



MATHEMATICS & STATISTICS DEPARTMENT ALUMNI NEWSLETTER 1993-94 UNIVERSITY OF MISSOURI-ROLLA

HISTORY OF MATHEMATICS DEPARTMENT

After World War II, the abrupt enrollment increase, and subsequent decrease upon graduation of veterans, MSM enjoyed a normal rise in student and faculty numbers. The cooperation between MSM Dean CURTIS L. WILSON and Chairman ROLFE M. RANKIN from 1942 to 1962 has been mentioned earlier. Their goal was a "second-to-none" undergraduate mathematics department, primarily strong in service for engineers but never-the-less sufficiently independent to do whatever it was called upon to do in a rapidly changing scientific world. It was no longer necessary

that MSM mathematics professors be engineers.

On our campus after the war, new MSM buildings were planned, built and occupied by our largest engineering departments as money, labor and materials became available. Later came buildings for Physics, Humanities, Mathematics-Computer Science and the Curtis Laws Wilson Library. A teaching reactor, a small observatory, buildings for Engineering Management and Mines and Metallurgy and the new Castleman Hall were added, to mention a few changes.

The Mathematics Department had moved to Harris Hall, with offices and a few classrooms on the top floors with Professor RALPH LEE's computer area in the basement. The two departments soon merged to form the Mathematics and Computer Science Department as previously noted. Professor Lee became one of the nation's pioneers in Computer Science. In January 1972, the departments had become separated and we moved into our new building, Computer Science in the east part, Mathematics the west part.

In the late fifties and early sixties two rather interesting innovations evolved, both putting to use the talents of Professor CHARLES A. JOHNSON. The so-called "new mathematics" was sweeping the country, so a new summer program for pre-college teachers was introduced, in part to aid teachers in understanding this new language. The other one led to the Master of Science for Teachers (MST), embodying strong preparation in mathematics and other sciences. The School of Education at UMC worked with the MSM/UMR group so that certification would be assured. The latter program is still offered, conducted in mathematics by present staff, Professor Johnson having retired.

When Dean Wilson and Professor Rankin retired in 1963, Professor DICKRAN H. ERKILETIAN, JR. had become chairman in October 1962, being the senior member of the department. Up to this point the department policy on graduate study was to encourage a relatively few excellent performers in mathematics who had taken advanced courses here, regardless of their major areas, to consider graduate study in some of the top mathematics research universities. This was done in an informal way on a professor-student basis. Reports from chosen graduate schools were practically one-hundred percent favorable. This writer remembers well a letter from one such school asking us to send them more graduate students, for ours were so well prepared and performed so well in graduate study. Of course our faculty helped students to further their own interests in other academic areas as well.

Upon the retirement of Dean Wilson, a new dean, MERL BAKER took over the reins

at Parker Hall. At this time, Dean Baker and University President ELMER ELLIS considered a gradual change in mathematics to eventually include advanced degrees in Applied Mathematics. A search committee was chosen to secure a Chairman who could put together such a program, or at least to get it off to a good start. This committee consisted of Professor ERKILETIAN as chairman, with Professors DANIEL EPPELSHEIMER (Metallurgy), HAROLD O. FULLER (Physics), AARON J. MILES (Mechanical Engineering) and RALPH E. LEE (Computer Sciences). After many hours of meetings, telephone calls, visitations of prospective applicants, Professor CHARLES HATFIELD (PhD, Cornell), Chairman of the Mathematics Department at the University of North Dakota, was selected.

As Chairman Hatfield took over, the school had become the University of Missouri-Rolla, as one of a four-member University of Missouri System. So, after years of being just one School of the University of Missouri, MSM became UMR, joined by the University of Missouri-Kansas City (the well established University of Kansas City having been purchased by the state); a new university at Saint Louis to be built and called the University of Missouri-Saint Louis; and, of course UMC, the University of Missouri-Columbia. The university president would remain in Columbia, and each member university would have a "Chancellor" as its chief administrator. Dean Merl Baker thus became the first chancellor of UMR.

Chairman Hatfield's duties were enormous. There was difficulty in securing a teaching-research staff—many prospective new instructors didn't fit in, others felt their interests did not include teaching mathematics to undergraduate engineers. To further research, it was almost mandatory that applicants for positions hold the doctorate. However, we managed to get off to a fairly good start. Professor CHARLES ANTLE, a statistician who had been with us earlier, and who had left to finish doctoral work at Oklahoma State returned to help bring statistics into the general picture of Applied Mathematics.

To somewhat alleviate Professor Hatfield's duties, he named three "professors-in-charge", Erkiletian: Freshman and Sophomore programs; Johnson: Junior and Senior programs; and Antle: Graduate programs. The group held weekly meetings with Chairman Hatfield to discuss problems and ideas within their respective areas. This helped greatly to stabilize things as to changes that had to take place. Hatfield brought in two or three good mathematicians to "start the ball rolling" toward research, before stepping down to continue with teaching and research, and present ideas acquired during his tenure. Unfortunately he became ill after a few years and retired. He still lives in Rolla, as does his wife MURIEL, an accomplished musician.

Professor Charles Antle followed Hatfield as chairman during the 1966-67 school year. He continued the "professor-in-charge" procedure with Erkiletian and Johnson. We had earlier become part of the School of Science (later the College of Arts and Science). Professor Antle met regularly with Dean Harold Q. Fuller to further our interests. He showed excellent foresight by bringing in Professor GLEN HADDOCK, who has served UMR so well, and Professor LEE BAIN to further advance the Statistics.

In 1967, Professor JOSEPH FOOTE (PhD Texas-Austin), after having been with us a year was named Chairman to succeed Antle, who later accepted an offer to join the Statistics Department at Pennsylvania State University.

Professor Foote's most visible contribution to UMR was his participation in designing and securing the Mathematics and Computer Science Building. He left us in 1968 to become Chairman at the University of New Orleans, from which he retired a few years ago.

Upon the departure of Foote, Professor GLEN HADDOCK (PhD Oklahoma State University) was named Chairman, with unanimous approval of the members. It would be almost impossible to heap sufficient praise upon Professor Haddock for his most valuable insight and ability in guiding the department. In an easy-going but very successful way, he built the department to excellence in teaching, research and service to a degree heretofore

never reached. A formal Teaching Assistantship set-up was brought into play (although TA's had been used to some extent earlier). This, relatively new to UMR, meant hours upon hours of extra thought and application on the part of the Chairman. To secure good TA's and get them started properly demanded, as well, the attention of some of the long-tenured professors.

Professor Haddock remained as Chairman until 1981. He was active the entire period except for a leave in 1978-79 during which time Professor OTHO (BILL) PLUMMER (PhD Texas-Austin) served as Acting Chairman.

In 1981, Professor LOUIS J. GRIMM (PhD Minnesota) was chosen to succeed Doctor Haddock, who returned to teaching and soon to some of the highest administrative positions. Recently Dr. Haddock returned to the department to actively teach and do research.

Professor Grimm had been with us a number of years before assuming the Chairmanship. His area of expertise is Applied Mathematics, particularly differential equations. His many papers have been presented in the USA as well as in foreign countries. He is personally acquainted with top mathematicians abroad, and has been instrumental in bringing several of them to our campus to confer with our graduate students and faculty.

After serving as Chairman for six years, Professor Grimm took a leave for one year to teach and do research at the University of Southern California. He returned to us after that year to teach and direct doctoral students, as he continues to do, along with presentations of papers at various mathematical meetings.

Professor Grimm's wife BARBARA holds degrees in Computer Science and Mechanical Engineering from UMR and serves in this capacity with Phillips Petroleum Company. A son TOM and a daughter MARY reside in Rolla, the latter studying Ceramic Engineering at UMR.

When Professor Grimm left for Southern California in 1987, Professor Haddock became Acting Chairman for two years. In the meantime, a search committee selected Professor WILLIAM T. (TOM) INGRAM

(PhD Auburn University) to chair the department starting in 1989. His main mathematical interest is topology.

As stated in previous notes in this History, Professor Ingram has been actively participating in meetings and conferences in the AMS and MAA. His superb guidance of the department during these four years has been and certainly will continue to be, highly appreciated by his faculty and his supervisors in administration. Like the revered Dean Curtis L. Wilson years before, his "door is always open" to students and faculty alike. We look forward to years of association with him.

Professor Ingram's wife of thirty-five years, BARBARA, resides in Rolla. They have three children, all grown and living in Houston, Texas: MARK, a UMR graduate, BILL and KATHIE (INGRAM) OWEN.

This brings our History up-to-date. It is hoped that any errors in dates, places and factual items are minimal. The writer also hopes any glaring mistakes or omissions will be brought to his attention for subsequent correction. Any remarks readers may have are most welcome—if none come to the department we shall assume either rejection or satisfaction. Most wished for, for our own pleasure, the latter.

NEWS FROM ALUMNI

As the number of graduates with mathematics degrees from UMR increases, our main office receives more and more interesting letters from you. Your contributions, however large or small, are greatly appreciated, but our main concern is just knowing what your present activities are. So please keep us posted so that we can share the news about you with your fellow UMR degree holders in later Newsletters.

Working as a technical support consultant for a software company in Lexington, MA is RANA ELAINE JONES (BS '87), 100 Massmills Drive, Apt. 503, Lowell, MA 01852-1239. Congratulations are in order for her marriage last April to DENNIS MACCONNELL, an electrical engineer at Lockheed-Sanders.

Professor HARMON C. BROWN (PhD '72), 130 Western Hills, Searcy, AR 72143,

writes that he enjoys our newsletter. Thanks, Harmon. Keep up your fine work at Harding.

TERRY T. HUANG [formerly TSANG C. HUANG, (MS '65)], now a naturalized United States citizen, is the founder, chairman and president of computing Dialogue, Inc., a New York State registered company since 1983, rated A+ in appraisal research opportunities. His address is 3 Stuyvesant Oval, E. 14th 10H, New York, NY 10009.

The UMR Parents' Association has honored MARY KIRGAN, who is working on a masters degree at UMR and was a TA last year, with their Outstanding Graduate Teaching Assistant Award for 1992-93. She lives in St. James, MO.

In the past, the UMR Parents' Organization has made this same award to ROCHELLE WHITE (last year), JAMES McLEANE (1989-90) and DIETRICH KOHLMANN (1986-87 and 1987-88).

Promoted to Associate Professor at Northeast Missouri State University this past summer was JAMES M. GUFFEY (MS '85, PhD '88). James also was a finalist for Educator of the Year at NMSU for 1991-92 and 1992-93, an honor receiving input from students and faculty at NMSU. Our heartiest congratulations, James. Continue the good work. James and his family live at 1605 E. Normal St., Kirksville, MO 63501.

Another promotion, for which congratulations are in order, is that of MARCEL A. MAUPIN (MS '78) to Associate Professor at Oklahoma State University-Technical Branch in Oklahoma City. Address: 1904 Cedar Ridge Road, Edmond, OK 73013.

A nice reply and gift was received from DAVID CARL BRUDER (BS '83), who states that he and EYDIE "continue" a lovely existence in St. Louis. They reside at 8823 Brenda, 63123.

It is always good to hear from JAMES E. JAMISON (BS '65, MS '67, PhD '70), well remembered here for his outstanding work as a TA. Jim is Professor at Memphis State University. His wife, JAN is a nurse. They have twin daughters RACHEL and REBECCA, both seniors in high school. Drop in to see us when you can, Jim—it would be a pleasure. Address: 866 Sheridan, Memphis,

TN 38107.

ELAINE MARGARET YONKER (BS '92), 1958 Winrock Blvd. Apt. 415, Houston, TX 77057-3326, writes that she and DANIEL HAUSCHEL ('90 BS Mech. Eng) were to be married June 19, 1993 in Bowling Green, MO. Both are employed in Houston, where she is Staff Consultant with Anderson Consulting. Congratulations and best wishes from all of us here at UMR.

Still doing graduate study at the University of Illinois Urbana-Champaign is BRADFORD J. KLINE (BS '88), 911 Crestwood Drive, Urbana, IL 61801-5201. He is working with Professor JULIAN PALMORE in discrete dynamical systems. He also teaches in his third year with the Merit Workshop Program.

JOHN L. WILLIAMS (MS '77) 8613 LaSalle Del Contro NE, Albuquerque, NM 87111-4519, became Manager, Satellite Ground Data Processing Department 9207, Sandia National Labs in April, 1992. He and MELINA became grandparents for the first time in November, '92.

WILLIAM A. HILLEBRANDT (BS '72), 1491 Corte Breve, Thousand Oaks, CA 91360, is Director of Programs Development with Unisys in Camarillo, CA. His wife PAM has a Resume Company in Thousand Oaks. Son MARK is 16 and into road cycling. Daughter DANIELLE is 12 and rides horses.

Finishing a term as Vice President of the Operations Research Society of America, KC Branch, is CATHY JANEEN CORLEY (MS '87), 660 Evergreen Street, Leavenworth, KS 66048-4402. She was selected to present a paper at the Military Operations Research Symposium on Ohio Last June. Her position is Operations Research Analyst, U.S. Army, Fort Leavenworth. Aside from her mathematical applications, she planned to enter the "Miss Fort Leavenworth" (over 30 division) pageant in the past spring. Hope you won, Cathy!

WILLIAM L. VAN ALSTINE (MS '66), writes "Teaching math gets more exciting every year! After more than thirty years I am more excited than ever!!" He expresses pride in the education he received at UMR, and hopes we're "maintaining an attitude of excellence". You can bet we are, Bill. Bill is with Aiken

Technical College, Aiken, SC and gives us a new address: 2314 Norton Drive, Augusta, GA 30906-3046.

ROBERT P. SEXTON (BS '77), 8164 Shore Drive, Newburgh, IN 47630-3106 is Manager — Coal Supply with Alcoa's Warrick Operations, a position he has held over two years. He has two sons, CHRISTOPHER (6) and COLIN (3).

Teaching (P/T) at Maple Woods Community College is MARY L. TRNKA (BS '75) of 513 NE 113 Street, Kansas City, MO 64155. She writes of much enjoyment teaching "Introduction to Data Processing Concepts". In May '92 she and CHUCK adopted a five-month old boy — IOSHUA NATHAN TRNKA, born 12-23-91.

Congratulations are in order for Professor HAROLD W. HAGER (PhD '70), Chairman of the Mathematics Department at Southeast Missouri State University in Cape Girardeau, MO. He received a Certificate for Meritorious Service to the mathematical Association of America from that organization at its annual meeting in San Antonio, January 15, 1993. This honor was presented to only six people nation-wide.

JOHN ANTHONY ARMOND (MS '87) is Mathematics Instructor at Illinois Central College. He writes "We recently moved into a new house located in the historic district of Galesburg, IL". His address: 1177 N. Cherry Street, Galesburg, IL 61401-2739.

Engineer, U.S. Navy - Nuclear Propulsion Program, is KEVIN THOMAS DAVIS (BS '86). His new address is 420 Paxford Lane, Bremerton, WA 98310. We appreciate your message for Professor GARVER, Kevin, and are happy to inform you that he is back teaching part time.

A nice note from JULIE LYNN SANDERS (BS '89) states that she is discontinuing employment as programmer/analyst at Burlington Environmental to start the full-time MBA course at Washington University. We wish you every success in your new endeavor, Julie. Do keep us informed of your progress. Julie lives at 7355 Lindell, Apt. 306, St. Louis, MO 63130.

JOHN E. KRUEGER (BS '69) is Technology Leader with Mobil Oil Corporation

at Dallas, TX. John writes that his move to Dallas, the third one in three years, was in 1992. A daughter and son are studying at Graceland College, where she is on the Dean's List as a Senior and he has a 4-point as a Freshman. John's address is 4460 Wordworth Drive, Plano, TX 75093-3205.

JOSEPH A. CRIDER (BS '80, S CS '80). 1935 Meadowbrook Drive, Apt. 804, Huntsville, Al 35803, is Computer Scientist with Boeing computer Support Services in Huntsville. His duties include providing software support to the Propulsion Lab at Marshall Space Flight Center in Huntsville.

WANDA GARNER (MS 1975), Division Chairperson for Mathematics, Science and Engineering at Cabrillo College in Aptos, CA, has been elected President-Elect of the American Mathematical Association of Two-Year Colleges. This national organization has over 3,000 members and is exclusively devoted to improving mathematics education in the first two years of college. Congratulations Wanda! Wanda's address is 3043 Arlington Drive, Aptos, CA 95003.

FACULTY NOTES

An invited paper is to appear in the IEEE Transactions on Fuzzy Systems titled "The Efficacy of Fuzzy Representations of Uncertainty" by Professor M I C H A E L LAVIOLETTE and Professor JOHN W. SEAMAN JR. (Baylor University). It discusses methods of fuzzy logic which have received much attention lately. We "take a skeptical view" the UMR researcher states. "The paper proposes methods for comparisons between fuzzy methods and those based on probability".

Professor TROY HICKS has had four papers published in 1992 and three additional ones accepted for publication. He also was dissertation advisor to LINDA SALIGA, who finished her doctorate in August 1993, and is now Assistant Professor at the University of Akron. She is his tenth PhD student. Professor Hicks gave an invited talk at the summer Topology Conference in June, 1993, held at Slippery Rock State University.

At the annual meeting of the American

Mathematical Society in January, Chairman TOM INGRAM gave a paper at a special session on continuum theory and dynamical systems. The meeting was held in San Antonio.

From Professor MATT INSALL comes word that he, together with Professors WILKERSON and MULLIN of UMR Computer Science, is organizing a seminar to discuss "computation problems in algebra, including classical abstract algebra and modern universal algebra". The organizational meeting was held September 16.

Professor MATT INSALL also gave a talk at University of Illinois-Urbana titled "*Not Necessarily Distributive Lattices and Nonstandard Methods - Some Simple Results and Observations*" on October 12, 1993.

On a research leave for this school year, to the University of Washington, is Professor SARAH HOLTE. She is studying biostatistics there. Sarah also presented a paper at the San Antonio meeting.

Promoted to Associate Professor with tenure this year is STEVE CLARK. Associate Professor DAVID GROW was awarded tenure.

Professor Emeritus DICKRAN H. ERKILETIAN, JR. received the 1993 American Society for Engineering Education's Outstanding Service Award at its annual conference at the University of Illinois Urbana-Champaign. The certificate was "for many years of excellent contributions ... to ASEE" and was one of about 10 awarded nation-wide presented at the Mathematics Division's Annual Business Luncheon in June. Professor SELDEN Y. TRIMBLE was also in attendance.

Professor V. A. SAMARANAYAKE has been quite busy since the last newsletter. He is co-author with Professor LINDA MANNING of the Economics Department of a paper "Fertility Rates in Missouri", which was presented by her at the Atlantic International Economics Association, Philadelphia, in October. He is also working with Professor MARTIN S. LEVY, of the University of Cincinnati, on developing new methods of imputing data for nonresponses in surveys. Professor Levy visited our department during October, and while here he gave two lectures.

A paper entitled "Semigroups Affiliated with Algebras of Operators" was presented by Professor TIM RANDOLPH at the Southeast Analysis Meeting in Memphis in March, 1993. A joint work with Professor P. PATTERSON of Saint Louis University, the paper will appear in *Studia Mathematica*.

COMMENTS FROM THE CHAIR

We have embarked on an experiment using graphing calculators in certain courses in the department. Last year we had a team of consultants visit the department to review our calculus program in light of the national movement to reform calculus. They recommended that we require a graphing calculator in our pre-calculus and calculus courses. After much debate, the department voted to adopt the HP48G family of graphing calculators and require their use in pre-calculus and first and second calculus courses. We are now teaching with these powerful machines. Our courses have changed, I hope for the better. I suppose only time will tell how effective this new tool is for our teaching, but this is an exciting time around the department.

Another change on campus which you might find interesting is our new telephone preregistration system. Now, instead of filling out a schedule and submitting it for the computer to turn upside-down, our students register using a touch-tone telephone. They are directly connected to the computer and are given each course they request when they request it provided there is space in the class. This should reduce the frustrations in registration.

In January, we will once again be conducting our annual phone-a-thon. This year, on what appears to be a one-time basis, you have a chance to "double your money" through the Chancellor's Challenge Fund. From an estate gift, the Chancellor has designated \$350,000 to match a donor's increased gift or new gift over last year. The catch, of course, is the match is only for an increase in giving or new giving. I hope many of you will consider taking Chancellor Park up on this challenge. Certainly, this is an opportunity to assist the department. We still

use development fund money that you give to the department to support activities of the department which are under-funded by the state or which are not funded at all by the state. Once again, we were able to transfer \$2,000 to the Alumni Endowed Scholarship Fund. The total of the endowment is now slightly over \$14,000. Your contributions to the development fund, including the endowment scholarship, provided scholarship assistance to seven undergraduate mathematics majors this year. Moreover, the development fund allowed us to send one untenured assistant professor in the department to a conference in Europe which, I believe, has greatly assisted his chances of earning tenure and promotion.

Once again, special thanks go to Dick Erkiletian for his continued efforts as "editor-in-chief" for the newsletter as well as the department's secretarial staff, Martha Grisham and Tina Martin. Without the efforts of these three this newsletter would never have reached you.

As this newsletter was going to press we received word that Professor Emeritus Charles Hatfield died on the evening of November 17, 1993. Professor Hatfield came to UMR in 1964 and served as department chairman for a couple of years (see the earlier paragraphs in this newsletter). He retired in 1983. For the past several months he has been confined to long term care in Phelps County Hospital.

Pictured side-by-side on the first page of the newsletter are the slide rule and a calculator. We thought this juxtaposition to be an appropriate reflection of the changes in the department. The HP 48GX picture is used courtesy of Hewlett-Packard. One of our work-study students, Heath Throneberry, drew the picture of the slide rule using a slide rule belonging to Dr. Leon Hall as a model.