URL: math.mst.edu

email: mathstat@mst.edu

#### Chair's Comments



In the last few years the Mathematics and Statistics Department has lost three emeritus faculty members who played major roles

in building up the department in the 1960s and 1970s. Caslav Stanojevic passed away in November 2008 (see the 2009 Newsletter); Louis Grimm passed away in December 2010; and Anthony Penico passed away in November 2011. All three were hired in the 1960s when the department began to offer graduate programs and began to expect research from the faculty.

For the first 90-95 years that MSM existed, mathematics was strictly a service enterprise, necessary for the mining, metallurgy, and engineering programs, but (with only three or four exceptions) not a degree-granting part of the campus. When Merl Baker became Director of MSM in 1963, he was charged by University of Missouri President Elmer Ellis to strengthen the faculty, mainly by increasing the percentage of faculty with doctorates, expand the graduate program, and emphasize research. When Baker began only 44% of the full-time faculty at MSM held doctorates; when he left in 1973 that figure had risen to 80.5%.

A related development during Merl Baker's second year in Rolla was the name change from MSM to UMR in 1964. This marked the beginning of the campus offering a full range of majors, plus the expansion of and creation of graduate programs, consistent with the name "university" and Baker's mandate mentioned above. The majority of the students were still engineering students, but other degrees were now available, including mathematics, which then included the new field of computer science.

### SPRING PHONATHON

April 10, 11, 12 & 15

Your chance to update your contact info, share your thoughts and news and contribute to the Mathematics and Statistics department.

In mathematics, the hiring of Tony Penico in 1966, Caslav Stanojevic in 1968, and Louis Grimm in 1969, among others, all with doctorates and established research programs, and all ready to advise graduate students, was emblematic of the change in emphasis and expectations in the department. Beginning in 1967, every tenure-track faculty member hired in the Mathematics and Statistics Department has held a Ph.D., and research evidenced by publications has been required to achieve tenure and promotions. Changes of this magnitude in any organization can be very stressful, and it probably helped that similar changes were taking place all across campus, not just in mathematics. Professors Stanojevic, Penico, and Grimm understood what was expected of them. By 1981, each of them had produced three Ph.D. students, and they were successfully continuing their own research programs. They weren't alone. Others in the department who produced multiple Ph.D. students by 1981 were Troy Hicks, Lee Bain, Glen Haddock, Charles Antle, Billy Gillett, and A.K. Rigler.

Departmental leadership in the 1960s was unsettled for a while, but then stabilized. In 1963 Rolfe Rankin retired after 21 years as department chair. Dick Erkiletian served as interim chair for 1963-64, and in 1964 Charles Hatfield was named chair, coming to Rolla from the University of Minnesota. Hatfield was the first mathematics department chair to hold a

#### continued from page 1

Ph.D. He remained chair for two years and was followed by Charles Antle in 1966 and then Joe Foote in 1967. Finally, in 1968, Glen Haddock was made department chair, and the revolving door in the chair's office got a rest. Haddock was chair until 1981, a term of 13 years, and he deserves much of the credit for guiding the department through the transition from being strictly a service and teaching department to our present status as a full-fledged mathematics and statistics department offering degrees from the bachelor's to the doctorate. In 1981 Lou Grimm became chair and served six years.

Then Glen Haddock returned as interim chair for two years, and in 1989 Tom Ingram came from the University of Houston to be department chair for nine years. This brings us to 1998, when Ingram stepped down as chair and I assumed the role. It is a good group and I feel honored to be part of it.

I have many fond memories, both from being a student in Tony Penico's and Caslav Stanojevic's classes, and later from having them as colleagues in the department. My memories of Lou Grimm are even more special because he was my M.S. and Ph.D. advisor, then my department chair, then a

departmental colleague, and finally I was his department chair. Mainly, he was a good friend.

Professionally, I have tried to hold up my end of the work that Professors Penico, Stanojevic, Grimm, and many others were in on the beginning of — making and developing the MSM/UMR/S&T Mathematics and Statistics Department a first-class degree-granting academic unit. The proof of how well that has been done is you, our graduates, and your accomplishments. Most of the credit for that is rightly yours, but it is nice to think the department helped you get off to a good start.

## In Memoriam Prof. Anthony J. Penico

Tony Penico was born June 11, 1923, in Philadelphia, the son of Italian and Irish immigrants. He earned a B.A. in Physics in 1946 and a Ph.D. in Mathematics in 1950 from the University of Pennsylvania. During this time he married Eva Yarmenko in 1948. Tony and Eva had two sons, David and Steve. David preceded him in death, while Steve now lives in St. Louis. Following his doctorate he taught at Tufts College in the Boston area and then in the mid-1950s moved to Northern California where he held research positions with Sylvania Corporation and the Stanford Research Institute. In 1966 Tony accepted a position as Professor of Mathematics at UMR. He played an important role in the transition of the department that was begun in the mid-1960s. His three Ph.D. students, Jim Jamison, Harman Brown and Jack Hamm (see more about Jack elsewhere in this newsletter), were among the first to earn their doctorates in mathematics at UMR. Tony retired in 1986. He was an accomplished athlete and in college specialized in throwing the hammer. Even after his

retirement he enjoyed playing tennis. I remember playing tennis with him in the late 1980s – my 23-year age advantage was not enough to overcome his superior skill level! In addition to several trips to Europe, he and Eva enjoyed following Cardinals Baseball. Tony's love of and enthusiasm for mathematics was evident and infectious, and is something many of his colleagues and students especially remember about him. Tony Penico passed away on November 19, 2011.

# In Memoriam Prof. Gaoxiong Gan

**Prof. Gaoxiong Gan**, who passed away in December of 2009, left Missouri S&T and the Mathematics

and Statistics Department a generous bequest in his will. Prof. Gan also left instructions that there should be no obituary, so we will say no more here. He is missed in the department.

### In Memoriam Prof. Louis J. Grimm

Louis J. Grimm was born in St. Louis on November 30, 1933, to the late Louis Grimm Sr. and Florence (Hammond) Grimm. He received a B.S. in Chemistry from Saint Louis University in 1954, an M.S. in Applied Mathematics from Georgia Institute of Technology in 1960, and the doctorate in Mathematics from the University of Minnesota in 1965, under the direction of W.A. Harris, Jr. While on active duty with the U.S. Army in 1956-58 he worked as a biochemist at the Walter Reed Army Institute of Research. During the summers of 1955 and 1958-61 he was a chemist for the U.S. Public Health Service, Technical Development Laboratories. His publication record includes articles in chemistry as well as in mathematics. Lou's first position after his Ph.D. was at the University of Utah, where he

served as Assistant Professor of Mathematics from 1965-69. The most fortunate result of his time at Utah was that he met Barbara Mitko, and they were married in May 1967. Barbara had been a student in one of Lou's classes. Lou and Barbara have two children: Tom Grimm of Nashville, Tennessee, and Mary Grimm Rowe of Madison, Wisconsin. In 1969 he came to UMR as an Associate Professor in mathematics, was promoted to Professor in 1974 and became Chair of the Mathematics and Statistics Department in 1981. He served as Chair for six years, returning to regular faculty duties in 1987. He retired in 2000, but continued to teach for several years. In 2001 the Missouri Section of the Mathematical Association of America honored him with its Distinguished College or University

Teaching Award. During Lou's tenure as Chair, the UMR Mathematics and Statistics Department was recognized by the American Mathematical Society for ranking fourth among the Ph.D. granting departments in the country in the percentage of women receiving a doctorate in mathematics during the 1980s. Both Lou's interests and his personal library were impressively large and eclectic. If you wanted to know about anything, mathematical or otherwise, it was always a good idea to ask Lou - not only did he probably know the answer, but also he usually provided an interesting and unexpected sidelight on the question, plus a book or two you could read to learn more. During the last few months of his life, when Lou knew he didn't have a lot of time left, one of his projects was to think back over his life and

identify people who had positively inspired or impressed him in some way. Then he began writing to these people to tell them how much he had appreciated and been enriched by his association with them. What could be better to do in one's final days? Lou Grimm passed away on December 14, 2010, at the age of 77.



### Activities and Special Recognition

**Outstanding Teaching Awards.** 

The department has again been well-represented among the winners of the campus Outstanding teaching Awards. We go back three years because the newsletter has been on vacation since spring 2009. For 2008-09 winners were Tom Akers and Vy Le. In 2009-10 the recipients were Tom Akers, Elvan Akin-Bohner, Vy Le, and V.A.Samaranayake. For 2010-11 the awardees were Akim Adekpediou, Vy Le, and V.A. Samaranayake. Congratulations to them all for consistent excellence in the classroom.

**Mathematics and Statistics GTA** Teaching Excellence Awards. These awards were started in 2007 to recognize good teaching by our GTAs, and include a cash award made possible through an endowed fund established by Tom and Kaye Akers. For 2008-09 the winners were **Thomas Matthews** for the lecture award and Maduka Rupasinghe for the recitation award. In 2009-10 Julius Heim got the lecture Award and Logan Roddy received the recitation award. We saw our first multiple winner in 2010-11 when Thomas Matthews again got the lecture award (the rules state that nobody can get the award two years in a row) and Renren Zhao received the recitation award.

Other GTAs who did a very good job teaching but who did not quite qualify for an award were recognized with honorable mention. Since 2009-10 these have been Mathias Goeggel, Donald Myers, Malaka Thilakaratne (twice), Ben Williams, Chris Bellavia, Kevin Day, and Matthias Noller. Every year, the names of the award winners are engraved on a plaque that hangs in the department library.

Dr. Martin Bohner and Dr. Elvan Akin-Bohner spent the 2010-11 academic year on sabbatical. They spent half their time in Germany and half in Turkey. We are glad to have them back for 2011-12.

**Dr. Martin Bohner** was the recipient of the campus **Faculty Research Award** for 2010-11. This is a campus-wide competitive award and only a few are chosen.

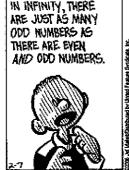
**Dr. Steve Clark** was named **Special Assistant to the Provost** beginning in the Spring 2010 semester. He remains half-time as a member of the Mathematics and Statistics Department and the other half with the Provost's Office.

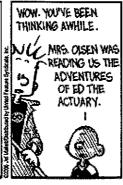
**Dr. Elvan Akin-Bohner** was promoted to **Associate Professor with tenure** starting in Fall 2009.

**Dr. Robert Paige** was awarded **tenure** starting in Fall 2011.

The University of Missouri System has created professorial titles for non tenure-track full-time faculty, and in addition to Tom Akers and Mary Ellen Kirgan receiving the Associate Teaching Professor title, Dee Leach has been re-titled as Associate Teaching Professor and Kim Kinder has been re-titled as Assistant Teaching Professor.

Dr. V.A. Samaranayake recently received a grant of \$217,581.32 from the Missouri Department of Higher Education for conducting a professional development program for K-12 teacher under its Improving teacher Quality Grant Program. This funding is for the second year of a three year integrated Math-Science professional development program Dr. Samaranayake is directing with Co-Directors Dr. Allan Pringle (Physics), Dr. Dave Westenberg (Biological Sciences); Dr. Jana Neiss (S&T Teacher Education Program) and Dr. Ron Bieniek (Physics). Dr. Evalee Lasater, former Director of the Teacher education program is also assisting them as a co-Director even though she has retired from the University. As some of you may be aware, Dr. Samaranayake has been conducting similar programs for K-12 teachers every year since 1996.









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#### Alumni Activities and News

As you can see from the following list, our alumni are doing a wide variety of things and distinguishing themselves in many ways.

Lindsey Rich (B.S. 2008) was named second runner-up in the 2009 Miss Missouri pageant. Lindsey is second



from the right. We are not guite sure how her mathematics degree was involved - maybe general poise under pressure!

Stan Lindesmith (B.S. 1990) is now a software engineer in the Conservation Solutions division of Sensus USA, making enterprise software to help people save energy with their utility companies.

Rhonda McKee (Ph.D. 1989) was the recipient of the 2011 Byler Award, the University of Central Missouri's highest faculty honor. Rhonda was cited for her dedication to helping young women pursue mathematics careers and for her success in creating "a learning atmosphere that is challenging, yet safe and supportive."

Henry Pat Duvall (B.S. 1962) is staying mathematically active in his retirement by tutoring mathematics for students at South Seattle Community College and by serving as a mentor at a local Aviation High School. Pat and Kay's youngest daughter, Kristen, was married in August , 2010.

Mike Hunter (B.S. 1999) got a laugh out of the thank-you note he received in 2009 from the Annual Giving and Miner Phonathon Office in response to his pledge. Mike stated his pledge as 100 times the square root of 2 (is this right, Mike, or was it a more complicated formula?), which the Phonathon folks translated as \$141.41999999999999. We are not sure where the decimal part came from, but appreciate Mike rounding up to \$141.42. Maybe this idea can

catch on - you can make your pledge as a multiple of your favorite mathematical constant. If the Phonathon Office needs help interpreting responses, the department will be glad to provide it.

Jack Hamm (M.S. 1968, Ph.D. 1972) has received

some well-deserved recognition at Arkansas Tech, where he recently retired after a long career as mathematics professor, department chair, dean, and vice president for academic affairs, beginning in 1972.

In 2008, Jack was named Distinguished Professor of Mathematics at Arkansas Tech, the first person ever to receive this honor there.

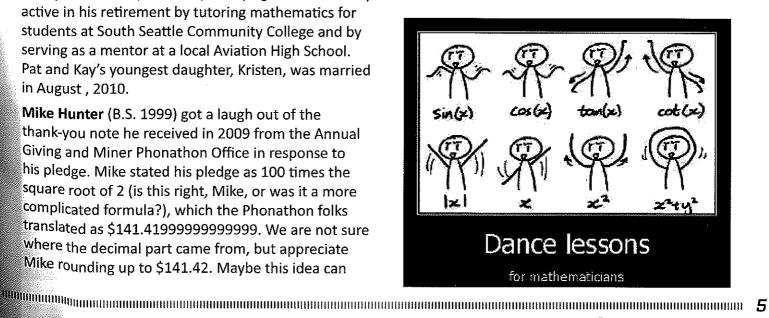


In 2011 he was inducted into the Arkansas Tech Hall of Distinction.

Chris Johnson (B.S. 2008) now works for Garmin in the Kansas City area. Chris came to campus to recruit for Garmin this spring and gave a very nice colloquium talk in the department about the mathematics of GPS units.

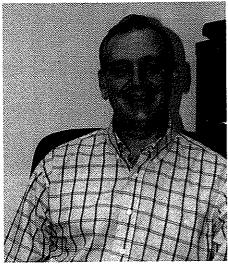
We were sad to learn that Charles (Chuck) Pfeifer (M.S. 1973) passed away in 2008 after a long illness. He is survived by his wife Sherry, their son Christopher, their daughter Kimberly, and one grandson.

Ben Marlin (Ph.D. 2000) is on the faculty at Guilford College where he is going up for tenure this year. On the home front, the Marlins have two recent additions to their family - a daughter Brianna born July 22, 2010, and a son Arthur born March 31, 2012.



#### Retirements

The Mathematics and Statistics Department "lost" two outstanding faculty members recently due to retirement. In 2010, **Tom Akers** retired, followed by **Mary Ellen Kirgan**'s retirement a year later in 2011. Both Mary Ellen and Tom received the title Associate Teaching Professor Emerita/us following their retirements.

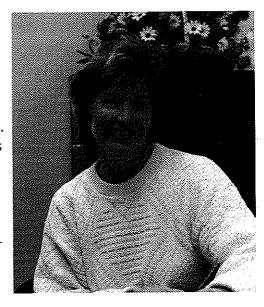


Tom Akers joined the department in 1999 when he retired from the U.S. Air Force. During Tom's last couple of years with the Air Force he was commander of the AFROTC unit at UMR. After joining us, Tom was an immediate and continued

success. Students tried to get into his classes, and he won teaching awards every year he was here. He also advised the math majors who wanted to become secondary school teachers. Tom was the organizer of our GTA Teaching Seminar, which all new GTAs must take during their first fall semester here. He did delay his retirement a little in the fall of 2010 to teach the seminar one last time. Starting in 2011, Dr. Hall and Dr. Samaranayake have been in charge of the seminar, and they have gained a lot of appreciation for what Tom did. The financial part of our department's GTA Teaching Excellence Awards (details elsewhere in this newsletter) was made possible by the generosity of Tom and Kaye Akers. In the spring of 2010, the Air Force ROTC cadets on campus formally recognized Tom's achievements as an astronaut and an Air Force officer and created a display case of his awards and plaques, including a US flag taken on one of his space flights. Tom Akers accomplished many amazing things but never called attention to himself in the process. This unassuming nature was one of the reasons he was such a hit with the students. UMR/S&T students are pretty sharp - they can recognize genuine character when they see it.

Mary Ellen Kirgan joined the department as a fulltime faculty member in 1995. She had previously been a graduate student here, getting her MST degree in 1993. From the beginning, Mary Ellen's job included being the Math Placement Advisor for the campus, and she ably carried on the work in that area that was begun by Prof. August Garver back in the 1970s. In this capacity, she has been responsible for maintaining and increasing much of the good will and understanding that exists between our department and the rest of the campus. Success in mathematics is critical for nearly every Missouri S&T student, and an important part of that success is getting started in the right mathematics course. As course coordinator for the College Algebra, Trigonometry, and Calculus 1 courses, Mary Ellen also has been a valuable mentor

for our GTAs, most of whom teach or assist in those courses at some point during their time here. She was always good about alerting the Chair if there was any possibility of a student problem in any course she coordi-



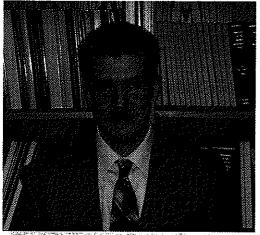
nated coming to that level; and she was even better at resolving nearly all of those potential problems so that they were settled without the Chair becoming involved.

We wish Tom and Mary Ellen the best in their retirement and will miss them both.

### New Faculty

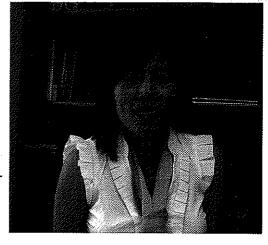
Dr. Gayla Olbricht is a new addition to the statistics faculty this year. Dr. Olbricht is a native Missourian, as she grew up in the small town of Thayer and received a B.S. in Mathematics from Missouri State University. She then completed a Ph.D. in Statistics at Purdue University in 2010, followed by a one-year post-doctoral position involving research, consulting, and teaching. Dr. Olbricht's current research is focused on developing statistical methods for genomic and epigenomic applications. She looks forward to working with students and collaborating with others here at Missouri S & T.





Paul Runnion joined the Department of Mathematics and Statistics at Missouri S&T as an Assistant Teaching Professor in August 2011. After completing both his BS (2005) and MS (2007) in Applied Mathematics at Missouri S&T, Paul spent four years as an instructor at Adirondack Community College (part of the State University of New York system) in Queensbury NY. Paul is delighted to have returned to his alma mater, and looks forward to serving the department and the university for many years.

Yanzhi Zhang is an assistant professor of computational and applied mathematics at the Missouri University of Science and Technology. She received her Ph.D. in Mathematics from the National University of Singapore. Before moving to MS&T, Yanzhi has worked at the National University of Singapore and the Florida State University. Her research interests include the development, analysis and implementation of novel and improved computational algorithms for solving multi-scale problems in material sciences. In particular, she is working on the problems arising in Bose-Einstein condensation and superconductors.





Dr. Xiaoming He received his Ph.D. degree in mathematics from Virginia Tech, Blacksburg, Virginia, in 2009. From May 2009 to August 2010, he was a postdoctoral research associate in the department of scientific computing at Florida State University. His research interests include finite elements, interface problems, computational fluid dynamics, computational electromagnetic, stochastic partial differential equations, nonlinear partial differential equations, feedback control, and integral equations.

After finishing my undergraduate career with two degrees in mathematics and computer science at Drake University in Des Moines, Iowa, I moved to Texas to pursue graduate work at The University of Texas at Austin. A good many years later, I arrived in Rolla and joined the Mathematics & Statistics Department in Fall 1997, teaching calculus and other courses part-time and giving a few seminars in commutative ring theory. Several semesters passed, and I began to pursue my interests in undergraduate advising as well as mathematics. I started up the Business Calculus course as I advised and taught in what was at that time the School of Management & Information Systems. Eventually, this became the Business & Information Technology Department, for which I continued to advise undergraduates and teach, along with teaching the Business Calculus course in our department. But I was inevitably drawn back to my first love, full-time mathematics teaching. I rejoined the department as Math Placement Advisor and Associate Teaching Professor in Fall 2010. I coordinate all of the algebra and trigonometry courses in our department, and I'm also involved with many university



activities. My recent activities include travelling with the university's chapter of Engineers Without Borders to Bolivia, chairing and then participating in the university's Committee on Teaching Evaluation, and serving as a national On Course student success ambassador.

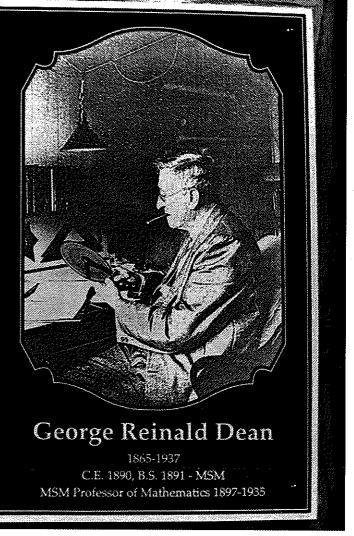
Stephanie L. Fitch



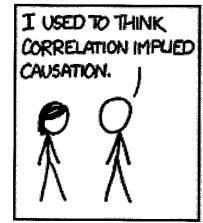
Prof. Dean influenced many of the successful engineers and scientists who studied here during his tenure, including Mervin J. Kelly, who assembled the research group at Bell Laboratories that received the 1950 Nobel Prize for the invention of the transistor, and Aaron J. Miles, the first UMR Engineering Dean, who did his master's work in mathematics under Dean's direction in 1931.

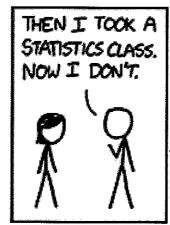
Despite a heavy teaching load, George Dean was active in applied mathematics research. He contributed articles, problem proposals, and solutions in mathematics journals such as The Annals in Mathematics and The American Mathematical Monthly, and published research in technical journals such as General Electric Review, Physical Review, and The Electrician (London). Dean spent three summers working with C.P. Steinmetz's research groups at General Electric. Stories were told on him standing in the lobby of the Rolla Post Office adding last-minute ideas to his letters to Steinmetz.

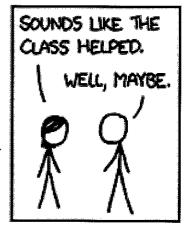
Prof. Dean was a dedicated and effective teacher, who wanted his students to become successful engineers. He did not try to make mathematicians out of them, as was occasionally alleged. He taught the uses of mathematics as a tool in engineering, and he made sure his students were familiar with good old-fashioned hard work.



In the fall of 2010, Professor Emeritus Lou Grimm provided the money for this plaque recognizing the accomplishments of George R. Dean, Professor of Mathematics at MSM from 1897 until his retirement in 1935. Dean was one of the giants of the campus in those days, and Prof. Grimm wanted him not to be forgotten. Prof. Grimm was an active participant in the design of the plaque, in the writing of the description of Dean's career, and in deciding where to put it. Sadly, he died while the plaque was being made, and so never saw the finished product. The plaque now hangs in the department library right next to the door.







### Contributions

Acxiom Corp. AT&T **BASF Corporation Boeing Foundation** Capital One Services Inc. DST Systems inc. Math Solutions LLC **Novartis Corporation** Phi Kappa Theta Fraternity State Farm Companies Foundation

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#### GiFts

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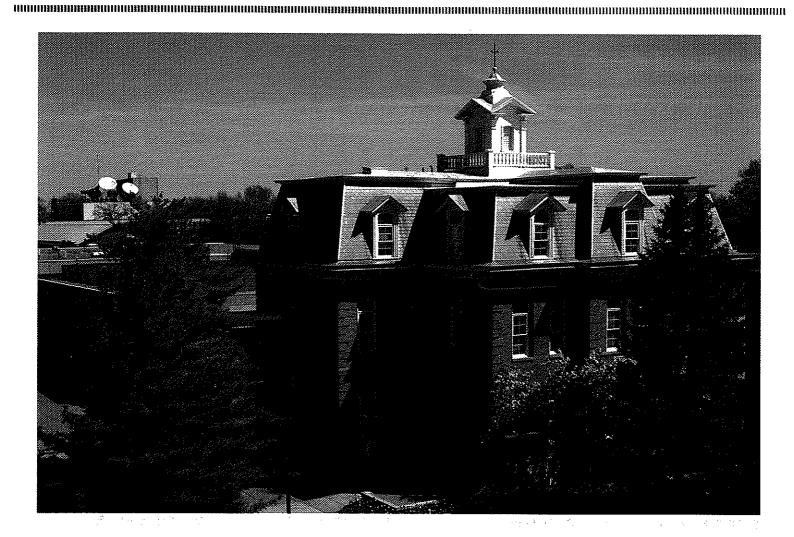
Lyle E. Pursell

Paul Whitney Reiman

Nancy Lillian Reiter

**Donald Keith Rice** Donna B. Riggs James E. Riggs Raymond Riggs Robert P. Roe **Emily Ann Rueck** Florian Sebastian Rueck Dr. Linda Marie Saliga Dr. Stephen V. Saliga William M. Sallas Lars Kristofer Seme Bobby J. Sherrick Paul O. Sicking Joseph W. Stahl John Joseph Stansfield Dr. Julie Deles Stansfield Eric M. Stein Judy C. Stein **Brenda Kay Stokes** Michael Duane Stokes **Brian Shannon Swift** Theresa Mae Swift Harold W. Tarr Archie R. Taylor Nancy Edmonds Taylor Dr. Dolores M. Tichenor Joyce Trimble Selden Y. Trimble Mary L. Trnka **Brande Tucker** David Jonathan Tucker George Andrew Van Brunt Kendall H. Walden Sr. Dr. Robert C. Weber Jacquelyne L. Webster Dr. William D. Webster, Jr. Curtis L. Wells Kathryn L. White Melinda Sue White Terri J. White William Benjamin White John L. Williams Dottye V. Wolf James Woodard Dr. Joan B. Woodard Dr. John J. Zenor

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