



The University of

# Montana Department of Mathematical Sciences



A Newsletter for Alumni, Faculty, Staff, and Friends

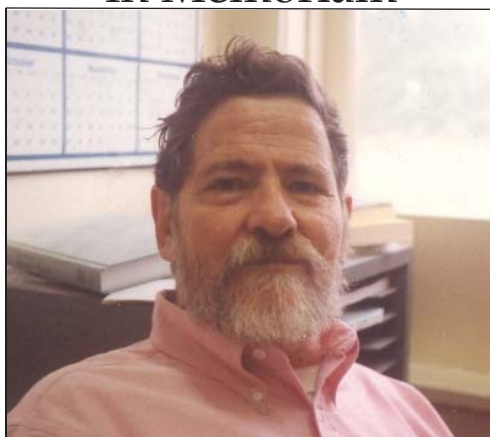
Spring 2008

## Merle Manis 1934-2008 In Memoriam

We are saddened by the loss of Professor Emeritus Merle Manis who died on March 11, 2008, following an unexpected stroke a few days earlier.

Merle received both his B.A. (in 1960) and his M.A. (in 1961) from the University of Montana, before completing his Ph.D. at the University of Oregon in 1965. His mathematical interests included commutative rings, rings of several objects, Prüfer rings, and valuations. Named after him are Manis valuations and Manis valuation rings.

Merle taught at the University of Montana from 1965 until his retirement in 1996. Besides supervising numerous master's students, Merle also had seven Ph.D. students: William Irlbeck (1972), Percy White (1978), Herb Kasube (1979), Carol Ulsafer (1984), Mohammad Alkadhi (1987), Adel Miikhail (1987), and Debbre



Hawkins (1995).

The Missoulian published an obituary for Merle on March 23, as well as an homage to Merle in its series "Western Montana Lives" on April 14. A lengthy biography, written by Professor Emeritus Rudy Gideon, appeared in our 2001-

2002 newsletter. Links to these articles are available on the math department's home page.

The obituary suggested that memorials in Merle's name be made to the Department of Mathematical Sciences. In view of Merle's long involvement with our graduate programs, Professor Emeritus Keith Yale, who is assisting Merle's family in these difficult times, thinks it would be wonderful if the memory of Merle could be kept alive with a scholarship for graduate students.

A memorial service for Merle Manis will be held on Saturday, May 31, 2008: at 3:30pm, the Brandhout Ensemble will perform in the Music Recital Hall on the University of Montana campus, followed at 5pm by a reception at the Holy Spirit Episcopal Church (130 S. 6th East).

## A Note from Scotland

By Kristin Waarvik

I can hardly believe that I am in my final semester of my senior year of college, but it is even more unbelievable that I am completing it from Scotland! When May rolls around I will be receiving my undergraduate degree in math education with an endorsement in special education, however I am currently student teaching at Dornoch Academy in the Highlands of

Scotland. I have only been here 5 weeks, and next to Montana, I cannot imagine a more friendly and welcoming place to be.

I came to Scotland with my friend and fellow UM student, Dani Flemming. She is student teaching at Cauldeen Primary School in Inverness. We are each staying with host families in our areas, who have been extraordinarily hospitable and kind. They have taken us both to Loch Ness, the Falls of Shin, and even a couple of Caleidhs on the weekends. So, we are definitely getting a good taste of Scottish culture.

During the week I am in Dornoch at the Academy. After observing there for 2 weeks, the school let out for the 2 week Easter Holidays. This is the longest spring break I have ever experienced, and was able to do quite a bit of traveling. I met up with my parents and sister in Weselberg, Germany, a small village where my aunt and uncle live, before traveling on to Paris, Edinburgh, and Newcastle. The break itself



Dani and Kristen at Urquhart Castle looking for Nessie (Loch Ness is in the background)

was quite the whirl wind, but of course incredible. However, by the first day of term at the Academy I was definitely in need of a break from my vacation, and was happy to get back to the regular routine of a school day.

In total I have been at the school for 3 weeks doing mostly observations. However, I have taught a few lessons, and have recently been getting ready to take

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*And quite a bit more!*

# Notes from the Chair

Twenty-three students received degrees over the past year in the mathematical sciences including 7 MA's and 3 PhD's (p. 6). The number of graduate degrees reflects a substantial increase over the past few years in the number of graduate students in our program, currently about 35. This increase is due to several factors, I think: the recruiting efforts of Jenny McNulty, Associate Chair for the Graduate Program, some creative new ways to stretch our limited dollars to support more students, and a great faculty with lots going on in teaching and research. A significant limitation now is the size of our stipends which have not increased in 5 years. We're looking for ways to supplement those



*New Ph.D.'s VonSpronsen, Lambert and Loebeul.*

stipends to make them more competitive.

I'm particularly proud of our three new PhD's who are an interesting and diverse group. Scott Lambert was a high school teacher in Maine for 7 years before entering our graduate program 4 years ago. He completed his dissertation in functional analysis under Thomas Tonev; their work has already received international recognition. Dara Laobeul arrived on campus four and a half years ago as an unsupported student from Chad. His strong academic performance and hard work to improve his English earned him a teaching assistantship after three semesters. He's persisted through the birth of his son 18 months ago and completed his dissertation in applied mathematics under John Bardsley. Hillary VanSpronsen not only had her daughter Hannah partway through her program, she took a permanent job two years ago at Michigan Tech in her home state well before she was finished. But she kept with it and completed her dissertation in mathematics education under Libby Knott. All three are excellent representatives of our program.

Over the years, a number of our math majors have also been Lady Griz and

Griz athletes. However, I doubt that we, or perhaps any math department at a Division I school, has had as much representation percentagewise on one team as we had in volleyball last fall. Two of the six starters were math majors: Jade Roskam, a junior from Helena, and Amy Roberts, a freshman from Eureka, Montana. Not only did they excel on the court (Amy and Jade were 1-2 on the team in kills), they also excel in the classroom. Jade just received the Hashisaki Memorial Scholarship for the top junior math major, and Amy just finished two semesters of Honors Calculus. Both Jade and Amy will be back on the court in the fall. If you live in the area, please come out and support our volleyball/mathletes!

Merle Manis' death was a shock to all of us. In the 11 years Merle and I overlapped before he retired, we had many conversations, but he rarely mentioned his own background. Years later, when I read Rudy Gideon's excellent article about Merle in our newsletter (Spring 2002), I was amazed at the obstacles and experiences Merle had come through to end up with a Ph.D. I hope that one legacy of Merle is that our department always try to find and encourage those "gems in the rough," students from unconventional backgrounds who may not realize what they are capable of.

Finally, I'd like to thank all of you who have supported the department over the past year. Your support is very much appreciated and essential to many of the things we do.

Best wishes for the summer,

*Dave Patterson*



*Volleyball playing mathematicians Jade Roskam (L) and Amy Roberts.*



Department of Mathematics  
Math Building  
University of Montana  
Missoula, Montana 59812-0864

#### Faculty:

David Patterson, Chair  
Jenny McNulty, Associate Chair-  
Graduate Program  
Nikolaus Vonessen, Associate Chair-  
Undergraduate Program and  
Newsletter Editor

John Bardsley, Applied Mathematics  
Rick Billstein, Mathematics Education  
Lauren Fern, Lecturer  
Jon Graham, Statistics  
Jennifer Halfpap, Analysis  
Solomon Harrar, Statistics  
Jim Hirstein, Mathematics Education  
Leonid Kalachev, Applied Mathematics  
Mark Kayll, Combinatorics  
Libby Knott, Mathematics Education  
Jenny McNulty, Combinatorics  
George McRae, Optimization  
Adam Nymán, Algebra  
Sharon O'Hare, Director, Math PiLOT Program  
David Patterson, Statistics  
Greg St. George, Analysis  
Regina Souza, Lecturer  
Bharath Sriraman, Education  
Brian Steele, Statistics  
Emily Stone, Applied Mathematics  
Karel Stroethoff, Analysis  
Thomas Tonev, Analysis  
Nikolaus Vonessen, Algebra

#### Staff:

Michelle Johnsen, Office Manager  
Linda Azure, Administrative Associate  
Brenda Brown, Administrative Associate  
(& the hard worker behind this  
newsletter)  
Guy Shepard, Computer Systems Administrator

#### Faculty Emeriti:

William Ballard	Johnny Lott
Mary Jean Brod	Robert McKelvey
Charles Bryan	William Myers
Bill Derrick	Howard Reinhardt
Rudy Gideon	Carol Ulsafer
Stanley Grossman	George Votruba
Gloria Hewitt	Keith Yale
Don Loftsgaarden	



# Department News

Professor **Leonid Kalachev** received one of only two full-year UM Faculty Exchange Awards. He will be busy next year traveling around the globe visiting Moscow State University (Russia), Toyo University (Japan), University College Cork (Ireland), and the University of Helsinki (Finland).

Professors **Mark Kayll** and **Jenny McNulty**, and Associate Professor **Brian Steele** were awarded sabbatical assignments for the coming academic year to enable them to concentrate on their research, and, in Brian's case, also on consulting. While Brian will mostly stay in Missoula, Jenny will be visiting Lafayette College in Easton, PA, and DIMACS (Center for Discrete Mathematics and Theoretical Computer Science) at Rutgers University in Piscataway, NJ. Mark will be based for the year at the Université de Montréal in Québec, Canada, while also attending seminars at nearby Concordia and McGill Universities.

Associate Professor **Adam Nyman** accepted a tenure-track position at Western Washington University in Bellingham. He assures us he really liked it at UM, and is leaving only for family reasons. Good luck at your new job, Adam! We will be missing you.

Associate Professor **Bharath Sriraman** is an associate editor for the second edition of the Handbook of International Research in Mathematics Education, in press at Taylor & Francis, London. He also contributed two of the chapters of the 900-plus page tome.

Ph.D. student **Rebekah Yates** earned an Outstanding Presentation Award at UM's Graduate Student and Faculty Research Conference on April 5. In her talk "What's in a Name? Isomorphisms in Real Life and Pure Mathematics," she explained the concept of an isomorphism to an audience of mostly non-mathematicians. N. V.

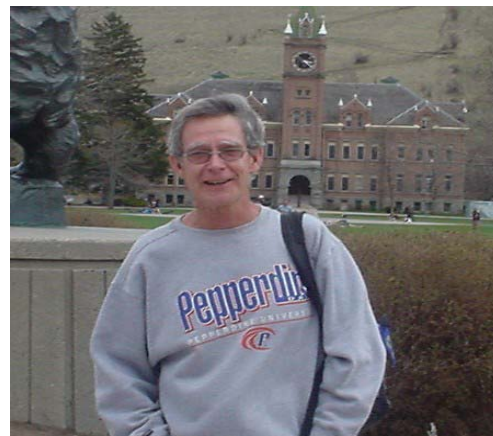
# The Mathematics of Voting

By Bharath Sriraman

The department continues its tradition of bringing in speakers to address the annual theme of Math Awareness Week in April announced by the AMS-MAA. This year's theme is Mathematics and Voting, and I was able to attract my colleague Professor Michael de Villiers of the University of KwaZulu-Natal, South Africa, currently on sabbatical at Kennesaw State University, to deliver a colloquium talk entitled "Is fair voting and apportionment possible? A mathematical look".

Even though Professor de Villiers is better known around the world for his work in geometry and mathematics education, he co-authored a book entitled "Is Democracy Fair?" published by Key Curriculum Press, around the time of the first democratic elections in post-apartheid South Africa in 1994. The purpose of the book was to educate students, teachers and the naive voter on different voting procedures, run off and apportionment methods and the mathematical outcomes based on the procedure chosen. The goal of the book was to promote literacy on voting methods that could impact minority representation in democracies.

The Colloquium talk addressed the history and the mathematics of apportionment used in various parts of the world derived from the methods devised by Condorcet, Borda, Hamilton and Jefferson. Paradoxes that plagued apportionment methods initially deemed "fair", such as the Alabama Paradox were also addressed in the lecture. In addition



Professor Michael de Villiers

to the Colloquium talk, Professor de Villiers gave a guest lecture in Math 107 on different run-off methods.

Besides the formal activities during his visit, Professor de Villiers was also able to enjoy and appreciate the spectacular sights, flora and fauna of Western Montana, such as the Bison Range, the Mission Mountains and the Flathead Lake area. Prof. de Villiers is an avid outdoorsman, marathon runner and tennis player. As a junior tennis player in South Africa, Prof. de Villiers once defeated Kevin Curren, the 1985 Wimbledon finalist (who lost the famous match to Boris Becker). One of Prof. de Villiers' remarks during his stay was "Your department is incredibly international, and really lucky to be situated in such beautiful natural surroundings - it is amazing that with all these outdoor distractions, you get any work done at all!"

(Note: de Villiers' visit was supported by a gift from Dr. Frank Gilfeather, '64 and '66.)

## Math Tutoring at UM

By Sharon O'Hare

Situation: You are a student here at the University. It's 7:00 pm on a Thursday night, and you can't remember the difference between a permutation and a combination - and the homework is due tomorrow! What do you do?

Well, if you are a student in any one of a half-dozen 100-level and developmental math courses, you proceed directly to the *math@mansfield Tutoring Center*, located on the second level of the Mike and Maureen Mansfield Library, for its drop-in tutoring services. Open most

weekdays from 1-9pm, and Sundays from 5-9pm, the *math@mansfield* location has been in operation since September 2007.

By opening a second location, the Math Department is now able to concentrate its tutoring expertise by math topic area. Students in developmental and non-calculus track mathematics courses receive assistance at the Mansfield Library site from tutors specifically trained in probability, statistics, introductory algebra and elementary education mathematics. Students taking the calculus and calculus-prep courses continue to find help in the *Math Learning*

*Continued on Page 5, "Math Tutoring"*

# A Year in Kiwi Land

By Faith Morrison

I love traveling and have always had an interest in foreign cultures. One of the things that attracted me to The University of Montana was the variety of study abroad programs available to undergraduate students. After applying through the Office of International Programs, I was accepted into a partner university exchange with Victoria University in Wellington, New Zealand. As a native Missoulian, I was excited for this opportunity to live in a country on the other side of the globe. I was particularly excited about living in Wellington because of its reputation as the cultural capital of New Zealand. After living there for a year, I discovered that Wellington was in fact the 'creative arts and café capital' of New Zealand. It has a plethora of arts festivals, workshops and performances, as well as five cafes on every block! I enjoyed living in this harbor city with its metropolitan vibe.

My experience at Victoria University was very different from my experience at the University of Montana. The classes were larger and the grading structure was quite different. I was not accustomed to being in classes with hundreds of people where my entire

grade was determined by one final test or paper. I actually missed having assigned homework and midterm exams! However, I was glad to find relevance in the material I learned at Victoria University. All of the information I learned in my Introduction to Logic course in philosophy has been applicable in my Introduction to Abstract Math course back at UM.

A huge highlight of my stay in New Zealand was my international "flat". I lived with seven other flatmates, all from different regions of the globe. I was the first American to live in the flat while the others were from India, Croatia, France, Germany, Chile, Malaysia, and a few local Kiwis (New Zealanders). Several of my flatmates were part of a masters program that travels to Antarctica each summer for research. These research groups are composed of biologists, chemists, geologists, physicists and mathematicians. Hearing first hand about their experience with this program has broadened my thinking about the options for graduate study in a foreign country. I hope to take advantage of this opportunity in the future.

While living in the southern hemisphere, I was lucky to have the



*Faith and a friend while tramping the Tongariro Crossing on the north island of New Zealand.*

chance to travel. My journeys took me to Australia, Fiji, and Samoa. I also traveled throughout both islands of New Zealand. There were many parts of the North Island I enjoyed exploring. However, after kayaking through the pristine waters in Abel Tasman National Park and tramping the Routeburn Track in the majestic Fiordlands, I truly fell in love with the rugged wilderness beauty of the South Island. New Zealand is a country I hope to return to some day. All the kiwi people I met were friendly and hospitable, not to mention the fact that they have an amazing accent! After my wonderful New Zealand experience, I highly encourage every University of Montana student to take advantage of the opportunity to study abroad.

## 2008 Scholarship and Award Winners

Joseph Hashisaki Memorial Scholarship  
**Jade Roskam**

Mac Johnson Family Scholarships  
**Katharine Banner**  
**Morgan Eichwald**

**Amber Jessop**  
**Nick Paterno**

Anderson Mathematics Scholarship  
and Mihina Gift  
**Nicole Crouch**

N. J. Lennes Awards

**Alec Patterson (1st)**

**Sean Burke (2nd)**

**Andy Erickson (3rd)**

**Lei Pan (Honorable Mention)**

Undergraduate Tutorial Scholars

**Faith Morrison**

**Teddi Roberts**

**Ardyce Taylor**

Undergraduate Teaching Scholars

**Tamatha Abell**

**Katharine Banner**

**Nick Paterno**

**Jade Roskam**

Graduate Student Distinguished  
Teaching Awards

**John Hart**

**Demitri Plessas**

**Lahna VonEpps**

Graduate Student Summer  
Research Awards

**John Goldes**

**John Hart**

**Rebekah Yates**

GSFRC 2008 Outstanding  
Presentation Award

**Rebekah Yates**

John A. Peterson Award for Math  
Education

**Tricia Vannatta**

**Kristen Waarvik**

President's Senior Recognition Awards

**Ryan Hoffman (BS Math/CS)**

**Clark Kogan (Statistics)**

**Katherine Kojetin (BA)**

**Erin Mondloch (Applied Math)**

**Todd Olsen (Pure Mathematics)**

**Tricia Vannatta (Mathematics Education)**

**Kristen Waarvik (Pi Mu Epsilon)**

Pi Mu Epsilon New Members

**Tamatha Abell**

**Morgan Eichwald**

**Whitney Oliver**

**Lauren Ramundo**

**Andrew Selle**



*Continued from Page 1, "Scotland"*

over teaching responsibilities for the next 5 weeks. I have been preparing lessons on equivalent fractions, decimals, and percents, probability, and statistics for two secondary one (S1) classes, and one secondary two (S2) class, which are equivalent to 7th and 8th grade in the States. The teaching load I am taking on next week is equivalent to a part time position, but I am sure I will be very busy, as I am still learning about the Scottish education system. I will also still be observing other classes whenever I can, however almost half the school will be leaving for 3-5 week study leave periods to get ready for their exams, so the school is going to be pretty quiet once May gets here.

These exams are just one of the differences between American and Scottish education. Here students' grades

are not given by instructors, but instead determined by one high stakes exam at the end of a course that is evaluated by an impartial party.

Using no form of grades definitely feels foreign to me. However, there are quite a few differences among American and Scottish cultures in general, and I am truly enjoying learning about them all. I am so thankful for the great opportunity I have been given to student teach abroad. This has been an awesome experience, and I am just happy that I still have five more wonderful weeks ahead of me at Dornoch Academy in the Highlands of Scotland.

*Kristen Waarvik graduated in May with Honors and with a Mortar Board Senior Recognition Award.*

*Continued from Page 3, "Math Tutoring"*

Center, located in the basement of the Math Building and operating Monday-Thursday, 1-7pm. Emily Haverhals, an adjunct instructor for the Math Department, has been hired to oversee the daily operations for both locations.

The tutors are selected from graduate and undergraduate students who must meet three hiring criteria: mastery of the specific math topics they will tutor; an ability to communicate those topics to others; and, most importantly, empathy for the student who doesn't "get" math.

Some of the tutors are math majors, but many are not. Zohair Bajwa was born in Pakistan and came to the University to pursue a bachelor degree in Finance. "Honestly, I was the only kid in my high school who got a C in math - everyone else had an A or B and felt sorry for me." So when did he start to like math? "When I started hanging out at the Math Learning Center to get help - I began to see that it's fun, and I started doing well in my math classes." Not only did Zohair, or "Z" as he is known to all, decide to add a minor in math to his finance degree, he is now tutoring in the math@mansfield Tutoring Center.

Both centers are now equipped with a plentiful supply of what some tutors call "non-digital laptop communication devices" - which is high-tech language for a lap-size whiteboard with a marker attached. In the past, even with encouragement from the tutors, most students were reluctant to get out of their chair to work at the big



*Students and tutors in the math@mansfield Tutoring Center*

whiteboards on the walls. Now, with a scattering of personal whiteboards lying about, students can work out a problem where they are, and it's easier for the tutor to add a bit of help or point out a misstep when needed.

Across campus and across disciplines, there is a growing awareness of the vital role quantitative literacy has to play in students' lives. The ability to reason with quantitative information is viewed as crucial to becoming a successful student and citizen. As of this writing, we are investigating the feasibility of adding quantitative literacy assistance as one of the core services offered at the Math Learning Center and math@mansfield locations. Imagine - being able to help not just students enrolled in math courses, but students enrolled in any course where quantitative reasoning and analysis are called for.

*Sharon O'Hare is the director of the Math PiLOT/ Math Learning Centers at the University of Montana. She earned her M.A. in Mathematics from the Department of Mathematical Sciences in May 2007.*

## Honor Roll of Donors



*Josephine Anderson Estate  
Sharen Bakke  
Dr. William and Lee Ballard  
Ruth Brocklebank  
Rod and Mary Jean Brod  
Dr. Ming-Chun Chang  
Arthur and Shirley Clarkson  
James and Kay Coghlan  
William and Sandra Frame  
Dr. Frank Gilfeather  
Gary and Loretta Glaze  
Dr. Francis Hannick  
Mary Hashisaki  
Gloria Hewitt  
Lt. Col. Gregory and Sydney  
Hulla  
B. William and Barbara  
Irlbeck  
Katy Jamison  
Lawrence and Charlotte  
Kaber  
Johnny and Carolyn Lott  
Amy Minto  
H. Bruce and M. Sandra  
Mueller  
Ross Nickerson  
David Patterson  
Dr. Howard and C.W.  
Reinhardt  
Betty Remington  
Dr. David Sherry and  
Jeanne Armbruster Sherry  
Gregory and Jan St. George  
Jeffery Padgett and  
Catherine Stewart  
Nikolaus Vonessen and  
Regina Souza  
Jefferey and Samantha  
Wright*



# Degree Recipients 2007-2008

## BA in Mathematical Sciences

Clark Kogan  
Katherine Marie Kojetin  
Adam McElderry  
Erin Driscoll Mondloch

Todd Andrew Olsen  
Elizabeth Marie Roberts  
Steven Schutten  
John Matthew Singleton

Alexandria R. Tobiason  
Tricia Jo Vannatta  
Kristen Elizabeth Waarvik

## BS in Mathematical/Computer Sciences

Ryan J. Hoffman

Brian Scott Jappinen

## MA in Mathematical Sciences

Michael Gilliam  
John Hossler  
Joseph Mousel  
Demitri Plessas

*Linear Operators and the Distribution of Zeros of Entire Functions*  
*Examining the Skew-Normal Distribution*  
*A Selective Guide to Problems in Matroid Theory*  
*Graph-like Objects and Topos-like Properties of Two*  
*Subcategories of the Category of Conceptual Graphs*  
*A Comparison of Analytical Methods for DNA Microarrays*  
*An Introduction to Coxeter Groups*  
*Classroom Voting in Contemporary Mathematics*

Advisor

Jennifer Halfpap  
Solomon Harrar  
Jenny McNulty  
George McRae

Jordan Purdy  
Mary Riegel  
Lahna VonEpps

Solomon Harrar  
Nikolaus Vonessen  
Libby Knott

## PhD in Mathematical Sciences

Scott Lambert  
N'Djekornom Dara Laobeul  
Hillary Van Spronsen

*Spectral Preserver Problems in Uniform Algebras*  
*Regularization Methods for Ill-Posed Poisson Imaging*  
*Proof Processes of Novice Mathematics Proof Writers*  
*Problems: Mathematical Theory*

Advisor

Thomas Tonev  
John Bardsley  
Libby Knott

# Alumni News

**Samantha Allen Wright** (B.A. 2001, M.A. 2006) sent word that she and her husband Jeff have welcomed a daughter, Morgan Grace Wright, into their family in January. Sam has been teaching middle school in California, but she is taking some time off from school for a little while. Many of you will remember Sam as a Teaching Assistant here in Missoula during the 2004-05 school year. We wish the best for Sam and Jeff and their new generation of Grizzly Mathematicians.

**James Barta** (M.A. 1999) has become quite involved in politics in Oregon. After teaching at the University of Portland and Portland State University, he is now managing the campaigns of two Democratic candidates for the Oregon State House. It seems a career in mathematics prepares you for all kinds of jobs you'd never dream of when you take freshman calculus!

After teaching for a year in our department, **Seth Braver** (Ph.D. 2007)

accepted a tenure-track position at the Santa Fe campus of St. John's College, a small, highly-selective liberal arts school. Saint John's curriculum is quite unusual. For example, there are no majors; instead, every student takes the same courses, all of which are based around "Great Books". And all students take four years of math! In the fall, Seth will not only lead a section of "Freshman Mathematics", a year-long course that covers most of Euclid's Elements, but also an introductory course in ancient Greek, and he will co-organize a freshman seminar on ancient Greek works. Wow!

**Aaron Luttmann** (Ph.D. 2006), currently a faculty member at Bethany Lutheran College in Mankato, Minnesota, accepted a job offer from the Department of Mathematics and Computer Science of Clarkson University in Potsdam, New York, where he will again be a tenure-track assistant professor. His new department has a vigorous graduate

program which includes a Ph.D. in Mathematics. Congratulations!

**Larry C. Newell** (M.A. 1959), who also earned an M.A.T. in 1968 from Washington State University, retired in 1994 after having taught at Billings West High School for 32 years, 16 of these as chairman of the math department. More recently, he retired last year after 38 seasons from his job as Park Ranger-Law Enforcement for the National Park Service in Yellowstone National Park, but he is still working seasonally for the Montana Department of Transportation. What a busy retirement!

We recently heard from **Lynn Sather** (B.A. 1993), who continues to tutor algebra at the Lincoln County Campus of Flathead Valley Community College. Thanks for keeping in touch!

*Please send in your news; we're always glad to hear from you, and your classmates will enjoy reading about you in this column.*

N.V.



# Building Addition: More Highlights

by Mark Kayll

A year and a half ago, I reported on the elevator renovation, then still in its early stages. Now that the project is complete, it's my pleasure to share some more highlights.

**Construction scheduling:** the inevitable. Attentive readers with good memories will recall that this article was planned for the Spring 2007 issue of this newsletter. If you were looking for it and wondering why it didn't appear, then you've never been closely involved with a construction project. Of course it fell behind schedule—we even accounted for this in our newsletter planning.

Set theory aficionados might be amused at just how out-of-synch with plans the actual schedule became. During the Design Committee meetings in January/February 2006, the construction time-line called for breaking ground immediately after Spring semester final exams (mid-May, 2006) and essentially completing the project by Labor Day (in time for the Autumn 2006 semester). This would minimize the instructional impact since it would intersect only with Summer Session courses. The reality? A back-hoe began digging just after Labor Day, and project landscaping was complete in the nick of time for Commencement (mid-May, 2007). So the bulk of the construction fell within the complement (with respect to an academic calendar) of the intended work days, thus maximizing instructional impact. (Oh well, nobody lost an eye.)

**Images.** The accompanying photographs follow the sequence of images appearing in the earlier article. There, we began with the architect's sketch of the planned "East Elevation."

The first photo shows the attractive new



*Southeast entrance: new building joins old*

addition from roughly the same angle.

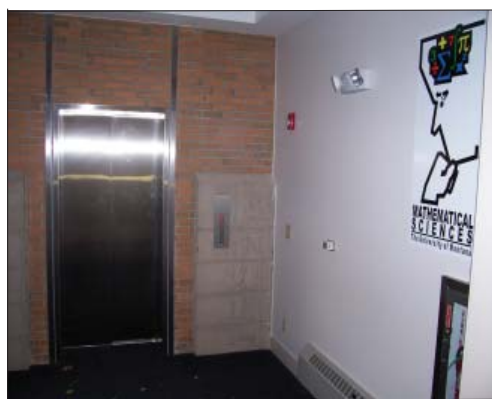
The second image depicts the view looking South across the second-floor glassed-in walkway, leaving the old part of the building and entering the new. This is the approximate location of our earlier



*Walkway to the new wing: elevator entrance on left.*

"Conversion of two 2nd floor offices" shot. What a difference a year makes!

The third photo captures the elevator door in the lobby entrance, inside the door depicted in the first photo. This location was occupied by a back-hoe in our "Phase II" image from the previous



*Elevator door, ground floor lobby.*

article. Notice that the department's logo is visible on the new wall at the right of the shot.

**Seamless transition.** Those familiar with the old Mathematics Building might recall never seeing a wheelchair during their visits to the department. So the following anecdote may seem paradoxical. When I entered my Math 225 (Discrete Mathematics) classroom in August, I noticed that one of my new

students was in a wheelchair. However, it took a few days for it to register that this was not a sight I had ever seen above the basement (where my office happens to be). Evidently, the building's transition to complete accessibility was as seamless for me as it was for the university's classroom scheduler and the students.

**Incelebration.** The new building's inauguration took place on Thursday, September 20, 2007, a public event with cake and ice cream. Department Chair David Patterson presided over a short dedication ceremony, attended by, among others, Dean Jerry Fetz (College of Arts and Sciences), project architect Mike Gilbert, and university architect Jameel Chaudhry. One take-home message from Professor Patterson's speech was how delighted the department is to call home a completely accessible building (not to mention the new restroom facilities, sporting their groovy randomized black-and-white square tile wall designs).

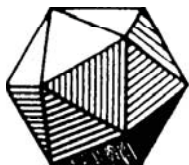
**Tree update.** As noted last year, the old trees near the building were treated with kid gloves. They—most notably the volunteer maple practically growing out of the old building's foundation—appear to have survived the intrusion by all the heavy equipment.

**A thank-you.** Once again (again!), the department thanks the College of Arts and Sciences and the Administration/Finance Office, both essential and appreciated supporters of this project.

The article on the earlier renovation appears at [www.umt.edu/math/Newsltr/fall06.pdf](http://www.umt.edu/math/Newsltr/fall06.pdf). To see more project photographs, please visit [www.umt.edu/math/construction/](http://www.umt.edu/math/construction/)

## Wintersession Course January 2009

Adjunct instructor Richard Lane will offer next January a 1-credit upper division course called *Exploring Mathematics with Maple*. This introduction to the powerful computer algebra system Maple will meet TWR 1-3pm January 13-22, 2009



## Math Club Corner

<http://www.math.umt.edu/mathclub/>

by Nikolaus Vonessen

One of the highlights of the spring semester was the visit by alumnus **Scott Jones** (B.A. 2001, M.A. 2002), a consulting actuary at Milliman, Inc. in Seattle. At a meeting of the Undergraduate Math Seminar, he gave us a very nice introduction to the actuarial profession. His talk included interesting examples which illustrate the kind of problems an actuary works on (and which also showed how complex these problems are). Thanks, Scott!

April 15 was the date of our ninth annual Math Film Festival. We worked hard to make it a great event. The main attraction in the evening was a new, feature-length animated version of the classical novel Flatland, which was created by independent film maker Ladd P. Ehlinger, Jr., who directed, animated and edited the entire film personally. We also had a special treat: the three-minute film The Math Geek, produced by **Laura Williams** and starring **Nick Paterno**, both math majors. The only disappointment was the low attendance. Next year, we will have to do a better job advertising.

You may know that our chapter of the national math honors society, Pi Mu Epsilon, was founded in 1925; it was the ninth chapter in the nation. Last fall,

the national organization sent us an electronic list of all our members according to their records, and asked us to double-check it. I am very grateful that retired faculty member **Mary Jean Brod**, who had been a math club advisor for many years, was willing to take on this task. It was quite difficult because of irregular record keeping and because of handwriting which was often difficult or even impossible to decipher. Mary Jean came up with many additions and corrections. In the process, we discovered that our cumulative membership numbers well over eight hundred!

The Pi Mu Epsilon chapter roll book which we always used is actually just a loose-leaf collection of brittle pages in an old-fashioned binder. In order to preserve this historic document, we unfortunately had to retire it. For the initiation ceremony in April, we used for the first time a new, nicely bound chapter roll book with acid-free paper.

*The Math Club is always looking for outside speakers, especially alums, to talk about their professional lives, and how they use mathematics or statistics in their careers. Please let me know if you can help out! (406-243-6222 or [nikolaus.vonessen@umontana.edu](mailto:nikolaus.vonessen@umontana.edu))*



The University of  
**Montana**

Department of Mathematical Sciences  
(MMAIO1)  
Mathematics Building  
Missoula, Montana 59812-0864  
Phone: 406-243-5311  
Website: [www.umt.edu/math](http://www.umt.edu/math)

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