

MATH BRADLEY UNIVERSITY Alumni Newsletter

Department facing 'significant changes'

Note from the department chair, Mike McAsey

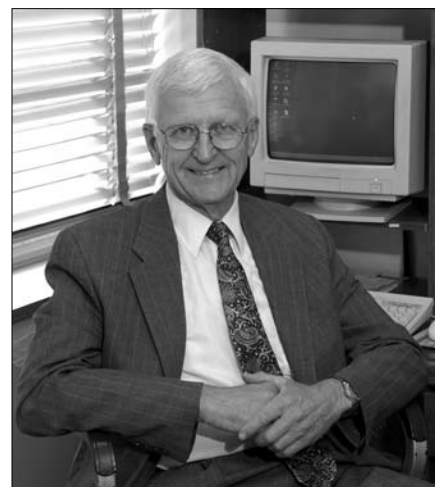
Greetings from the Mathematics Department!

Some significant changes are in store. Professor Jerry Hahn and Professor John Haverhals, longtime faculty members, are retiring at the end of spring semester 2008.

Professor Hahn joined the Bradley faculty in 1969 in an era when all universities were experiencing growth. His background made him especially suitable for teaching some of our more applied courses, including courses on differential equations; numerical analysis; and one on topics in applied mathematics taken often by physicists and engineers. He was instrumental in overseeing many changes in personnel and practice in our department when he was chair for a dozen years including the 1980s. Professor Hahn also was able to guide the department through the times during which the university was undergoing some significant changes in expectations of faculty.

In the 1990s until the present time, much of Professor Hahn's attention shifted to a broader arena as he became associate dean of our College of Liberal Arts and Sciences. Among his many responsibilities in this position are serving on key committees on regulations and chairing the General Education Committee. He also is responsible for many student issues on requirements, grading, and, of course, transfers. Professor Hahn does all this while continuing to teach courses in the department. His insights, talents, and institutional memory will be sorely missed when he retires.

Professor Haverhals joined the Bradley faculty in 1963, making him the second most senior faculty member in the department today. Professor Haverhals has taught widely around the curriculum over his tenure, but two activities merit special recognition. First is his key role in our actuarial science program. It was largely due to Professor Haverhals' efforts that the program exists



Longtime faculty members Professors Jerry Hahn (left) and John Haverhals (right) will retire at the end of spring semester 2008.

today. Not only was he instrumental in beginning this program in 2000, but he teaches several courses in it (such as Theory of Interest and Life Contingencies); maintains contact with the Society of Actuaries to track changes in the profession that affect our students; advises students in the program to keep them on track for taking exams and finding internships; and stays abreast of the progress of many graduates in the profession. It is a time-consuming job, and Professor Haverhals does it with his characteristic professionalism and attention to detail.

Another activity of special note is that Professor Haverhals is the prime mover behind this newsletter. His initiative is generally responsible for its production and even its very existence. He has been editor of the newsletter since its inception in 1993, searching out interesting stories about alumni, the most recent graduates, faculty, and the department in general. I am always amazed at his resourcefulness in finding these stories, and I know his good work will be missed next year.

This year has also been a year of honors for two faculty. Professor Herb Kasube was awarded the Meritorious Service Award from the Mathematical Association of America, one of the national professional societies.

This is in recognition and appreciation of Professor Kasube's work over many years for the Illinois Section of the MAA and for his work on several committees of the national MAA as well. His work continues even now. After serving as chair of the section a couple of times, Professor Kasube has recently been elected governor of the section.

The final item of note this year is that Professor Jerry Jungck has been awarded a Caterpillar Professorship. This is an honor at the highest level given by the university for distinguished work in research. Professor Jungck has been at the university since 1959 and is the senior professor in our department. His research accomplishments are all the more noteworthy as he began his career in research at the university before he earned his Ph.D. His work in fixed-point theory was already well under way by the time he received his degree in the late 1970s. He has published widely and is known for defining several types of mappings he and others have studied intensively. Professor Jungck has done this research while continuing to teach a full complement of courses and receiving consistent accolades from his students. The department is very proud that the university recognizes what we have all known for many years. ✍

Former chair serves as 'role model' for many students, faculty

A few weeks after celebrating his 98th birthday on December 8, 2006, former Math Department head Dr. Marvin Moore died at his home in Springdale, Arkansas. According to his daughter, Nancy Hamilton, of Kalamazoo, Michigan, Dr. Moore died on January 12, 2007, after his health rapidly declined following a fall resulting in a broken femur in October 2006. Due to a heart condition, he never recovered from the fall.

Beginning his tenure at Bradley University in 1943, Dr. Moore served as Mathematics Department head from 1958 until his retirement in 1970.

According to department colleagues, Dr. Moore was an inspiration to his many students and faculty who knew him. "He was a role model for all of us who attempt to stay active in the pursuit of mathematics."

When Dr. Moore started at Bradley, he taught all mathematics courses offered to students. Other math faculty taught members of the armed forces stationed on or near campus. After World War II ended and caused the swelling of university enrollment for many years, Dr. Moore usually taught three sections of calculus per semester.

In 1958, Dr. Moore became the department head when Arthur Gault resigned to become College of Liberal Arts dean. Gradual changes came to the department under Dr. Moore's leadership and with the addition of new faculty. A challenge faced Dr. Moore and the department in January 1963 when Bradley Hall was destroyed by fire, and new spaces for classes had to be found.

He received his undergraduate degree at the University of Arkansas in Fayetteville. Dr. Moore earned his Master of Arts and Doctor of Philosophy in mathematics degrees at the University of Illinois. His thesis, "Expansions in Series of Exponential Functions," involved Fourier series.

Prior to beginning his career with Bradley, Dr. Moore taught for a year at what is now Auburn University before completing his dissertation the next summer. After Auburn, Dr. Moore taught at Indiana University for three years. He spent another three years teaching calculus and more advanced mathematics at Tri State College in Angola, Indiana.

After retiring in 1970, Dr. Moore moved to his home state of Arkansas with his wife, Pauline. The couple settled in Springdale, Arkansas, which is near Fayetteville and the University of Arkansas.

Dr. Moore continued to stay current in his fields of interest. His book, *Insights into Relativity*, was published in 1988.

His love for mathematics never diminished, according to those who knew him. Even as recently as 2005, he considered



Dr. Marvin Moore, 1908-2007



writing an article for publication. It would begin with: "Did you know that a perfect clock would run faster in the attic than in the basement, and that this idea of the behavior of time could lead to the gravitational equations?" He made a point of reviewing or

learning something in mathematics every day.

In recent years, Dr. Moore was able to live in his Springdale home until his death thanks to the assistance of two caregivers.

Dr. Moore's wife, Pauline, died May 16, 1997. Born in Urbana, Illinois, in 1909, she married Dr. Moore in 1935. The couple had been married 62 years. In addition to their daughter, the couple's two grandchildren also survive.

Dr. Moore's family owned and managed the community telephone company in Harrison, Arkansas. His father, who lived to age 108, remained active in the management of the telephone company until several years before his death. ✍

Actuarial science major develops from need

While a student at Bradley, **Julie Shewmaker (Poyser) '97** became interested in actuarial science. Armed with the Society of Actuaries' (SOA) suggested curriculum, she tailored her coursework around classes in the Department of Mathematics, College of Business, and Department of Industrial and Manufacturing Engineering and Technology. Pursuing a degree in the individualized major program allowed her to develop her interest in actuarial science. Since graduating, she has been an actuary at Towers Perrin in St. Louis.

Noticing the need for an actuarial science program in the Department of Mathematics, the Curriculum Committee began the process of offering the actuarial science mathematics major. At the same time, the department learned that Lisa Gardner in the Department of Risk Management and Insurance was drafting a proposal for an actuarial science major to be offered in the College of Business. As a result, requirements for the two proposals were coordinated to be as identical as possible and submitted together. The Math Department added three courses needed for the proposed major: Theory of Interest, Life Contingencies, and Applied Statistics. Both proposals were approved in spring 1999.

Kevin Kerr '00, a math major at the time, also took courses for an ASM major. He became the department's first ASM major graduate when he completed his degree. He became an actuary at Nationwide Insurance in Columbus, Ohio.

The Society of Actuaries recognized Bradley's ASM program to be an advanced undergraduate program in actuarial science. There were only 80 programs given this designation in North America at the time. Since then, the SOA has increased the require-

ments to keep this designation. Bradley's program has made the changes as needed.

The SOA allows VEE credit in three areas of study. With a grade of B or better, a credit can be given for Applied Statistics, another for Advanced Finance, and the third for macroeconomics/ microeconomics. In addition, ASM majors cover the material needed in Exam P (calculus-based statistics) and Exam FM (financial mathematics). Other required courses provide the foundation to learn the material needed in Exam M (actuarial models) and Exam C (construction and evaluation of actuarial models).

In 2003, three students graduated as ASM majors. The program has grown to about 25 majors. An equal number are actuarial science business (ASB) majors. Between the two programs, about 12 students are graduating each year. Graduates have found excellent jobs as actuaries at a number of firms, including State Farm, RLI, Mercer, Pekin Insurance, Hewitt Associates, Blue Cross/Blue Shield, and Zurich.

The ASM program requires majors complete five statistics-based courses. Many also take Statistical Modeling as a math elective. With this strong foundation of statistics, several actuarial science majors have been hired in recent years as statisticians at Caterpillar.

The actuarial science graduates learn how mathematics can be applied in the business world. A recent graduate has a position that deals with financial derivatives. Other graduates have been financial analysts and economists.

The typical actuarial science major is an organized person. They are focused on their studies, since they know they will need to understand subject matter well in order to pass the actuarial exams offered by the SOA and the Casualty Actuarial Society.

Actuarial science, continued on Page 4

Alumnus still using knowledge acquired at Bradley

Named recipient of the Marvin G. Moore Excellence in Mathematics Award in 1983, alumnus **Michael Hansen '83** still finds himself using every day what he learned at Bradley University.

A mathematics teacher at St. Albans School, an independent prep school in Washington, D.C., since 1998, Hansen said, "Every day I use what I learned in Dr. (David L.) Quigg's class as I teach the boys about statistics, helping them to design and run experiments and data collection exercises."

However, mathematics is only one part of the equation for Hansen, who has also performed in the violin section of a semi-professional orchestra for thirty consecutive years. He has played violin in the Prince Williams Symphony for nineteen seasons and celesta (a keyboard instrument) for an annual "Nutcracker" production.

Born in San Antonio, Texas, in 1962, Hansen moved with his family to Peoria, Illinois, at age six. Hansen found himself surrounded by music and mathematics at an early age. His father, Erling, was a professional musician and a member of the faculty of Bradley's School of Music until his untimely death in 1976 at age forty-six. His father played the flute in the Houston and Peoria symphonies. His mother, Eleonore, has been Bradley's music librarian since 1970. She played the oboe in the Peoria Symphony for years and now plays the recorder in area ensembles.

When he was in second grade, Hansen's father showed him how multiplication could

"Every day I use what I learned in Dr. (David L.) Quigg's class as I teach the boys about statistics, helping them to design and run experiments and data collection exercises."

—Michael Hansen

be extended to numbers with many digits. He became intrigued by the abstraction involved in the process. He learned abstraction is the essential nature of mathematics.

Hansen said, "Other abstractions my parents taught me were that melody retains its essential nature when transposed into a different key, and that all major and minor keys cycle through an orderly progression, proceeding by fifths as sharps or flats are added or subtracted. Years later, I learned that these operations could be called translations and group operations, respectively."

He began playing piano at age four and violin a few years later. Dr. Allen Cannon, who was director of Bradley's School of Music and concertmaster of the Peoria Symphony, was his violin teacher for years. Hansen was involved with the Central Illinois Youth Symphony from 1971 to 1983, serving as as-

sistant manager for the last four of those years.

An East Peoria Community High School graduate, Hansen said it is not surprising he enrolled at Bradley due to his family's involvement at the University. He was also impressed with Bradley's reputation for engineering and the sciences. While at Bradley, Hansen said the late Gary Tippet served as his academic advisor. Tippet helped Hansen put together an unusual curriculum of mathematics, computer science, music, and a co-op job at Morton Community Bank.

"I am deeply grateful for the care and personal attention that everyone gave me at Bradley," he said. "I am especially grateful for the mentorship of Dr. (Michael) McAsey in helping me line up a graduate assistantship and two fellowships. Dr. (Gerald) Jungck had the mystical ability to connect us students with the philosophical underpinnings of the subject. Dr. Quigg is responsible for my interest in statistics, and I still use everything he taught me about hypothesis testing and Type I and Type II error as the gold standard.

However, I probably remember Dr. Joan Wyzkoski best since I took three classes from her." Dr. Wyzkoski Weiss left Bradley to teach in the Math Department at Fairfax University in Connecticut, serving as chair for many years.

At Bradley, Hansen participated in Phi Mu Alpha Sinfonia, the presidential campaign of 1980, and the *Anaga*. He remembers that Phi Mu Alpha sold 63 dozen doughnuts for 25 cents each at a Bradley-sponsored high school choral festival, earning a respectable profit. Another highlight was Bradley's 1982 NIT championship.

Hansen also recalls an embarrassing moment. "I walked into Dr. Quigg's probability and statistics class half asleep after staying up most of the previous evening, as students sometimes do," he said. "I proudly announced to Dr. Quigg that for his class, at least, I would be certain to stay wide awake.



Michael Hansen

Famous last words! When I came to, the period was almost over."

Hansen earned a Master of Science degree in applied mathematics (option in computation and optimization) from University of Illinois at Urbana-Champaign. While in graduate school, he taught himself how to play viola. According to Hansen, this "seemed to be a simple matter of learning a new clef—another 'translation operator.' Years later, after I took some viola lessons, I realized that there was quite a bit more to it, with different left-hand and right-hand technique."

A strong job market in spring 1986 drew him away from his Ph.D. program and plans to become a math professor. From 1986 through 1994, Hansen was a research mathematician and computer scientist with ANSER Corporation in Arlington, Virginia. He worked in the Pentagon and at various bases around the country for the USAF Acquisitions Directorate and the Assistant to the Secretary of Defense for Atomic Energy.

For four years, he did similar full-time work at two other defense contractors while teaching part time as a computer science instructor at Northern Virginia Community College. He also has been a consultant in spreadsheet analysis, programming, integration, testing, and database work since 1980.

As he worked in industry, he noticed everyone was interested in his math background. He said, "It assured a certain seriousness of purpose and analytic skill. We in mathematics take for granted our ability to break a problem into a set of mutually exclusive cases, to perform inclusion-exclusion reasoning, and to parse conditional statements involving nested AND and OR logic. This ability is rare among the general population."

In 1998, he learned of St. Albans' opening to teach advanced placement calculus and statistics. "St. Albans boys are a most rewarding group to teach. Many of them are National Merit Scholars and a substantial number go on to Ivy League universities."

A former high school math teacher and math department chair, his wife, Elizabeth, is now a development director at an independent school. She plays piano and organ. They have no children, but they have a 90-pound yellow lab named Shelby.

In addition to performing with the Prince William Symphony and the annual "Nutcracker" production, Hansen plays viola in string quartets at weddings and receptions.

When discussing the interest many mathematics majors have shown in music,

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Emeritus faculty

Currently, there are three emeritus faculty members: Dr. J. Ross Brown, Herb Sandstrom, and Dr. Tony Sastry.

Brown, 1952-87, and his wife, Ann, live in Pekin.

Sandstrom, 1952-79, and June live in East Peoria.

Sastry, 1967-97, and Barbara live in Lake St. Louis, Missouri. They returned from a four-month cruise around the world in June. They visited forty-two ports, including Bombay, where they visited with some of Tony's relatives.

Their son, John, is an attorney and has a position at Edward Jones headquarters in St. Louis. John and his wife adopted six children, ages five to thirteen. They also have two-year-old twins, a girl and boy.

Their daughter, Ann, is a professor of mechanical engineering and applied mechanics at the University of Michigan. She and her husband have a son and daughter. ✍

Actuarial science, continued from Page 2

John Haverhals, Bradley's ASM program coordinator, relates, "Working with actuarial science students has been one of the highlights of my years at Bradley. They are bright and have excellent study habits. When they come to my office for academic advisement for the next semester's classes, they not only have their schedule planned for the next semester but for all the other semesters to graduation." This program has attracted another group of excellent students to be majors in the Mathematics Department. ✍

Alumnus, continued from Page 3

Hansen said, "People who are drawn to abstraction (i.e., mathematics) are inherently predisposed to music, which is abstraction played out over time. Moreover, written music is, like mathematics, a specialized symbol-processing domain. However, I wonder why so few of the musicians I have worked with over the years have any interest in math."

Hansen continues to exemplify how mathematics and music can be combined in a truly harmonious manner.

The Marvin G. Moore Excellence in Mathematics Award was first awarded in 1971. ✍

Send us your news... keep in touch with Math!

Send information to: Shelly Smith, Bradley University, 1501 W. Bradley Ave., Peoria, IL 61625

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