CU degree(s) and date(s) _____

Major Professor _____

Degree(s) from other schools _____

Present position, employer, location _____

Awards, honors, fellowships _____

Current mailing address _____

Other news of interest _____

Reminiscences of CU-Boulder _____



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