2000-2001 Outstanding Senior Award

Each year the faculty of the Mathematics Department selects senior majors to be recognized for their outstanding achievements in mathematics. Selection criteria include mathematics GPA, overall GPA at MSUM, performance in difficult mathematics courses and the results of the ETS Major Field Test in Mathematics. This year the winner is Jay Noland. In addition to recognition by the faculty, Jay will receive membership in the National Council of Teachers of Mathematics.

Jay is the son of Michael and Caryn Noland and is a graduate of Falls High School of International Falls, MN. He will receive his degree with an emphasis in mathematics education in fall semester 2001.

While at MSUM Jay has been active in the Math Club, serving as president for 2000-2001, and is a member of EMSP (Education Minnesota Student Program) and MCTM. He has also served as a mathematics tutor and while at MSUM Jay has held a Nellie H. and Marshall Alworth Memorial Fund Scholarship for outstanding science and mathematics students.

After teaching high school mathematics for several years he hopes to work on a Master’s Degree at Trinity College in Dublin, Ireland.

Wallen Scholarship Recipient

Angie Hodge of Lancaster, MN is the 2001 recipient of the James T. Wallen Scholarship for juniors in mathematics. Angie’s parents are Ron and Cindy Hodge and she graduated from Warroad High School.

At MSUM Angie has compiled an outstanding academic record and has served as a mathematics tutor, vice-president of the Math Club, peer advisor and math representative on the Student Advisory Board. She has been a participant in the Education Minnesota Student Program and is a member of Kappa Delta Phi and Phi Kappa Phi honor societies.

Upon completion of her degree at MSUM Angie intends to teach for a few years at the secondary level before returning to school for graduate work. Her long range goal is college level teaching.

The Wallen Scholarship is awarded by the Mathematics Department to a junior with an outstanding record in mathematics and is named in honor of Jim Wallen who taught in the department for many years prior to his untimely passing. Contributions to the Wallen Scholarship Fund can be made directly through the MSUM Foundation by specifying the Wallen Scholarship.
New Department Members

The Mathematics Department is pleased to welcome two new assistant professors for fall 2001.

Ellen Hill will receive her Ph.D. from Indiana University this spring. Her doctoral dissertation is in the area of mathematical physics and she passed Ph.D. exams in both mathematics and physics. Ellen is originally from Richfield, MN, and did her undergraduate work at N.D.S.U.

Dr. Kristine Montis comes to us from Lake Superior State University (Michigan) where she is an assistant professor. Kris received her Ph.D. from the University of Oklahoma in 1997. Her specialty is mathematics education, an area in which she has substantial experience. Kris taught secondary mathematics in New Mexico for 12 years and was a counselor for several years after that before returning to graduate school to obtain her doctorate. She has taught at Lake Superior State for the last four years.

The department is looking forward to working with Ellen and Kris beginning next fall.

Dr. Wayne Chen Sabbatical

Does a math professor need experience in industry? Apparently Wayne Chen believes so. He notes that many of his students work in industry, or will do so after graduation. Thus it was clear to Wayne that any experience he gained there would be beneficial in helping students prepare for their careers and generally improve his ability to teach them. To this end, Wayne took a sabbatical leave from June, 1999 to May, 2000 to work in industry.

To his dismay, he discovered many firms he contacted were not interested. After some painful searching, he did obtain a probationary position with a computer software firm. Fortunately, after several months of experience, and especially after becoming a Sun Certified Java Programmer, he was made to feel welcome in the software industry. He eventually worked as a consultant to six different firms.

It is interesting to note Wayne possesses excellent credentials. Besides having a Ph.D. in mathematics, he has also completed all the coursework and passed all the exams required for a Ph.D. in statistics. He only lacks the writing of a dissertation. He has completed some graduate courses in computer science, has done considerable programming, and is fluent in the use of several software packages. Most importantly, all of this training accentuated his ability as a problem solver, and it was this ability industry most appreciated.

Wayne has experienced the differences between working in academia and in industry. He observes that while the knowledge needed and the techniques used are the same, the work environment and requirements are different.

At the present time Wayne is attempting to integrate his new experiences into teaching. Do you think students will now like his teaching more or less than before his sabbatical?

Learning Center New for Fall 2001

With the goal of improving the success rate for students in entry level mathematics courses, the Mathematics Department will open a Learning Center fall semester of 2001. A MnSCU assessment test will be administered to all new freshmen with ACT mathematics scores less than 24. (Sample questions are available for practice on the MSUM homepage, http://www.mnstate.edu under Admissions, then Dragon Days Registration.) Results from the test will determine mandatory placement in an appropriate developmental or college level mathematics course. The idea is to have students "begin where they are at" mathematically. We want students to have a positive experience in the first mathematics course they register for at MSUM and to have a realistic chance to succeed.

Significant changes will occur in the delivery of the non-credit Elementary and Intermediate Algebra courses. In these courses, students will be required to meet four days each week. Two class sessions will be lectures with veteran MSUM mathematics faculty, with the other two meetings being lab sessions in the Learning Center. The lab director, the faculty lecturer, and student peer tutors will be available in the lab for one to one help, small group work, work at the board, and hands on activities. We want students to develop good study habits and to learn to read, write and do mathematics. Students who successfully complete the Learning Center courses should then have a sufficiently current and strong algebra background to succeed in college level courses – hopefully the first time they try!

The vast majority of our students are not mathematics majors, but many have mathematics requirements for their majors and/or need to fulfill the liberal studies mathematics requirement. The Learning Center will have a positive CAN DO atmosphere. Students will improve their algebra skills and gain confidence in their ability to do mathematics. We will be there to help students on their way to success in a college level mathematics course and eventually an MSUM degree in their chosen major.

The Problem Corner 2001

1. A nickel is placed on a table. What is the number of nickels which can be placed around it so that each is tangent to it and to two others? Try it with pennies, dimes, quarters, etc. Obviously any disks of common size can be used. Why is your answer correct?

2. A positive integer when divided by 10 leaves a remainder of 9, when divided by 9 leaves a remainder of 8, when divided by 8 leaves a remainder of 7, ..., when divided by 2 leaves a remainder of 1. Determine the smallest possible positive integer.

3. Two swimmers, at opposite ends of a 90 foot pool, start to swim the length of the pool, one at a rate of 3 ft/sec and the other at a rate of 2 ft/sec. They swim back and forth for 12 minutes. Allowing no loss of time at the turns, determine the number of times they pass by each other.

To find solutions for these problems go to the MSUM website (www.mnstate.edu) and then go to the Mathematics Department webpage.
2001 ALUMNEWS:

Arian Mueller, '63, retired from teaching at Moorhead Senior High School in 1997. He's been driving truck with his wife for the last two years and doing as much hunting and fishing as possible.

Dianne (Ernst) Ellefson, '70, lives on a grain farm and raises beef cattle. She and husband Roger have four children. Dianne is a homemaker right now, but did do some substitute teaching in the past.

Patricia M. Botner, '73, has been at Alexandria Technical College since 1983. She taught math and business courses until the fall of 1988, when she began going on the road as a recruiter. Visiting high schools in ND, SD, MN and WI continues to be a very rewarding adventure for Patricia. Her husband Daniel (MSUM '73) is building them a new home on property adjacent to their previous home. Patrice reports that this is a very busy and exciting time for them. She would also like to say "hi" to former classmate Lorrie Miller Birkholz and would like to get together and visit sometime!

Dave Jacobson, '80, continues as an advisory reliability engineer at IBM in Rochester, MN. He also is an adjunct faculty member at St. Mary's University where he teaches statistics courses in their management graduate program. Much of Dave's spare time is spent serving on the boards of the Rochester Youth Soccer Association and Rochester Community Youth Basketball Association. His wife Deb is a biostatistician at Mayo Clinic. They have two children Justin (15) and Emily (12) in the 9th and 6th grades respectively.

Ilo (Lewis) Myhra, '93, has been working since 1992 for Keanes, Inc., in Rochester, MN as a Principle Software Consultant. She works on-site at a major computer manufacturing company in Rochester in their software support center as a technical support representative. Ilo lives in Rochester with husband Jim and dog Woody. In her spare time she plays French horn in the Rochester Civic Music Community Band.

Scott LaChance, '84, has been in the Seattle area (Kingston, WA) since 1989. He left the US Navy in 1990 where he served as an officer aboard the USS POYG, SSN647.

Theresa is an actuary for Latin America and all Direct Response initiatives. Her travels have taken her to Mexico and the UK and Canada. Theresa hopes to be making her first Australian trip later this year. She comments that she greatly enjoys working in new cultures and with the local staffs. Theresa is also active in the Society of Actuaries and is currently serving as Secretary of the Minnesota Traditional Marketing Section council. She lives in Northbrook, IL with husband Michael and their son Peter (7).

Peter A. Ringdahl, '85, is the Director of Traffic and Pricing at Midwest Motor Express. He and wife Susan (MSUM '86 Accounting) along with daughter Morgan (7th grade) and son Mitchell (4th grade) reside in Bismarck, ND. Peter keeps busy attending to his children's activities which include basketball, volleyball, soccer and music. He also notes that helping his children with their homework has kept his evenings active. Prringdahl2262@gol.com

Dudley C. Wells, '86 & '87, reports that daughter Kalle will graduate from MSUM in the spring of 2001 with a Bachelor's Degree in Economics, and has a full assistantship lined up at the University of Wyoming in resource economics.

Sara Lamont, '89, is living in Palmer, Alaska. Her job title is kindergarten teacher at Finger Lake Elementary for the Matanuska-Susitna School District. The school is located between Palmer and Wasilla. Sara has 24 students with no aide and very limited amount of parent volunteers. This is her eighth year with this district. Every March Sara volunteers at the restart of the Iditarod dog race. (The Iditarod begins in Anchorage and travels over 1000 miles northwest to Nome.) The mushers and their dogs are always ready and eager to go started on their long trip which take the leaders usually about nine days to complete. slamont@flc.mat-su.k12.ak.us

Jeff Riewer, '90, is currently working in the Walker-Hackensack-Akeley High School where he has been teaching for the last 11 years. He is also employed during the summer at a co-ed kids camp in the BWCA as a property manager. Jeff will soon be completing his Master’s in math education at BSU. rieve10@paul bunyan.net

Greg Falla, '92, graduated from MSUM with a BA in Mathematics in November 1992. After graduating, he and wife Deirdre (MSUM Nov'92 AA) and their two children moved to Connecticut where Greg worked as an engineer and Deirdre continued her education towards an elementary education degree at Central Connecticut State University. She now is a second grade teacher at a magnet school in New Britain specializing in dual language (Spanish/English). Their children attend this school also. After working for eight years as an HVAC and plumbing engineer in the construction industry, he changed careers. During the last few years, Greg was attending graduate school part-time at CCSU for teacher certification and is now teaching middle school math, pre-algebra and algebra at a charter school catering to inner-city students of Hartford and New Britain who are at-risk of failing. He is currently working under a permit because of a shortage of math teachers. It would have taken Greg about three more years to gain certification at CCSU. He has left the program at CCSU and is in the process of gaining his certification through a program offered by the state of Connecticut. Greg should be certified by May of this year and is very happy and grateful to be in the position that he's in, as he loves teaching. He closes by saying "Hi" to everyone and is wondering if Mr. Swanson, his Autocad instructor, is still there? fgfala@tdae.org or http://www.tdace.org

Laura (Schuette) Solarz, '93, works at Dunwoody Institute in Minneapolis, managing the institutional research and student records departments. She spent the summer and fall of 2000 undergoing chemotherapy for ovarian cancer and would like to thank her MSUM friends who prayed for her and cheered her on during treatment. She completed chemo in mid-November and is now in remission and feeling great!

Dennis Fischer, '94, is currently working on his Master's in Technology with an anticipated completion date of June 2002. He has been teaching math, computers and physics in Wheaton, MN for the past seven years. Dennis has two sons aged 3 and 6. His wife Nancy, also an MSUM graduate, has been teaching physical education in a neighboring district for the past seven years. dischera@wheaton.k12.mn.us

James Saari, '95, teaches geometry at the Bernidji High School. In December 1997 he married Julie (Disse) and they have 1½ year old Keegan with identical twin daughters on the way to arrive soon. They live in a new country home nine miles out of town. James is currently working on his Master’s at Bemidji State University during summer months.

Kerri (Zastrow) Klindt, '96, continues to live in Oakdale, MN with husband Gregg. She is in her sixth year with Deluxe Corporation in Shoreview, MN as a Senior Programmer.

Bruce Borowicz, '96, is currently in his third year teaching 8th grade mathematics at Mountain View Middle School for the Beaverton School District in Beaverton, OR. He served one year as an assistant basketball coach with the Pacific University Women's Basketball team and currently is working on his Master's in Arts of Teaching. He and wife Vicki (Luehmann, MSUM '98) live in Forest Grove, OR where Vicki is in her third year of optometry school. When she graduates in May, 2002, the Borowicz' plan to move back to Minnesota. Bruce.Borowicz@beavon.k12.or.us

Gretchen (Carlson) Kost, '97, reports that after working at Blue Cross Blue Shield as a Medicare Statistician/Data Analyst for two years, she accepted the position of Statistician with PRACs Institute, Ltd. in Fargo. She has already learned much about bioequivalence of pharmaceuticals and is happy to have found a job that is both challenging and fun. Gretchen began
working on her Master's degree in Statistics at NDSU last fall. In December, she and husband Rob gave each other a beagle puppy for Christmas named Scout, who is growing quickly and keeping them very busy. robgratchkost@netzero.net

Matt Weum, '99, continues to work for International Decision Systems (www.idsgrp.com) in the technical support department. He is working out of the Minneapolis office in the Dain Rauscher tower. Matt is proud to announce his engagement and upcoming wedding. He will be getting married on June 30, 2001 in Brooklyn Park to Amy Basten. They are currently building a home in Brooklyn Park, MN and hope to move in to it in May 2001. mweum@idsgrp.com

Thomas Mielke, '00, has just completed the first semester of graduate school at Saint Cloud State University for a Master's Degree in Applied Economics. This degree will bridge the two majors he had at MSUM. Thomas should complete the degree on time and graduate in the spring of 2002. The Applied Economics degree uses many calculus and statistics principles like regression analysis, matrices and constrained and unconstrained optimization problems. tmielke1@hotmail.com

PROBLEM CORNER 2000 ANSWERS

2. A game is played by starting with several pennies, say at least 8, and arranging them in a circle so that every coin touches each of its neighbors. A move by a player consists of choosing any single coin or any pair of coins which are touching each other. The player who takes the last coin WINS. This is not a fair game. There is a strategy which one of the players can use to always assure a victory for that player. Is it the player who selects first or the player who selects second? What is the strategy? Your strategy should work for any number of coins greater than 4.

The player choosing second can always win if at each turn, the player selects a coin or coins so that the remaining coins are divided in two congruent parts. For example, if there are 9 coins numbered counterclockwise, and the first player chooses coins 1 and 2, the second player should choose coin 6. Then whatever the first player does to one side, the second should make the symmetric choice on the other side.

3. In a competition between 5 hockey teams, A, B, C, D, and E, each team is to play each of the others once. The following table gives a certain amount of information as to what has happened after some of the games have been played.

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<th>Played</th>
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<th>Goals For</th>
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Who has played whom? Find the result of each game and the score.

GAMES | A vs. C | A vs. D | A vs. E | B vs. C | B vs. E | C vs. D | D vs. E
SCORE | 0-0    | 3-0    | 4-0    | 3-1     | 1-0     | 1-1     | 3-0

Filling in the missing entries in the original table is easy and they have been entered in bold face type. To determine which teams played one another note A tied C and C tied D. Also A and B did not play each other, so A played C, D and E. Also note C did not play E. To determine the scores, note that since E scored no goals, E's score is always 0. A's opponents always score 0 when playing A. B's opponents scored one goal, so C must have scored 1 goal against B. Continue in this manner to complete the puzzle.