

The Math Log

Newsletter of the University of North Dakota
Mathematics Department



Dr. Ryan J. Zerr

Zerr Receives Teaching Award

UND Mathematics faculty member **Dr. Ryan J. Zerr** received the 2008 UND Foundation/McDermott Award for Individual Excellence in Teaching at the annual "Founders Day" banquet this past February. The award pertained to undergraduate teaching and was one of only two such awards given to UND faculty members this year. Ryan's award included a cash prize of \$2,000.

Ryan received his Ph.D. degree from Iowa State University in 2003 and his M.S. degree from UND in 1998. In addition to teaching, Ryan is also active in research and university service. His research specialty area is C^* -algebras. He is currently the Chair of UND's General Education Requirements Committee, and he also serves on a special UND committee which is working on changes to the General Education, or "Essential Studies," component to the undergraduate curriculum here at UND.

Congratulations Ryan! Your students appreciate your work!

Sympathies to the Family of Diana Wells

It is with sadness that the Mathematics Department notes the passing of Associate Professor Emerita Dr. Diana L. Wells. Several people from the Mathematics Department attended a memorial service for her in Grand Forks on December 31, 2007. Diana had suffered from Huntington's disease for many years.

Diana earned an M.S. degree here at UND and later a Ph.D. degree from Washington State University. Her research specialty area was number theory. In 1992, after earning her Ph.D, Diana returned to the UND Mathematics Department, and she later became involved with the early development and initial funding of the Mathematics Computer Laboratory here in Witmer Hall. Diana had also previously taught mathematics at the high school and junior high school levels.

Diana retired in 2002. During her retirement, she was noted for sewing beautiful quilts. From time to time, we continued to see Diana and her husband **James Carlson** at various departmental social events. James and Diana had been married for over thirty-three years.

You may read the full obituary for Diana on the Web site of the *Grand Forks Herald*. Visit

<http://www.grandforksherald.com>

and go to the obituary section.



Dr. Diana L. Wells

Several GTA's Graduate

Several Graduate Teaching Assistants in the Mathematics Department will receive their master's degrees this spring and this summer.

Candyce Hecker is graduating this spring. Her adviser is **Dr. Richard Millspaugh**, and her independent study report is entitled "Characterization of Closed Sets as Limits of Subsequences." This past April, Candyce gave a talk on her independent study project, which was well attended by faculty and students.

Charley Huhtala will graduate this summer. His adviser is **Dr. Mohammad Khavanin**, and the title of his independent study report is "Simplifying Solutions to the Linearized Korteweg-de Vries Equation Using the Airy and Gamma Functions." After graduation, Charley plans to teach mathematics somewhere in the Upper Midwest area.

Lisa Rice will also graduate this summer. She is preparing an independent study report entitled "Elliptic Curves in Cryptography." Lisa's adviser is **Dr. Joel Iiams**. After graduation, Lisa plans to pursue further graduate study, but at this time she is not yet sure where this will be.

Laura Wagner will graduate this summer as well. Her independent study report is entitled "Literacy in Mathematics," and her adviser is **Dr. Michele Iiams**. Laura is planning to teach mathematics after graduation.

Millspaugh Reelected as Chair

The Mathematics Department faculty have elected **Dr. Richard P. Millspaugh** to a second three-year term as Chair of the Mathematics Department, a position he has held since 2005. Richard earned his Ph.D. degree from the University of Oklahoma in 1989 and has been with the UND Mathematics Department since 1990. His research specialty area is topology. We look forward to another three years of leadership from Richard!

Faculty Footnotes

The article "Strictly webbed convenient locally convex spaces," by **Tom Gilsdorf**, has appeared in the *International Journal of Mathematical Analysis*.

Shuzo Takahashi has published the article " p -adic periods of modular elliptic curves and the level-lowering theorem" in the *International Journal of Number Theory*.

Scholarships Awarded

The Mathematics Department has selected four students to receive special scholarships for the 2008-2009 academic year. The recipients are as follows:

- **Amy E. Jordan** (Jay O. and Marie Bjerkaas Scholarship)
- **Kelsey N. Larson** (Ronald C. & Ann C. Bzoch Memorial Scholarship)
- **Kirsten A. Hogenson** (Paige Plagge Memorial Scholarship)
- **Eric B. Timian** (Judy Ann Utton Memorial Scholarship)

We are grateful to our benefactors who have made these scholarships possible!

Morstad and Spicer Recognized for Service

The University of North Dakota has formally recognized **Dave Morstad** and **Lona Spicer** for twenty-five years of service to the University. Dave is currently a Senior Lecturer in the Mathematics Department, and he also serves as the Director of the Mathematics Computer Laboratory here in Witmer Hall. Lona is the secretary in the Mathematics departmental office. Her official title is "Administrative Secretary III." Dave and Lona received special recognition at the annual "Founders Day" banquet this past February. The Founders Day banquet is an annual university-wide event which includes awards for years of service, exemplary teaching, retirements, and other achievements. Congratulations to Dave and Lona!

Where They Are and What They Are Up To

Jeremiah Bartz (MS 2006) is in his second year in the Ph.D. program at the University of Oregon. He is scheduled to take his "qualifying exams" in September of this year. Right now he is taking three classes: analysis, algebra, and algebraic topology, and the qualifying exams will be based on two of these courses. Many graduate students also teach one or two classes. Each quarter Jeremiah teaches one section of College Algebra. In his free time, he runs, plays hockey, and enjoys the outdoors. He says that Oregon has some spectacular scenery and excellent hiking.

Brian Beaudrie (MS 1993) is an Associate Professor of Mathematics Education at Plymouth State University in Plymouth, New Hampshire. He is currently the graduate coordinator for his department. Brian has recently been awarded the "Wixson Endowed Professorship of Mathematics." He received his doctoral degree from Montana State University in the year 2000. Congratulations on your accomplishments!

Denise Blecha (B.S.Ed 1974, M.Ed. 1984) is currently a Senior Instructor at ITT Technical Institute, where she has been for the last ten years. In 2005, she received a Master Teacher award from the Ohio Council of Private Colleges and Schools. Denise says that her studies in the UND Mathematics Department have provided good preparation for her work as a teacher. She says that her adviser here, **Dr. Glenn Prigge**, held the bar high. Another of her teachers, **Dr. Jerry Metzger**, challenged her and pushed her to do better. While a student at UND, Denise also became acquainted with **Gail Nelson** and **Gerri Dunnigan**. She says Gail helped her understand many difficult problems. Gail is the daughter of UND Mathematics Professor Emeritus **Dr. Ed Nelson** and has been a professor at Carlton College in Northfield, Minnesota, for many years. Gerri is also a professor. In fact, she works right here in the UND Mathematics Department! You can write to Denise at the following address: 369 Alta Place, New Lebanon, OH 45345.

Jennifer Froelich (BS 2003) is finishing up her Ph.D. in mathematics at the University of Iowa and is planning to graduate this summer. She has accepted a tenure-track position in the Mathematics Department at Dickinson College in Carlisle, Pennsylvania. She will begin work there this fall. Congratulations on your graduation and your successful job search!

Bill Kwaak (MS 1995) and his wife Jeri have been living in the Chicago suburbs for the past eight years, and during this time, Bill has been a pilot for American Airlines. He is also considering work as a substitute teacher, and he may decide to pursue a master's degree in education. Jeri works at a nearby hospital and has a growing private practice. You can reach Bill and Jeri at (847) 372-3179.

Please keep us posted on your activities, even if you do not hold a graduate degree or a prestigious job!

UND Hosts Annual Mathematics Track Meet

The UND Mathematics Department hosted the annual Math Track Meet on Presidents' Day, February 18, 2008. The Math Track Meet is a mathematics competition for students in grades seven through twelve. This year 196 students from Grand Forks and surrounding communities participated in the event. Several UND faculty members, lecturers, and GTA's wrote, administered, and graded the exams associated with this year's Math Track Meet. We also received help from several high school and middle school teachers, as well as retired UND Mathematics faculty members **Lyle Mauland**, **Ed Nelson**, and **Milt Winger**. **Richard Millsbaugh** and **Tom Richards** coordinated the activity as a whole. We thank all of you for making the Math Track Meet a success!



Dr. Tom Robinson

Math Log Editor Talks to Tom Robinson

As many of you probably know, Dr. Tom Robinson served as a professor here in the Mathematics Department for many years. He retired in 1997, and at that time, this *Math Log* newsletter featured a short article about him. Ten years have now passed since then, so I thought that it would be a good time to visit with Tom and have a more in-depth discussion of his life and career. One day this past March, during spring break, Tom kindly agreed to come in to the office, and we had a long talk. We also talked again a few weeks later.

Early Years

Tom Robinson was born on a farm in Iowa. His father died when Tom was three years old, however, and the family soon moved to Volga, a very small town in northeastern Iowa. In Volga, Tom's mother was the "secretary" at a creamery. What this meant essentially was that she did bookkeeping work. Among other things, she made sure that farmers were paid for the cream that they sold to the creamery.

After graduating from high school, Tom enrolled at Luther College in Decorah, Iowa, where he majored in mathematics as well as in chemistry. While at Luther, Tom played shortstop on the Luther baseball team. "We won some games and played some good teams," he says. "It was a lot of fun." Each year at Christmas, Luther presented "The Messiah," and Tom enjoyed singing in the chorus along with six hundred or so other students.

Tom graduated from Luther in 1956 and spent the next two years working on his master's degree in mathe-

matics at Iowa State University. During this time, **Les Whitford**, a friend of Tom's from Volga, was teaching in the UND Mathematics Department. In 1958, the dean of UND's College of Science, Literature, and Arts, which later became the College of Arts and Sciences, was **Robert B. Witmer**. (The name "Witmer" sounds familiar!) Dean Witmer was trying to recruit people with Ph.D.s and had asked Les for suggestions. At this time, however, people with Ph.D.'s in mathematics were in very short supply. One thing led to another, and Les put Witmer into contact with Tom. In 1958, Tom received his master's degree from Iowa State and took a position here in the UND Mathematics Department.

Work at UND

Tom described the UND campus of 1958 to me. There were approximately 3900 students on the campus at the time, compared to over 12,000 as of fall 2007. The Mathematics Department was located in Merrifield Hall. It would be nine more years before the construction of Witmer Hall, the current home of the Mathematics Department, and Quonset huts stood near the spot that Witmer Hall occupies today. The Grand Forks commercial airport was just west of the UND campus, and the airport runway ended close to the intersection of University Avenue and 42nd Street, just across the railroad track running north from Grand Forks. (The airport has since moved to a location several miles west of the city.)

Merrifield Hall was not air-conditioned at the time, and the building would get very hot during the summer. Space was limited. When Tom first came here, he shared the same office with **Blair Burner**, **Gene Kemper**, **Dale Rognlie**, and **Jim Rue**. (Dale Rognlie was the nephew of **Phil Rognlie**, who also taught in the Mathematics Department.) The Chair of the UND Mathematics Department was **Dr. Raymond C. Staley**, and during the 1958-59 academic year, Staley was the only one of the thirteen members of the UND Mathematics Department who held a Ph.D. degree. Tom says that faculty members throughout the university addressed him as "Dr. Staley."

Dr. Staley retired in 1959 at the age of seventy, and **Phil Rognlie** became the interim chair of the Mathematics Department for the 1959-60 academic year. UND administrators were still trying to hire as many people with Ph.D.'s as possible, so Phil "encouraged" the younger members of the department faculty to go back to school. In 1960, six faculty members acted on this advice: Tom, **Jim Rue**, **Dale Rognlie**, **Larry Lardy**, **Blair Burner**, and **Gene Kemper** all left UND. Tom, Jim Rue, and Gene Kemper subsequently completed Ph.D.s' in mathematics at Iowa State University, and all three later returned to UND. Dale Rognlie also completed a Ph.D. at Iowa State and went on to teach at Black Hills State University. Larry Lardy earned a Ph.D. in mathematics at the University

of Minnesota and later taught at Syracuse University, where he advised several of his own Ph.D. students. Finally, Blair Burner earned a Ph.D. in computer science from Washington State University.

Tom says that "It was a tribute to Phil that all six *did* finish their Ph.D.'s." He adds that "Phil was a great guy."

Leadership of George Starcher and Tom Clifford

Tom Robinson finished his Ph.D. in 1963 and returned to teach at UND in the fall of that year. As time went by, many changes were occurring across the country. It was a period of major social upheaval, much of which was related to the civil rights movement and to the Vietnam war. War protests occurred on many college campuses, and in some cases there were riots. I asked Tom about the events of the 1960s and how they affected life here at UND. It seems that the turbulence of the 1960s did not affect the UND campus as much as it affected other university campuses in the U.S. There were no riots here, and Tom credits this in large part to UND President **George Starcher** and Dean **Tom Clifford**. Tom (Robinson) says that Starcher and Clifford seemed very adept at bridging differences with students before they became major issues. By the way, Tom Clifford succeeded George Starcher as UND president in 1971 and served in that office until 1992.

Tom's Textbooks

During the 1960s, Tom authored the first of his mathematics textbooks. I was curious about this, so I asked Tom how this came to be. He said that he happened to teach trigonometry during his first year back at UND after his Ph.D. work at Iowa state. He did not like parts of the textbook that was currently in use for this course, so in his lectures, he did things his own way. With the help of a typist, he prepared lecture notes for his students, which the students in turn purchased for a modest price. One day a book salesman from Harper & Row was visiting with Tom, and the two discussed Tom's class and his lecture notes. The salesman asked Tom if he was interested in publishing the material as a book. One thing led to another, and in 1967, Tom published the book *Analytic Trigonometry*. The book was successful, and in 1972, he published a second edition of the book. Tom also published the book *Algebra and Trigonometry* in 1970, but this book did not sell as many copies as Tom's first book.

Tom's Consulting and Baseball Coaching

Tom was also active in areas that were not directly related to teaching. During the 1970s, he was a member of the University Fringe Benefits Committee, and for a time, he served as chair of the committee. The state government was making changes to the retirement programs for North Dakota public school teachers and University System faculties. These changes were intended to improve the retirement benefits for both the

public school teachers and the university faculties. Tom, along with **Milt Winger**, another UND Mathematics faculty member at the time, attended several meetings with an interim legislative committee at the state capitol in Bismarck. In the end, the state enacted legislation allowing some UND faculty to choose from among three plans.

Choosing the best plan was not always easy for faculty members to do, and it was in this context that Tom asked UND President **Tom Clifford** if he (Tom Clifford) would consider hiring Tom (Robinson!) to help other faculty to decide which plan would be best for them. In the end, President Clifford named Tom (Robinson) as a Faculty Retirement Counselor for an annual summer activity from 1980 through the remaining years of his presidency. This work was in addition to Tom's usual teaching here in the Mathematics Department. The position also continued through President **Kendall Baker's** presidency (1992-1999), and for the first two years under **Charles Kupchella**, the current UND president. Tom counseled between seventy-five and eighty persons each year. The counseling also took him to other campuses, such as North Dakota State University, Mayville State University, Minot State University, Dickinson State University, Bismarck State College, Lake Region College, and UND Williston. On two occasions, Tom was also asked to counsel at the University of Kansas.

In addition to his retirement counseling, Tom was also an assistant UND volunteer baseball coach for sixteen years. At the beginning of this period, Tom worked with UND head baseball coach **Harold "Pinky" Kraft**. After a few years, **Brian Kraft**, Pinky Kraft's son, assumed the duties of head coach. This was especially interesting, since, as some of you may know, Brian Kraft also served as a lecturer here in the Mathematics Department. In fact, in his role as the Associate Chair of the Mathematics Department, Tom served as Brian's supervisor. So in effect, the two men supervised each other!

Awards and More Recent Activities

In 1983, Tom received an award for outstanding teaching and service, and when he retired in 1997, after a total of thirty-six years here in the Mathematics Department, he received another award, this time for outstanding service to the University.

Tom is currently very active and healthy, but he has had some health problems in the past. In 1991, a few years before his retirement, Tom had a heart attack and missed the entire second semester of teaching. He says that the Mathematics Department was marvelous for taking his classes and giving him time for recuperation. He says he cannot thank the Department enough for the kindness, friendship, and love expressed to him and his family!

Although substitutes covered his classes for the entire semester, Tom soon recovered to the point at which he could return to the office and resume a certain level of work. One of the things he did at this time was develop the beginning of a system for placing incoming undergraduate students into the correct mathematics courses. In the end, this system used departmental placement tests as well as students' scores on the ACT test (a popular college entrance exam).

In general, Tom is doing quite well in his retirement, although he now has a pacer-defibrillator installed in his chest. Also, in 2006 he was treated for cancer of the thyroid. Surgeons removed his thyroid gland, and he received treatment with radioactive iodine. He receives regular checkups to see if the cancer has returned, but as of now, there has been no recurrence.

Tom has been married to his wife **Sandra** for forty-nine years. The two met at the Lutheran Student Center here at UND, where Sandra was the choir director. Although they live in Grand Forks year-round, Tom and Sandra have occasionally gone on vacations to such places as Florida and Hawaii. Tom is active in a local "barbershop" singing group, and he often plays golf with retired UND Mathematics faculty members **Lyle Mauland, Jim Rue, and Milt Winger**. Tom and Sandra have two sons, **Timothy** and **Paul**, as well as two grandchildren. Tim is a certified public accountant, and Paul works as a company manager at the In the Heart of the Beast Puppet and Mask Theatre in Minneapolis, Minnesota.

Words of Wisdom and Concluding Thoughts

I asked Tom if he had any advice or words of wisdom for students and for the rest of us. He replied by saying that students should try to get to know their teachers. They should work hard and try to get good grades. At the same time, he says that students also need to have a good time. Going to class should be fun!

As for his own personal experiences here, Tom told me that he is particularly grateful to UND for allowing him to conduct his retirement counseling sessions and to help out with the baseball team for so many years. The retirement counseling enabled him to meet a very large number of people from around the campus, and his work on the baseball team gave him the chance to work with some of his students in a capacity other than that of a classroom teacher. Finally, Tom concluded by saying that the Mathematics Department was a wonderful place to teach and that the people here respected each other highly!

Thank you for sharing your thoughts with us Tom!



Births

Hudson Thomas Byron was born on May 7, 2008. Hudson's parents are **Gwennie and Andy Byron**. Gwennie is a Senior Lecturer in the Mathematics Department, and she also serves as the Director of the Math Learning Center here in Witmer Hall. At the time of his birth, Hudson weighed 8 pounds and 2.1 ounces. He was 20 $\frac{1}{4}$ inches tall.

Rylan Anthony Snyder was born on June 1, 2008. His parents are **Jessica and Tony Snyder**. Jessica is a Senior Lecturer here in the Mathematics Department. At birth, Rylan weighed 7 pounds and 3.8 ounces and was 19 $\frac{1}{2}$ inches tall.

Congratulations to the Byron and Snyder families!

The Pseudo-Sum

By Larry Peterson



All sorts of usual and unusual things continue to happen here in the Mathematics Department, around the UND campus, and in Grand Forks. As I write these lines in the month of June, the grass is green, the birds are singing, and the lilacs and some of the other flowering trees and shrubs are blooming. The temperature is 82 degrees. But the situation was much different a few months ago! I would say that after a few mild winters, this past winter was more of a normal one, and it seemed to linger on a little bit longer than most winters. After some warm weather, the snow returned on April 26. It was winter all over again!

Warmer weather returned over the next few days, and on May 3, many UND students attended a large outdoor event known as "Springfest." Springfest is an organized gathering of UND students held every spring

on the Saturday before final exams. It takes place in University Park, near the UND campus, and it includes music. I happened to walk through the University Park area on May 3, and I saw many students. It was a beautiful day. Perhaps the students should have been studying for final exams, but in any case, I am sure that most of them had a good time!

Then, one week later, on May 10, after final exams were over, it snowed again! And the May 10 snow was not just flurries! It actually accumulated in grassy areas! It was interesting to see green grass and snow at the same time. In any case, by early afternoon, the snow had essentially disappeared.

Many of us here in the Mathematics Department have now begun teaching summer classes, while others are focusing more on mathematical research or simply catching up on such things as the *Math Log*! Changes and unusual events continue to occur. If you have studied here within the last few years, you may remember UND's "General Education" requirements. The University will soon replace these requirements with "Essential Studies" requirements. One important new aspect of the Essential Studies requirements is the introduction of "capstone" courses. In the future, undergraduate students at UND will take a three-credit capstone course in which they will take ideas from other courses and tie them together. Students will also take two courses that provide a deeper understanding and appreciation of social and cultural diversity in the U.S. and around the world.

More personnel changes will occur in the Mathematics Department and at UND. Although no new tenure-track faculty will join the Mathematics Department next year, **Bruce Dearden** will return this fall. Bruce has been on a research sabbatical for the past year. And in the Fall 2007 issue of the *Math Log*, I told you that UND president **Charles Kupchella** would be retiring. If you have not already heard, the process of recruiting a successor to President Kupchella is now complete. **Robert O. Kelley** will succeed Charles Kupchella on July 1, 2008.

There has been one other unusual event on the UND campus this past year which I find particularly interesting. On March 27, 2008, authors Junot Díaz, Alexandra Fuller, Peter Kuper, and Salman Rushdie spoke at the UND Writers Conference.

I hope that things are going well for all of you! Let us know what you are doing, even if it is nothing spectacular! We are interested in hearing from graduates of both our master's and undergraduate programs. As usual, we are busy here. But summer is a good time to stop by the Mathematics Department offices if you happen to be in Grand Forks! We still have the coffee pot, and the coffee is always on!

THANK YOU !!

The following persons are responsible for monetary gifts to the UND Alumni Association specifically designated for the improvement of the Department of Mathematics:

Charles and Carol Hillerson	Hilary and Mary Klinicke	Stephen O. Larson	Joy and Jon McSparron
Daniel J. Leingang	Crystal V. Walcott	Young-Jun Choi	Dr. and Mrs. David Uherka
Milton and Marjorie Winger	Dr. Eddie J. and Amanda Brown	Edward O. Nelson	Dr. L. Thomas Ramsey
CDR Bruce W. Rova	Col. (Ret) and Mrs. Greg Stolt	Thomas P. Wirtz	Paul V. Bruce
Dr. Frances F. Gulick	Dr. Lawrence J. Lardy	Dr. Curtis E. Larsen	Douglas B. and Susan McLeod
William and Anne Grams	Cathy D. Adams	Patrick M. Larson	Connie and Robert Blatherwick
David L. Harpster	Andrew A. Ehlert	Savanthi and Jason Syth	Paul and Linda Lee
Dr. Howard A. Bird	Theo and Judy Haley	Rob S. Volden	Lancey A. Cascaden
Dr. Cheryl L. Halcrow	W. Allan Klindworth	A.C. Olson	Dr. Michael J. Simmers
Richard and Alta Starr	Barbara and Daniel Hinnenkamp	Brenda J. Goettle	Amy and Derek Schulte
Mr. and Mrs. Vernon E. Hebert	Carol Hokana and Nick Bonifanti	Brian P. Beaudrie	

IBM Corporation, matching Marcia Howland-McCalden

Wells Fargo Bank, matching Savanthi N. Syth

Ronald C. and Ann C. Bzoch Memorial Scholarship

Peter A. Willyard

Raytheon Company, matching Maryanne C. Romero

Judy Ann Utton Memorial Scholarship

Mark and Rachel Anderson

Your generosity is gratefully acknowledged and sincerely appreciated!

Your teachers and friends are wondering what you are doing! Help us to satisfy their curiosity. (Photos are also welcome!)

NAME (Include previous if changed.): _____

CURRENT ADDRESS: _____

TELEPHONE: _____

DEGREE AND YEAR RECEIVED: _____

SPOUSE: _____

CURRENT OCCUPATION: _____

NEWS: _____

PLEASE RETURN TO

UNIVERSITY OF NORTH DAKOTA
DEPARTMENT OF MATHEMATICS
WITMER HALL ROOM 313
101 CORNELL STREET STOP 8376
GRAND FORKS ND 58202-8376

Use additional sheets if necessary. You can also send us news items and comments by e-mail! Just send a message to

udmath@und.nodak.edu

Be sure to say that the information is for the Math Log!



Let
us
know
for
you