

MATHEMATICS DEPARTMENT NEWSLETTER
JUNE 2007



CHAIRPERSON'S MESSAGE

We hope that this letter finds you in good health and good spirits.

We have had some turnover in the Department. We hired two new faculty members this year and they will begin this fall. **Virginia Keen** (Ginny) has a Ph.D. in mathematics education from Michigan State University and she has held academic positions at Bowling Green State University, Miami University and Wright State University – Lake. Ginny will collaborate with **Becky Krakowski** and **Shannon Driskell** to support current, as well as develop new, initiatives in Mathematics Education. **Muhammad Usman** has a Ph.D. in mathematics from the University of Cincinnati. Usman's area of expertise is partial differential equations; he brings significant computation experience and he will be called on this first year to teach the numerical analysis sequence. He should have multiple opportunities for collaboration at UD with the financial mathematics program and several departmental colleagues in differential equations, and he should have multiple opportunities with groups in the School of Engineering.

With the hiring of Ginny and Usman, we were momentarily fully staffed, a rare event these days. Recently, **Stephanie Edwards** and **Darren Parker** each accepted positions in Michigan, Stephanie at Hope College and Darren at Grand Valley State University. Thus, we are once again not fully staffed going into the new school year. We do wish Stephanie and Darren the best as they move into their new positions. I also take this opportunity to thank each of them for their contributions to the department and to the university over the past six years. Each of them was committed to the undergraduate major and Stephanie was committed to advising our majors and as well as students who have not yet declared. Stephanie is responsible for introducing us to Integration Bee, a popular event that we shall continue.

Last year, I told you in the chairperson's message that we would focus on curriculum issues for the major. Instead, we received a request to revise the calculus sequence significantly. It turns out that for now, the calculus sequence will not be revised significantly and so, the curricular discussions for the major are again at the top of our list. I had solicited your opinions last year and several of you responded. I am just

letting you know that I did not drop the ball on that one; I re-invite your feedback. You can send that feedback to Paul.Eloe@notes.udayton.edu.

With the new academic year, we will be working with a new Dean of the College. Mary Morton accepted the position as Provost and Vice President for Academic Affairs at Gustavus Adolphus College in Minnesota. UD performed a rather speedy inside search to replace her. **Paul Benson** of the Department of Philosophy has been named as the new Dean of the College. We are looking forward to working with Paul. Before he earned his Ph.D. in Philosophy at Princeton in 1984, he earned his baccalaureate degree at St. Olaf College as a mathematics major. We will have a Dean who understands the expression, abstract algebra.

I hope you enjoy this years Newsletter. We enjoyed this past year and the newsletter should reflect that. We keep a current web page at <http://www.udayton.edu/~mathdept/>. Under Archives, you will find the Newsletters dating back to 1996.

Thanks.

Paul Eloe

THANKS!

Thank you again for your generous support. As you read through the undergraduate and graduate activities sections, you can read about the activities you have supported this past year. You have helped support Math Events, Integration Bee, the High School Mathematics Competition, and undergraduate student travel and graduate student travel. Your support is very much appreciated.

Our records, in conjunction with those of the University Advancement Office, indicate the following people donated a total of \$5,237.50 to the Department of Mathematics during 2006:

Timothy P. Bahmer (91)	Mr. & Mrs. George G. Morrison, III (82)
Ronald L. Beisel (63)	Jane F. Pendergast (74)
Mr. & Mrs. Stephen Bergeon (83)	Edward & Joyce Ray (74)
Gregory & Julie Ruschau Bishop (86)	Curtis J. Schultz (01)
Paul J. Campbell (67)	David & Barbara Kieltyka Schwallie (81)
Paul and Laura Schneider (84) Eloe	Richard & Elizabeth Harrison Segers (50)
Marla Prenger Gross (90)	Robert W. Springer (77)
Michael & Mary Ann Gold Hartke (66)	Kevin A. Thomas (76)
Paul S. Judd (82)	Mark Turella (80)
George K. Koeplinger (74)	Daniel & Nancy J. Voss (79)
Melvin & Pauline Foley Kuhbander (56)	Peter P. Zelek (73)
Christine M. Mitchell (72)	

The above total includes employee matching gifts from the following corporations and foundations:

Fidelity Investments Charitable Gift Fund

THE KENNETH C. SCHRAUT MEMORIAL LECTURESHIP FUND

Thank you also for your continued generous support of the Kenneth C. Schraut Memorial Lectureship Fund. As of December 31, 2006, the market value of the fund is \$55,736.04. This past fall, **Greg Campbell** (72) (see below) delivered the 7th **Kenneth C. Schraut Memorial Lecture**. This year's lecture is scheduled for Saturday November 3, 2007. The Lecture will be held in conjunction with *Undergraduate Mathematics Day*, an undergraduate mathematics conference. See <http://academic.udayton.edu/MathEvents/> for continual updates with respect to this year's Lecture and undergraduate conference. The following individuals donated an additional \$3,950.00 to the endowment during 2006:

Philip & Kathy Kolesar-Aftoora (69)
Eugene & Lois Scaife Bolzan (69)
Richard & Leslie Kirchmer Iannarino (71)
Marilyn Szorc

William J. Scharf (68)
Ronald & Pamela Steinkirchner (76)
C.Eugene Steuerle (68)

The above total includes matching gifts from the following corporations and foundations:

Lockheed Martin Corporation

Fidelity Charitable Gift Fund

THREE SPECIAL GIFTS

We are pleased to announce the **Kenneth C. Schraut, Ph.D., Memorial Scholarship Fund**. This Fund has been opened through the generosity of **Lawrence W. Woerner** (76). This Fund is open; you are invited to direct your donations to this fund if you are interested. Recently, **William J. Scharf** (68) contributed to this Fund and the Department of Mathematics has directed \$5000 from discretionary funds to this Fund. The scholarship is intended for students who are majoring in mathematics in the College of Arts & Sciences who have demonstrated outstanding academic achievement. Please do not confuse this endowed scholarship with the endowed Kenneth C. Schraut Memorial Lectureship Fund. Both funds will continue: the Lectureship Fund will support the annual Schraut Lecture and the new Scholarship Fund will provide financial support for mathematics majors.

We are pleased to announce the **Arnold P. and Rose M. Schoen Scholarship Fund**. This Fund has been opened through the generosity of **Dr. Harold Schoen** (63), **Dr. James Schoen** (67, 69) and **Dr. Richard Schoen** (73) in honor of their parents. This scholarship is intended for mathematics majors who have at least a 3.0 G.P.A. and who demonstrate financial need.

The **International Learn, Lead, Serve Award** granted by the College for the best proposed Learn, Lead, Serve project to be pursued outside the U.S. has been endowed by an anonymous donor, in honor of the international service-learning work of **Steven Buck** (03). Steven is part of the Buck family producing a number of math alumni at UD including father, **Dr. Robert Buck** (69), sister **Barbara Kowalski** (91), and sister **Nancy Buck** (08, anticipated).

We give special thanks this year. We are deeply touched by the support you alumni provide. The scholarship funds are truly appreciated. The increase in the cost of a

college education has been steep in recent years. Many schools aggressively recruit STEM (science, technology, engineering and mathematics) students. These scholarships will help us continue to be able to attract good mathematics students to UD. For further information about supporting mathematics at UD, please feel free to contact Rory Dahlinghaus at 937-229-3089 or Rory@udayton.edu. Rory is a development officer at UD and he works closely with the Department of Mathematics.

MATH EVENTS AT UD

Through their generous contributions to the Kenneth C. Schraut Memorial Lectureship fund, our alumni have enabled us to host the annual Kenneth C. Schraut Memorial Lecture. Since 2002, the Schraut Lecture has anchored *Math Events* each year. In even-numbered years, we hold the Biennial Alumni Seminar, and in odd-numbered years, we organize Undergraduate Mathematics Day, a conference for undergraduate students. This year's *Math Events* will be held on Saturday, November 3, 2007. The most current information can be found at <http://academic.udayton.edu/MathEvents/>.

THE 7th ANNUAL KENNETH C. SCHRAUT MEMORIAL LECTURE, November 4, 2006

Dr. Greg Campbell (70), Director, Division of Biostatistics, Food and Drug Administration, delivered the 7th annual Kenneth C. Schraut Memorial Lecture to an audience that contained more than 50 students. In addition to a good turnout from our undergraduate and graduate students, students from John Carroll University, Xavier University, Sinclair Community College, and local high schools attended. **Gerry Shaughnessy** (63) introduced Greg and provided the opening comments.

Greg spoke on "The Role of Biostatistics in Medical Devices: Making a Difference in People's Lives Everyday."

Greg's lecture captured both the spirit of the Schraut Memorial Lecture and the Career Seminar. A huge part of Doc's legacy is the profound impact he made on so many young, budding mathematicians. The Schraut Memorial Lecture is intended to impact the undergraduate mathematics student. Greg introduced us to problems encountered by the Food and Drug Administration, discussed how modern statistics can be applied when ethical issues arise due to the application to human subjects, and he introduced some applications of cutting edge statistical methods. Moreover, Greg would pause and give sage advice to the students in the audience about taking responsibility for their career paths.

THE 22nd BIENNIAL ALUMNI SEMINAR ON CAREERS IN MATHEMATICS, November 4, 2006

We are challenged with the Alumni Seminar on Careers. Alumni are very generous with time, wisdom and advice; student interest is always difficult to generate. This year's format seemed to generate some success. A Career Panel immediately followed Greg's lecture. Break-out sessions with panel members then followed the Career Panel. Attendance and interest at the break-out sessions continued to be disappointing; however, the Career Panel was a very successful venue.

The following careers were represented in the break-out sessions: Statistics, Business, Government, Engineering, Mathematics Education, High School Teaching, College Teaching, Graduate School Preparation, Resume Writing/Interview Preparation, and Financial Engineering. These careers were represented by the following Career Panelists:

Statistics: **Dr. Rafe Donahue** (87), Research Associate Professor, Vanderbilt University Medical Center

Marla (Prenger) Gross (90), Senior Statistician, Procter & Gamble

Business: **Paul Judd** (82), Department of Actuarial Science, Drake University

Dr. Jim Schoen (67, 69) Director, Six Sigma Services, NCR

Government: **Dr. Greg Campbell** (70), Director, Division of Biostatistics, Food and Drug Administration

Carol Molloy, National Security Agency

Engineering: **Dr. Alan Berens** (55), Statistician, UDRI

Dr. Joe Haus, Director, Electro-Optics Program, University of Dayton

Mathematics

Education: Dr. Patricia Campbell, School of Education, University of Maryland

High School

Teaching: **Ann Meyers** (80), Chaminade Julianne High School

College

Teaching: **Dr. Susan (Miller) Thompson** (81), Chair, Department of Mathematics, Otterbein College

Grad School

Preparation: **Dr. Stephen Hartke** (99), VIGRE Research Asst. Professor, University of Illinois

Resume/

Interviewing: **Thomas J. Britt** (85), Senior Actuary, Nationwide Financial

Financial

Engineering: Michael Altier, Senior Actuary, Nationwide Financial

The Panel members were seated at the front of the auditorium in the order listed above. The only coaching they had received was that each would be introduced and then each would be given 5 or 6 minutes to introduce students to aspects of their careers. We would tell the panelists to treat this like a teaser and entice students to your break-out session. The 75 minute panel session was wonderful. As we made our way through the panel, the panelists successfully pulled in material from previous panelists and created a wonderfully spontaneous session. Feedback from the audience and the panelists indicated that the session was very well received. Everyone found value, students, panelists and faculty. Professor Leo Schneider brought a van full of students from John Carroll University. To quote him directly: "You assembled one dynamic set of presenters!"

Some sessions were added this year; we want the students to enjoy the day, but we want to send a message that students should take some ownership and assume responsibility to begin developing career interests. So we specifically added Graduate School Preparation

and Resume Writing/Interview Preparation. It was also the case that Michael Altier's break-out session consisted of interviews for a summer internship with Nationwide. Students were required to submit resumes to Michael beforehand. (We are pleased to report that **Xiaoyan Ruan**, a current master's candidate in financial mathematics, was awarded a summer internship.) We continue to have students coming in during March and April wondering about summer REU programs or summer internships; but we are certainly working hard to get the right message out to the students.

We happily invite your advice on developing an optimal format for the Career Seminar. For example, the turnouts for the break-out sessions, following this year's wonderful Schraut Lecture and popular Panel Session, continued to be modest. At this point in time, we can assume that the Panel Session format will be employed at the next Career Seminar in 2008.

INVITATION TO MATH EVENTS 2007 ON SATURDAY, NOVEMBER 3, 2007

You are invited to participate in *Math Events 2007*, which will take place on Saturday, November 3, 2007. This year's program will consist of the 8th *Annual Kenneth C. Schraut Lecture* and *Undergraduate Mathematics Day*, an undergraduate mathematics conference. We are pleased to announce that **William Dunham**, Truman Koehler Professor of Mathematics at Muhlenberg College will deliver this year's Schraut Lecture. Professor Dunham is best known as author of *Journey Through Genius*, for which he was awarded the 1993 George Pólya Award of the Mathematical Association of America for excellence in expository writing about mathematics. In honor of Euler's 300th birthday this year, Dr. Dunham will speak on "*An Euler Trifecta*." **Colleen Hoover** (91) of Saint Mary's College will present an invited address for Undergraduate Mathematics Day. The organizers for this year's Math Events are Wiebke Diestelkamp and Aparna Higgins. You will be able to keep up with details at <http://academic.udayton.edu/MathEvents/>.

FACULTY UPDATE

Full Time Faculty

Atif Abueida, 2000	Aparna Higgins, 1984	Shirley Ober, 1977
Art Busch, 2006	Peter Hovey, 2001	Darren Parker, 2001
Wiebke Diestelkamp, 1998	Muhammad Islam, 1985	Youssef Raffoul, 1999
Shannon Driskell, 2003	Virginia Keen, 2007	Paula Saintignon, 1983
Stephanie Edwards, 2001	Becky Krakowski, 2000	Gerry Shaughnessy, 1967
Paul Eloë, 1980	Ruihua Liu, 2004	Les Steinlage, 1969
Bob Gorton, 1969	Joe Mashburn, 1981	Muhammad Usman, 2007

Part Time Faculty

Beth Buerschen, 2006	Robert Finnegan, 1985	Scott Mitter, 2001
Betsy Buschor, 2006	Steve Fuchs, 2005	Betty Schneider, 1989
Cheryl Edelmänn, 1999	Joe Huelsman, 2003	David Tsui, 2005

Professors Emeriti

Stanley Back, 1998
Bill Friel, 1999
Tom Gantner, 2001
John Kauflin, 2006

Jack McCloskey, 2001
Harry Mushenheim, 2006
Jerry Neff, 1999
Richard Peterson, 1998

Ben Rice, 1998
Carroll Schleppi, 2001
Ralph Steinlage, 2001
Jerry Strange, 1999

FACULTY ACTIVITIES

Atif Abueida co-authored “A note on the recognition of bisplit graphs,” *Discrete Mathematics*, 306 (2006), pp. 2108-2110 (with R. Sritharan), “Cycle extendability and Hamilton Cycle graph classes,” *SIAM Journal on Discrete Mathematics*, 20 (2006), pp. 669-681 (with R. Sritharan), and “Multidesigns for graph triples of order 6,” *Congressus Numerantium*, 183 (2006), pp. 139-160 (with M. Daven, **W. Diestelkamp**, **Stephanie Edwards**, and **Darren Parker**). Atif continues his work with in-service mathematics teachers as well. He was awarded his third Improving Teacher Quality (ITQ) grant through the Ohio Board of Regents. Atif is looking forward to a year long sabbatical leave with extensive travel plans to Auburn, U.A.E, and Australia.

Art Busch completed his first year at UD. He authored “A characterization of triangle free tolerance graphs,” *Discrete Applied Mathematics*, 154 (2006), pp. 471-477, and “A note on the number of Hamiltonian paths in strong tournaments,” *Electronic Journal of Combinatorics*, 13 (2006), Note 3, and he co-authored “On arc-traceable tournaments,” *Journal of Graph Theory*, 53 (2006), pp. 157-166 (with M. Jacobson and K.B. Reid). Art was selected as a Project NExT Fellow for 2006-2007.

Wiebke Diestelkamp co-authored “Multidesigns for graph triples of order 6,” *Congressus Numerantium*, 183 (2006), pp. 139-160 (with **Atif Abueida**, M. Daven, **Stephanie Edwards**, and **Darren Parker**).

Shannon Driskell continues her collaboration with Susanne Harper of Miami University. They co-authored “Constructing recursive geometry sketches,” *Mathematics Teacher*, 99 (2006), pp. 442-445, “An investigation of historical geometric constructions,” *Convergence* (an electronic journal), (2006), and “Sliders and parameters extend interactive software,” *Mathematics Teacher*, 99 (2006), pp. 627-631.

Stephanie Edwards co-authored “Multidesigns for graph triples of order 6,” *Congressus Numerantium*, 183 (2006), pp. 139-160 (with **Atif Abueida**, M. Daven, **Wiebke Diestelkamp**, and **Darren Parker**). She earned tenure and she earned promotion to the rank of Associate Professor. Stephanie has accepted a position at Hope College in Holland, Michigan.

Paul Eloë co-authored “A qualitative analysis on nonconstant graininess of the adaptive grids via time scales,” *Rocky Mountain Journal of Mathematics*, 36 (2006), 115-133 (with S. Hilger and **Q. Sheng**) and “Multiple solutions of a boundary value problem on an unbounded domain,” *Dynamic Systems and Applications*, 15 (2006), pp. 53-63 (with **E. Kauffmann** (91) and C. Tisdell).

Aparna Higgins has been very active again this year, delivering invited workshops. She presented workshops on directing undergraduate research for Project NExT in Knoxville in August 2006, at the Joint Meetings in New Orleans in January 2007, at the Long-Term

Undergraduate Research Experiences conference and at the Kentucky Section NExT in March 2007. Aparna was an invited speaker at the meeting of the Kentucky Section of the MAA, where she spoke on “Demonic Graphs and Undergraduate Research.” She was invited, for a second year, to organize an Invited Paper Session on “Graph Theory Problems for Undergraduate Research” at Mathfest. In addition, she served on the organizing committee of the Promoting Undergraduate Research in Mathematics conference, held in September 2006, at which she also shared the honor of giving the opening address with Joe Gallian. Aparna’s talk was entitled, “Undergraduate Research at our own Institutions.” In addition to her continuing role as Co-Director of Project NExT (New Experiences in Teaching), a professional development program of the MAA, Aparna continued to serve on the Alder Teaching Awards Committee and is on the advisory committees of several projects related to undergraduate research in mathematics. A very enjoyable part of Aparna’s year was spent in directing Christopher Cabanski’s Honors thesis, “Forbidden Pebbling Numbers.”

Peter Hovey has been funded by the Air Force to study methods for assessing the damage state of aging aircraft from the sizes of cracks detected during routine maintenance. He presented some results at the 2006 Annual Review of Progress in Quantitative Nondestructive Evaluation and at the 2006 Joint Statistics Meetings. Pete earned tenure and he earned promotion to the rank of Associate Professor.

Muhammad Islam co-authored “Periodic solutions of neutral nonlinear system of differential equations with functional delay,” *Journal of Mathematical Analysis and Applications*, 331 (2007), 1175-1186 (with **Youssef Raffoul**). Islam also presented a talk entitled “Stability in linear Volterra equations,” at the Twenty Sixth Annual Southeastern-Atlantic Regional Conference on Differential Equations.

Becky Krakowski and Beth Basista of Wright State University have been funded for the fourth consecutive year by the Ohio Board of Regents Improving Teacher Quality Grant. Becky earned tenure and she earned promotion to the rank of Associate Professor.

Ruihua Liu co-authored “Optimality of an (s, S) policy with compound Poisson and diffusion demands: A QVI approach,” *SIAM J. Journal on Control and Optimization*, 44 (2006), pp. 1650-1676 (with A. Bensoussan and S.P. Sethi) and “Stock liquidation via stochastic approximation using NASDAQ daily and intra-day data,” *Mathematical Finance*, 16 (2006), pp. 217-236 (with G. Yin, Q. Zhang, F. Liu and Y. Cheng), and he authored “Option pricing in a regime switching model using the Fast Fourier Transform,” *Journal of Applied Mathematics and Stochastic Analysis*, (2006), Art. ID 18109, 22 pp.

Joe Mashburn presented a talk entitled "Linearly ordered topological spaces and weak domain representability" at the Forty First Annual Spring Topology and Dynamical Systems Conference in Rolla, MO. He also presented a talk entitled "A spectral order for infinite dimensional quantum spaces: a preliminary report" at the Twenty Third Conference on the Mathematical Foundations of Programming Semantics held at Tulane University. A paper by the same title was published in *Electronic Notes in Theoretical Computer Science*, 173 (2007), 263-274.

Darren Parker co-authored “Two-path convexity in clone-free multipartite tournaments,” *Australasian Journal of Combinatorics*, 36 (2006), pp. 177-196 (with R.F. Westhoff and M.J. Wolf) and “Multidesigns for graph triples of order 6,” *Congressus Numerantium*, 183 (2006), pp. 139-160 (with **Atif Abueida**, M. Daven, **Wiebke Diestelkamp**, and **Stephanie Edwards**). Darren has accepted a position at Grand Valley State University in Grand Rapids, Michigan.

Youssef Raffoul authored or co-authored multiple articles that appeared in 2006. These are “Boundedness in functional dynamic equations on time scales,” *Advances in Difference Equations*, ID 79689 (2006), pp. 1-18 (with E. Akin-Bohner), “Periodic solutions for a neutral nonlinear dynamic equation on a time scale,” *Journal of Mathematical Analysis and Application*, 319 (2006), pp. 315-325 (with **E. Kauffmann** (91)), “Discretization scheme in Volterra integro-differential equations that preserves stability and boundedness,” *Journal of Difference Equations and Applications*, 12 (2006), pp. 731-740 (with **E. Kauffmann** (91)), “Boundedness in nonlinear functional difference equations via non-negative Lyapunov functionals with applications to Volterra discrete systems,” *Journal of Difference Equations and Applications*, 13 (2006), pp. 1-13 (with W.T Li and X.Y. Liao), and “Stability and periodicity in completely delayed equations,” *Journal of Mathematical Analysis and Application*, 324 (2006), pp. 1356-1362. Youssef has enjoyed a sabbatical this winter; he spent extended time at the University of Arkansas at Little Rock and the University of New South Wales in Sydney, Australia.

ACTIVITIES OF UNDERGRADUATE STUDENTS

David Aaby, **Danielle Carleton**, and **Erin Shafer** were inducted into Pi Mu Epsilon, the national mathematics honorary society. **Atif Abueida** spoke at the induction banquet.

A team of **David Aaby** and **Nancy Buck** competed in this year’s **COMAP Mathematics Modeling Competition**. They earned an honorable mention.

The fifth annual **Integration Bee** was held in conjunction with this year’s Stander Symposium. More students participated this year than ever. Forty-two teams, consisting of one to three participants were entered. First place went to “**Bounded in, Bounded Out**”: **Mark Boron** (computer engineering), second place went to “**The Bolzano Weierstrass**”: **David Aaby** (mathematics/biology), **Candice Kowicki** (undecided engineering) and **Shelley Leber** (mathematics/secondary education), and third place went to “**The Klein 3**”: **Danielle Carleton** (mathematics), **Sarah Huggins** (mathematics/religious studies), and **Alex Karas** (art education).

The outgoing officers for MAA student Chapters/Math Club and Pi Mu Epsilon were busy this year with Math Events in the Fall term and the High School Mathematics Competition in the Winter term. We thank them for their service. The officers were: **Nancy Buck**, MAA Student Chapters/Math Club President; **Sarah Poe**, Pi Mu Epsilon President; **Patrick Johnson**, Vice President; **Christine Morgenthaler**, Secretary; **Chris Cabanski**, Treasurer.

Next year’s student officers are:

MAA/Math Club President	Danielle Carleton
Pi Mu Epsilon President	Nancy Buck
MAA/Math Club/PME Vice President	Megan Johns

MAA/Math Club/PME Secretary
MAA/Math Club/PME Treasurer

David Aaby
Shelley Leber

The Math Club sponsored the **12th Annual High School Mathematics Competition** on Saturday March 31, 2007. This continues to be an impressive undertaking. This year, **Nancy Buck**, Math Club President, coordinated the efforts to host the competition that included 84 participants from 5 high schools. This year Carroll High School fielded 9 teams. The students who helped out in preparation of, and during, the contest included: **David Aaby, Nancy Buck, Chris Cabanski, Megan Johns, Shelley Leber, Christine Morgenthaler, and Sarah Poe. Dr. Art Busch** spoke to the students on “What the Heck are Tribonacci Numbers?” The Department of Mathematics, UD Food Services, Buffalo Wild Wings, Panera Bread and United Dairy Farmers co-sponsored the event.

THE STANDER SYMPOSIUM

The **Stander Symposium** is a very special event at UD. It opens on a Tuesday evening (Tuesday, April 17, 2007) and then spans the entire next day. This year the keynote Address was delivered by Dr. Bernard Kouchner, co-founder of the Nobel Prize-winning Doctors Without Borders and current foreign minister of France. The Department of Mathematics provided its usual contributions, the noontime session on Mathematics through Origami (this time with Flexagons added in), the Integration Bee, and the pizza luncheon.

Students again participated actively in the popular Poster Session. Their names and poster titles are given below. The wide range of topics illustrates the many interests and double majors of the current group of students.

Christopher Cabanski, *Forbidden Pebbling Numbers*;

Patrick Coate, *Measuring Competitive Balance in College Basketball*;

Karen Eckberg, *On the Relationship Between DECA Students' Achievement on the Measures of Academic Progress Test and Their Performance on the Ohio Graduation Test*;

George Eckerd, *Volatility Trading in Portfolio Management*;

Alexander Giffen, *An Exploration of the Lights Out Solitaire Game on Paths, Cycles, and Caterpillar Graphs*;

Patrick Johnson, *Using Bayesian Statistics to Interpret Quantum Mechanics*;

Dan Roberts, *All Uniform k -distant Even Trees are Harmonious*.

AWARDS

The recipient of the 2007 Faculty Award for Excellence is **Patrick Coate**. Patrick was a double major: mathematics and economics. He wrote a Berry Scholars Thesis with Dr. Elizabeth Gustafson (Economics & Finance) entitled *Measuring Competitive Balance in College Basketball*. He presented his work to the university community at both the Honors Program Symposium and the Stander Symposium.

Multiple recipients were named for the 2007 Pi Mu Epsilon Award. These are **Megan Johns, Erin Shafer** and **Victor Velten**. This is an award for excellence among second year students in mathematics.

The 2007 Brother Joseph W. Stander, S.M., Award of Excellence in Mathematics Education recipient is **Rachel Bade**. This award for excellence goes to a graduating senior in the teacher licensure program with a principal teaching field in mathematics.

ACTIVITIES OF GRADUATE STUDENTS

Brook Bisrat (05, MEE), **Fatima Bousso**, **David Harrison** and **Bridget Hilgeford** earned the Master's degree in Financial Mathematics (MFM) in December. **Michael Thornton** (05, MEE) earned the MFM degree in May.

Brook wrote a Math Clinic project entitled *Information Content in the Disparity of Call and Put Options Implied Volatilities*. He worked under the supervision of **Peter Lung** of the Department of Economics & Finance. Since graduation, Brook has been employed by Infinium, a trading company in Chicago.

Fatima wrote a Math Clinic project entitled *Pricing American Options with Monte Carlo Simulations*. She worked under the supervision of **Ruihua Liu**. Fatima recently accepted a position with ING Bank as a Quantitative Derivative Strategist.

Bridget wrote a Math Clinic project entitled *Adaptations of "Smart Money & Naïve Speculators."* She worked under the supervision of **Albert Wang** of the Department of Economics & Finance. Bridget continues to be employed at the Boonshoft Museum of Discovery following her graduation.

David wrote a Math Clinic project entitled *Experience Studies and Applications at Union Central Life Insurance Company*. He worked under the supervision of **David Morris** of Union Central Life Insurance Company. Prior to graduation, David worked as an intern at Union Central; upon graduation, he accepted a full-time position with Union Central.

Michael wrote a Math Clinic project entitled *Exploiting Options on Futures Mispricing for Trading Profits*. He worked under the supervision of **Peter Lung** of the Department of Economics & Finance. Michael will begin employment with Infinium in June.

We are quite pleased with the development of the MFM program and we take this opportunity to thank two contributors. We express special thanks to Dr. Lung and to Dr. Wang who teach finance in the MBA program and who generously support the student research efforts.

PLANS OF RECENT GRADUATES

Robert Broderick majored in physics and German in addition to majoring in mathematics. He will enter the graduate program in theology at UD.

Christopher Cabanski will enter a graduate program in statistics at the University of North Carolina, Chapel Hill. You may recall that Chris was last year's award winner for the 2006 Pi Mu Epsilon Award. Chris earned a B.S. in mathematics at UD in 3 years.

Patrick Coate will enter a graduate program in economics at Duke University.

George Eckerd will begin working as a financial analyst for Blackrock Asset Management Company.

Patrick Johnson will enter a graduate program in physics at Washington University in St. Louis. **Ben** (05), Patrick's brother, is also studying physics at Washington University in St. Louis.

Sarah Poe will begin working as a business analyst for First Energy in Akron.

Dan Roberts will enter a graduate program in mathematics at Auburn University.

ALUMNI NEWS

Terrance Stretch (66) was unable to attend the 22nd Alumni Career Seminar due to the death of his sister Eleanor. Terry had been scheduled to serve as a panelist representing career opportunities in information technology. We hope he will accept our rain check for a future Alumni Career Seminar.

Frank Lad (70) contacted us following the publication of last year's Newsletter. Frank continues his longtime association with the department of Mathematics and Statistics at the **University of Canterbury** in Christchurch, New Zealand.

Lawrence Hoffman (67) and his wife, **Sue Stephan Hoffman** (67, EDU) live in Dayton. Larry retired from the U.S. Army in 1993 and he retired from Battelle memorial Institute in 2005. Larry and Sue write in the Summer 2007 UD Quarterly that they both serves as members of the 1967 40th UD Reunion Weekend.

Don Hopkins (74) and his wife, Ann, live in Springboro, Ohio. Don is CIO at the NCR Corporation. This appointment follows appointments as vice president of technology and infrastructure in NCR's information technology services unit and vice president of global application development.

Brian Donahue (85) and his wife, Ann, live in Brentwood, TN with their children, Nicole and Bennett. Brian is division director for pediatric cardiac anesthesia at Vanderbilt's Children's Hospital.

Margie (Mascolino) Chart (88) visited last fall. The proud mother of two daughters, Margie is looking forward to sailing around the world with her family.

Don Duckro (90) teaches in the Department of Mathematics and Statistics and Center for Systems Engineering at the Air Force institute of Technology. He helped us out last fall and taught MTH 367 as an Adjunct Professor.

Colleen Galligher Hoover (91) and Mike proudly announce the birth of Travis James Hoover, born on 12/1/06. Colleen earned a Ph.D. in mathematics from the University of Notre Dame. She is currently an Associate Professor at Saint Mary's College in Indiana. She will deliver a plenary talk at his year's *Undergraduate Mathematics Day*, which will be held on Saturday, November 3, 2007.

Eric R. Kauffman (91) currently serves as Chair of the Department of Mathematics at the University of Arkansas at Little Rock.

Kristen Lampe (93) and Peter are the proud new parents of Dylan James Lampe who was born on March 5, 2007.

Cheryl Prenger Edelmann (93) and David Edelmann (93, ELE) announce the birth of their fourth son, Kyle, who joins brothers Anthony, Nathan and Isaac. The Edelmann's live in Sidney, Ohio. Cheryl has been teaching statistics in the Department of Mathematics since 1999.

Sara Miner More (96) has taken a new academic position at McDaniel College in the Mathematics & Computer Science Department. She reports that she enjoys working with small classes and that she has great colleagues.

Nicholas Kruprowicz (96), who recently earned a Ph.D. in Mechanical Engineering at UD works as a Senior Aerospace Engineer in the Propulsion Directorate at the Air Force Research Laboratory. Nick and his family reside in Springboro.

Andrew Hetzel (98) has been serving in the Department of Mathematics at the Tennessee Technological University since July 2005.

Kristin Blenk Duncan (99) has completed one year as an assistant professor in the Department of Mathematics and Statistics at San Diego State University. She earned a Ph.D. in statistics from Ohio State. Kristin is a program faculty member for the Research Experiences in Mathematics (REU) Program at San Diego State. This summer the REU focuses on problems in biomathematics and in statistics. Current student, **David Aaby**, was accepted as a participant in the REU this summer.

Stephen Hartke (99) completed his post-doctoral position at the University of Illinois and has accepted a position in a tenure-track position in the Department of Mathematics at the University of Nebraska at Lincoln.

BoonYi Soon (00) and Dinalya proudly announced the birth of their son, Erik, on 4/16/07. Boon Yi is employed by Finisar Singapore Pte Ltd.

Chad Bhatti (01) recently earned a Ph.D. in mathematics with emphasis in statistics from Rice University. This fall, Chad has accepted a VIGRE postdoctoral position at Tulane University.

Youssef Dib (02) received his Ph.D in bio-mathematics from University of Louisiana, Lafayette. His dissertation's title is "Continuous and Discrete Models in Population Biology." Dr. Dib is on two years Visiting Professor at the University of Louisiana State, Monroe Campus.

Stephen Abrams (03) married Elisabeth Wieser (02, ENG) in St. Louis on May 20, 2006. Stephen teaches mathematics at Jefferson College in Hillsboro, MO.

Katie Kennedy (05) lives in Springboro and teaches in the Springboro School System. She has recently enrolled in the Masters in Mathematics Education program at UD.

Sandra Venable (05) teaches in the Northmont School system. She has recently enrolled in the Masters in Mathematics Education program at UD.

Ernest Yankson (05) currently serves as a Lecturer at the University of Cape Coast in Ghana.

Ran Huang (06) has taken a position as a financial advisor with Charles Schwab & Co. Inc.

Jeremy Lynch (06) lives in the Northeast quadrant of Washington, DC, and works out of Suitland, Maryland for the US Census Bureau as a Survey Statistician.

UD GET-TOGETHER AT THE MATH MEETINGS

Unfortunately, we did not get it organized this year. We hope to be better organized this year in San Diego. Please let us know if you intend to go to the January meetings.