UNIVERSITY of DAYTON

CHAIRPERSON'S MESSAGE

Hello, again, to each and every one of you. I hope that you have had a prosperous year since this newsletter was last broadcast. We have certainly been busy, and I believe that our year has been prosperous.

We conducted two very successful searches for new faculty members. One is a replacement for Gerald Shaughnessy, who retired from the department last May. We will miss Gerry and his contributions to the department. The other was a new tenure line given to help with our increasingly heavy load with the Master of Financial Mathematics. In the first search we hired Dr. Catherine Kublik, an applied mathematician doing numerical work. Her main focus will be on the undergraduates, mentoring, identifying talented young students, and working with them on research projects. We anticipate that she will be able to collaborate with Dr. Usman and with faculty members from engineering or other science departments. Dr. Kublik earned her PhD in 2010 from the University of Michigan. In the second search we hired Dr. Dan Ren who earned her PhD from Boston University in May, 2013. She will work with Dr. Liu on research in financial mathematics, teach courses for the Master in Financial Mathematics, and direct Math Clinics. We are very proud to have both of these young mathematicians associated with our department.

By the way, it was great seeing alumnus Dr. Andrew Hetzel (1998) at the Joint Mathematics meetings. He was conducting a search for his university, Tennessee Tech.

I am very pleased to announce that Doc Schraut's daughter, Marilyn Szorc, has generously established the Dr. Kenneth Schraut Faculty Research Award in Mathematics. This award is designed to assist faculty members of the Department of Mathematics in their research. It will be a competitive award, given to one who has produced quality research and has submitted a superior plan for using the funds in research. The awardee will be determined by the Department Chair in consultation with the Dean of the College of Arts and Sciences. We truly appreciate this show of support for a very important part of our mission.

Finally, I want to congratulate faculty members Dr. Atif Abueida and Dr. Muhammad Usman. Dr. Abueida was just promoted to Professor, and Dr. Usman was awarded tenure and promoted to Associate Professor. We appreciate their many contributions to the Department and are happy that their accomplishments have been recognized by the University.

Joe Mashburn

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 and graduate student travel. Your support is appreciated, and we purposefully use it to support the educational experience at UD.

The University Development Office reports that the following people made valuable donations to the Department of Mathematics during 2012:

Mr. and Mrs. Ronald Beisel (63)	Mr. and Mrs. Mark Pendergast (74)
Mr. and Mrs. Tom Bohman (91)	Marla Prenger Gross (90)
Mr. and Mrs. Paul Campbell (67)	Timothy & Angela Jacobs Rice (88)
Mr. and Mrs. Joseph Chmiel (69)	Mr. and Mrs. Thomas Santner (69)
Mr. and Mrs. Kennon Copeland (75)	Mr. & Mrs. William Scharf (68)
Mr. and Mrs. Paul Eloe (84)	Mr. & Mrs. Curtis Schultz (91)
Colleen Galligher Hoover (91)	Mr. Richard Segers (50)
Mr. and Mrs. Donald Kavalunas (65)	Mr. Robert Springer (77)
Mr. Melvin Kuhbander (56)	Susan Thompson (81)
Patrick and Kathleen Kern MacVeigh (79)	Mr. & Mrs. Christopher Wagner (71)
Mr. and Mrs. George III Morrison (82)	Mr. Donald Wojciechowski (72)

The following corporations and foundations provided matching gifts:

AON Foundation	The Abbott Fund
Fidelity Charitable Gift Fund	The Procter & Gamble Fund

MATH EVENTS AT UD

Through generous contributions to the Kenneth C. Schraut Memorial Lectureship fund and to the department's restricted funds, our alumni have enabled us to host the annual *Math Events* which features the Kenneth C. Schraut Memorial Lecture. Since 2002, the Schraut Lecture has anchored *Math Events* annually.

THE 13th ANNUAL KENNETH C. SCHRAUT MEMORIAL LECTURE, 11/3/2012

Dr. Lilian S. Wu, Program Executive, IBM Global University Programs, delivered the 13th annual Kenneth C. Schraut Memorial Lecture to a diverse audience with high school students, undergraduate and graduate students and faculty members. **Alyssa Lesko** (13), Math Club President, provided introductory remarks and introduced Dr. Wu.

Dr. Wu spoke on "Creating Macroscopes with Technology and Analytics: New Possibilities in Our Lives – The Important Role of Tomorrow's Mathematics Professionals." Dr. Wu earned a Ph.D. in applied mathematics from Cornell University and she has produced a distinguished career at IBM. Her talk addressed the increasingly computerized and interconnected world in which we live. As a result, the massive amounts of data and information are unstructured. The message to the students is, this is a time of opportunity for young mathematics professionals. Her own professional

experiences intrigued the students; for example, she had first-hand experience with the development of the Jeopardy playing machine Watson.

THE 25ⁿᵈ BIENNIAL ALUMNI SEMINAR ON CAREERS IN MATHEMATCS, 11/3/2012

The Biennial Alumni Seminar continues and thrives. The Career Panel followed Dr. Wu's lecture. **Lydia Kindelin** (13), Pi Mu Epsilon President, chaired the panel session introducing each panelist to the audience.

The following careers were represented in the Break-Out sessions: Statistics, Actuarial Science, Business, Government, Engineering, High School Teaching and College Teaching. These careers were represented by the following Career Panelists:

Statistics:
Kennon R. Copeland (75)**,** Sr. Vice President and Director, Statistics Methodology, NORC at the University of Chicago
Rafe Donahue (87), Senior Director, Statistics, Biomimetic Therapeutics, Inc.

Actuarial Science:
Stephen Hodges (77), Vice President Asset/Liability Management, Nationwide Financial

Business:
David Applegate (84), Lead Member of Technical Staff, AT&T Labs Research
Diane Schulte (75), Director, Strategic Initiatives, Noblis
Curtis Schultz (01), Senior Vice President, Citigroup
Lilian Wu, Program Executive, IBM Global University Programs

Government:
Robert Karkoska (73), National Security Agency

Engineering:
Vincent Velten (82), Chief, Assessment & Integration Branch, Air Force Research Laboratory

Information Technology:
Judith W. Miller (82), Senior Software Engineer, Hurco Manufacturing Co.

High School Teaching:
Erin Schultz (01), Curriculum Specialist, Butler Technology and Career Development Schools
College Teaching:
David Prier (06), Assistant Professor, Gannon University

Thank you to all who participated in this year's Career Seminar. Moreover, thanks to all of you who continue to be interested in UD students and a continued thank you to Professor Schraut.

FACULTY UPDATE

Full Time Faculty

Atif Abueida, 2000	Peter Hovey, 2001	Youssef Raffoul, 1999
Art Busch, 2006	Muhammad Islam, 1985	Paula Saintignon, 1983
Wiebke Diestelkamp, 1998	Virginia Keen, 2007	Gerry Shaughnessy, 1967
Shannon Driskell, 2003	Becky Krakowski, 2000	Julie Simon, 2010
Paul Eloe, 1980	Ruihua Liu, 2004	Les Steinlage, 1969
Bob Gorton, 1969	Joe Mashburn, 1981	Muhammad Usman, 2007
William Harrison, 2009	Shirley Ober, 1977	Lynne Yengulalp, 2009
Aparna Higgins, 1984	Maher Qumsiyeh, 2008	

Part Time Faculty

Lisa Alexander, 2010	Robert Finnegan, 1985	Scott Mitter, 2001
Matt Brenneman, 2012	Bob Flavin, 2008	Eileen Nolan, 2012
Brett Bush, 2011	Steve Fuchs, 2005	Donovan Ross, 2008
Karen Connair, 2010	Susan Holloway, 2011	Larry Schmitt, 2011
Mark de Saint-Rat, 2011	Vickey Lackey, 2012	Ed Wingham, 2011
Cheryl Edelmann, 1999	John Loomis, 2007	Sam Wright, 2011

Professors Emeriti

Stanley Back, 1998	Jack McCloskey, 2001	Ben Rice, 1998
Bill Friel, 1999	Harry Mushenheim, 2006	Carroll Schleppi, 2001
Tom Gantner, 2001	Jerry Neff, 1999	Ralph Steinlage, 2001
John Kauflin, 2006	Richard Peterson, 1998	Gerry Shaughnessy 2012
Jerry Strange, 1999		

FACULTY ACTIVITIES

Atif Abueida co-authored (with J. Lefevre and M. Waterhouse) "The spectrum of non-polychromatic equitable edge colored Steiner Triple Systems," *JCMCC, 80* (2012), 405-414, and he co-authored (with C.A. Rodger), "Completing a solution of the embedding problem for incomplete idempotent Latin squares when numerical conditions suffice, *Discrete Mathematics, 312*(22) (2012), 3328-3334. Atif earned promotion to the rank of Professor. Congratulations, Atif.

Arthur Busch and Chloe are very pleased to announce the birth of their son, Henry David Busch. Art is looking forward to his first sabbatical this fall; he and Henry should prove lots of theorems.

Wiebke Diestelkamp co-authored (with L. McHugh, S.C. Gardstrom, J.M. Hiller and J.M. Brewer) "The effect of pre-meal, vocal re-creative music therapy on nutritional intake of residents with Alzheimer's disease and related dementias: a pilot study," Music Therapy Perspectives, 30 (2012), 32-42. In April 2012, Wiebke assumed the office of President of the Ohio Section of the MAA. She served in that role through April, 2013. Wiebke continues her work as Equity Advisor for the LEADER Consortium, which is funded by an NSF-ADVANCE grant and consists of AFIT, Central State University,

Wright State University and the University of Dayton. In her role, Wiebke serves a resource to women STEM faculty regarding issues involving tenure, promotion, climate, etc. She presents workshops on unconscious bias to search and tenure & promotion committees, and she is involved in the process of institutionalizing policies and procedures that will help the recruitment and advancement of STEM women and improve the climate for all STEM faculty.

Shannon Driskell was co-author (with H.S. Lee, G. Kersaint, S. Harper, K.R. Leatham) of "Teachers' statistical problem solving with dynamic technology: research results across multiple institutions," Contemporary Issues in Technology and Mathematics Teacher Education, 12 (2012).

Paul Eloe co-authored several articles including (with **A. Altwaty** (2011)) "Boundary value problems for impulsive differential equations and Avery type fixed point theorems", Proceedings of Dynamic Systems and Applications, 6 (2012), 27-32, (with **A. Altwaty** (2011)) "The role of concavity in applications of Avery type fixed point theorems to higher order differential equations", Journal of Mathematical Inequalities, 6 (2012), 79-90, (with F.M. Atici) "Gronwall's inequality on discrete fractional calculus", Computers & Mathematics with Applications, 64 (2012), 3193-3200, (with R. Avery and J. Henderson) "A Leggett-Williams type theorem applied to a fourth order problem", Communications in Applied Analysis, 16 (2012), 579-588, with (J. Henderson and R. Khan) "Existence and uniqueness conditions for a class of (k+4j)-point nth order boundary value problems", Nonlinear Dynamics and Systems Theory, 12 (2012), 49-62 and (with J. Henderson and R. Khan) "Uniqueness implies existence and uniqueness conditions for a class of (k+j)-point boundary value problems for nth order differential equations", Canadian Mathematical Bulletin, 55 (2012), 285-296. He continues serving as the departmental graduate program director.

Aparna Higgins continued as Director of Project NExT. In addition to the usual duties of selecting Project NExT Fellows and planning and executing the Project NExT Workshop in the summer, Aparna welcomed new members of the leadership team of Project NExT. Although such changes are exciting in that they bring new points of view, the end of the terms of long-standing team-mates brought with it the challenge of loss of institutional memory! Aparna presented a talk on Project NExT to the Council of Scientific Society Presidents (CSSP) in May 2012, as part of a conference of CSSP on "The Role of Scientific Societies in STEM Faculty Workshops." Project NExT (the MAA's professional development program for new faculty in the mathematical sciences) is the oldest of these programs in disciplines such as biology, chemistry, engineering, geology, micro-biology and physics. Aparna also spoke about Project NExT at the "Spring Opportunities" conference of the Mathematical Sciences Research Institute, Berkeley, CA, and served on a panel giving advice to job seekers.
Aparna was invited to speak in the University of Notre Dame's "Math for Everyone" series, where she spoke on pebbling and undergraduate research. Aparna found her former professors in the audience (since she went to graduate school at Notre Dame), as well as a former student – Jeff Diller (UD 1988), who is a faculty member at Notre Dame

– and her son, who is a sophomore math major at the University of Notre Dame. Aparna also spoke to the math graduate students at Notre Dame about Project NExT.

In addition to her annual four-hour Project NExT course and MAA minicourse on undergraduate research, Aparna was a co-organizer of the third conference – over a 14-year period – on undergraduate research (TURMS, this time, standing for "Trends in Undergraduate Research in the Mathematical Sciences"). The conference was funded by both the NSF and the NSA. Aparna was a panelist (on outlets for undergraduate research) at the conference and moderated an open forum.

Aparna was invited to speak at the Spring meeting of the Ohio Section of the MAA, and prepared a new talk for the occasion, using GeoGebra. The talk was on iterating polygons and she shared a few fond memories of working with Dave Diller (UD, 1990) in his early undergraduate days.

In the fall, Aparna worked with Art Busch, as each taught a section of MTH 169 (second semester of calculus) to a class mostly comprising of first-year students in the fall. Art taught an Honors section, so he had his class working on "labs," which were essentially deeper explorations of the topics we cover in that class. Aparna's class was the "traditionally taught" control group to Art's Honors section. In addition to meeting some excellent and motivated students, Aparna enjoyed discussing teaching and calculus with Art Busch.

Peter Hovey co-authored (with M. Meeker) "Joint estimation of NDE inspection capability and flaw-size distribution for in-service aircraft inspections," Research in Nondestructive Evaluation, 23 (2012), 20 pages.

Muhammad Islam co-authored (with M. Adivar and **Youssef Raffoul**) "Separate contraction and existence of periodic solutions in totally nonlinear delay differential equations," Hacettepe J. Math. & Stat., 41 (2012), 1-13 and he co-authored (with **Youssef Raffoul**) "Bounded solutions of almost linear Volterra equations," Advances in Dynamic Systems and Applications, 7 (2012), 195-205.

Becky Krakowski continues to serve as director of the Master of Mathematics Education (MME) Program; this is a three year summer graduate degree program for high school mathematics teachers with an emphasis on best practices and the Common Core State Standards. If you are a recent graduate or know of someone who might be interested in such a program, please contact Dr. Krakowski directly at rkrakowski1@udayton.edu.

Ruihua Liu co-authored (with I. Florescu and M.C. Mariani) "Solutions to a partial integro-differential parabolic system arising in the pricing of financial options in a regime-switching jump diffusion model," Electronic Journal of Differential Equations, 231 (2012), pp 1-12. He also co-authored (with A. Khaliq and B. Kleefield) "Solving complex PDE systems for pricing American options with regime-switching by efficient exponential time differencing schemes," Numerical Methods for Partial Differential Equations, 29 (2012), 320-336. He authored "A new tree method for pricing financial derivatives in a regime-switching mean-reverting model," Nonlinear Analysis: Real World Applications, 13 (2012), 2609-2621.

Joe Mashburn authored "A spectral order for infinite dimensional quantum spaces," 23 (2012), 95-130.

Maher Qumsiyeh authored "An L^2 comparison between the bootstrap and the empirical Edgeworth expansion," Communications in Statistics, Theory and Methods, 41 (2012), 251-261. He also co-authored (with **Gerry Shaughnessy**), "Comparison of re-sampling methods to generalized linear models and transformations in factorial and fractional factorial designs," Journal of Modern Applied Statistical Methods, 11 (2012), 95-105. Maher also served as a co-author (with D. Eustace and W. Mergia) for an article, "Exploring factors contributing to injury severity at freeway merging and diverging locations in Ohio," 91st Transportation Research Board Annual Meeting Proceedings, (2012), 1-17. In March 2012, he was elected President of the Dayton Chapter of the American Statistical Association.

Youssef Raffoul authored "Discrete population models with asymptotically constant or periodic solutions," International Journal of Difference Equations, 6 (2012), 143-152. He also coauthored (with M.N. Adivar) "Inequalities and exponential stability and instability infinite delay Volterra integro-differential equations," Rendiconti del Circolo Matematico di Palermo, 61 (2012), 307-319, (with M.N. Adivar) "Necessary and sufficient conditions for uniform stability of Volterra. Analele Stiintifice ale Universitatii Ovidius Constanta, Seria Matematica, *XX* (2012), 1-13, (with M.N. Adivar and H. Koyuncuoğlu) "Classification of positive solutions of nonlinear systems of Volterra integro-dynamic equations on time scales," Communications in Applied Analysis, 16 (2012), 359-376, and (with Z. Huang) "Biperiodicity in neutral-type delayed difference neural networks," Advances in Differential Equations, 5 (2012).

Muhammad Usman co-authored (with **P. Eloe**) "Bifurcations in steady state solutions of nonlinear dispersive wave equations", Nonlinear Studies, The International Journal, 19 (2012), 215-224; he also co-authored two papers with Rahmat Khan who was a visiting professor in 2008-2009. These are "A study of the GAM approach to solve laminar boundary layer equations in the presence of a wedge," Applied Mathematical Sciences, 6 (2012), 117-120 and "Eventual periodicity of forced oscillations of the Korteweg- de Vries type equation, Applied Mathematical Modelling, 36 (2012), 736-742. His work with **Elham Negahdary (10)** has appeared with the citation "A meshless method of lines for numerical solution of the family of generalized fifth-order Korteweg – de Vries equations," International Journal of Numerical Methods for Heat and Fluid Flow, 22 (2012) and his work with G. Flora, a graduate student from the School of Engineering appeared with the citation, "FALSKAN: A GUI Interface for the Numerical Solution of the Falkner-Skan Problem," Journal of Pure and Applied Mathematics: Advances and Applications, 8 (2012), 11-24.. Usman was awarded tenure and earned promotion to the rank of Associate Professor. Congratulations, Usman.

Lynne Yengulalp co-authored (with W. Fleissner) "Non-normality points of X\X," Fundamenta Mathematicae, 214 (2011), 269-283. This citation did not make it into last year's Newsletter. She also presented a talk "When Cp(X) is domain representable" at the Spring Topology and Dynamical Systems Conference in March 2012 in Mexico City.

ACTIVITIES OF UNDERGRADUATE STUDENTS

The **Math Club and Pi Mu Epsilon Chapter** of the University of Dayton (http://academic.udayton.edu/mathclub/) was very active this year. The officers were **Alyssa Lesko** (Math Club President), **Lydia Kindelin** (PME President), **David Fan** (Vice-President), **Carly Gross** (Secretary) and **Alan Rozanski** (Treasurer). **Maher Qumsiyeh** served as the faculty advisor for Math Club and **Lynne Yengulalp** served as faculty advisor for Pi Mi Epsilon. Math Club keeps an informative web page this year at http://academic.udayton.edu/mathclub/

Elections for officers for 2013-14 resulted in **Carly Gross** being elected President of the Math Club, **David Fan** elected as PME President, **Adam Volk** elected as Vice-President, **Luke Bugada** elected as Secretary, and **Alexander Kinkade** as Treasurer. An informative web site is maintained at http://academic.udayton.edu/mathclub/

Remarkably, Math Club organized and hosted the **16th annual High School Mathematics Contest,** a tradition initiated by **Andrew Hetzel** (98) when he served as Math Club President. This year, 22 teams representing 4 different schools participated.

Lynne Yengulyalp gave a presentation entitled "Expressing yourself parametrically" to the contestants during the lunch break.

The annual **William Lowell Putnam Competition** was held on the first Saturday of December. Eight students, **Luke Bugada, Matthew DeVilbiss, James Fagan, Daryl Osterlon, Zi Ouyang, Katie Stephan, Adam Volk,** and **Brandon Williams** participated. We congratulate Brandon, who scored 10.

The formal induction ceremony for Pi Mu Epsilon, the national mathematics honorary society, was conducted on Wednesday April 24th .   The ceremony was quite nice this year. It included a banquet dinner and a presentation by Dr. Usman who spoke on "Can We Avoid Mathematics?" This year's inductees are:

Katherine Campbell	**Christopher Cole**	**Michelle Connor**
Brittney Dietz	**Dan Espisito**	**Rachel Lawless**
Luke McCrate	**Samantha Potocek**	**Claire Sonneborn**
Elizabeth Yorka		

The Ohio Section of the Mathematical Association of America hosts the Leo Schneider Student Team Competition at the Spring Meeting of the Ohio Section of the MAA. This year, the UD team consisting of **Chester Lian, Zi Ouyang** and **Brandon Williams** placed fourth out of 22 teams in the Leo Schneider Student Team Competition.

In January 2013, **Zi Ouyang** attended the Nebraska Conference for Undergraduate Women in Mathematics. She presented a poster entitled "A Solution Algorithm for Fractional Difference Equations."

THE STANDER SYMPOSIUM

The **Stander Symposium** is a very special event at UD. We can't really even characterize the dates this year. Activities related to the Symposium were spread across several days. The Integration Bee and the posters sessions were held on Wednesday April 17. Student presenters this year included:

- **Gracie Fasano** and **Sophia Munymana**, The Kou Jump-Diffusion Model for Option Pricing

- **Eric Gerwin** and **Jessica Steve**, Simulation of Nonlinear Waves using Sinc-Collocation Interpolation

- **Nicholas Haynes**, Numerical Solution of the KdV Equation with Periodic Boundary Conditions using the Sinc-Collocation Method

- **Lydia Kindelin**, Generalized Multi-latin Squares

- **Alyssa Lesko,** Functional and Genetic Analysis of Compensatory Responses Induced in Tumors Caused by Loss of Scribble (apical-basal polarity)

- **Alyssa Lesko**, Differential Hippo Signaling in Compensatory Proliferation in a Drosophila Tumor Model

- **Alyssa Lesko**, Analysis of Yorkie Activity in Scribble Mutant Cells Challanged with different Cellcompetitive Environments

- **Han Li**, Exploring the Sinc-Collocation Method for Soving the Integro-Differential Equation

- **Chester Lian**, An Aronszajin Tree

- **Patrick Lillis,** Graphs with Small Intersection Dimension

Integration Bee continues to be a popular event during the Stander Symposium. **Arthur Busch** and **Maher Qumsiyeh** organized this year's Bee. First place went to the Barbers of Seville consisting of **Chester Lian**, **Zi Ouyang** and **Brandon Williams.** Second place went to Integrating Under the Influence consisting of **Elijah Kuska, Dan Todd** and **Joseph Zielinski.**

THE HONORS STUDENTS SYMPOSIUM

In recent years, the University Honors Program has been hosting the Honors Students Symposium. This year it was held on Friday afternoon, March 22, 2013. In the Stander Symposium, the vast majority of the students present their work in the form of a poster. In the Honors Students Symposium, students present their work in the form of fifteen minute talks. This year five math majors participated.

Zach Hadaway, A Momentum-based Currency Trading Algorithm

Lydia Kindelin, Multi-Latin Squares

Alyssa Lesko, Functional and Genetic Analysis of Compensatory Responses Induced in Tumors Caused by Loss of Scribble (Apical-Basal Polarity)

Chester Lian, An Aronszajin Tree

Patrick Lillis, Graphs with Small Intersection Dimension

AWARDS

The co-recipients of the 2013 Faculty Award for Excellence are **Lydia Kindelin** and **Chester Lian.**

The recipient of the 2013 Award of Excellence in Support of Mathematics is **Alyssa Lesko**.

The recipient of the 2013 Brother Joseph W. Stander, S.M., Award of Excellence goes to **Alan Rozanski.** This award of excellence goes to a graduating senior in the teacher licensure program with a principal teaching field in mathematics.

The co-recipients of the 2013 Sophomore Award for Excellence in Mathematics are **Rachel Lawless** and **Luke McCrate**.

The recipient of the 2013 Lawrence A. Jehn Award for Excellence in Computer Science is **Brandon Williams.**

The recipient of the 2013 Father Thomas Schoen Award for Innovative Programming is **Chester Lian.**

PLANS OF RECENT GRADUATES

Jiuxin Jiang will pursue graduate studies in financial engineering at the Stevens Institute of Technology.

Lydia Kindelin is postponing plans for graduate school in mathematics as she makes wedding plans for next January.

Alyssa Lesko will pursue graduate studies in biology at the University of Notre Dame.

Chester Lian will pursue graduate studies in mathematics at Duke University.

Zi Ouyang will pursue graduate studies in medical physics at the University of Massachusetts.

Brandon Williams is employed as a programmer with Green Briers in Beavercreek Ohio.

ACTIVITIES OF GRADUATE STUDENTS

We had a large number of graduate students earn masters' degrees this past year. Below, we list the graduates by name and give the title of the research project and supervising faculty member.

Mashael Alammari (August 12) earned the MFM degree. She worked with **Muhammad Islam** and wrote a math clinic project entitled "Asymptotically stable solutions of a nonlinear Volterra integral equation."

Asma Alhazmi (August 12) earned the MFM degree. She worked with John Augustine (Department of Economics & Finance) and wrote a math clinic project entitled "Analysis and comparison of accuracy and profitability of Japanese candlestick signals in trading high volatility versus low volatility stocks."

Bader Masry (August 12) earned the MS degree in applied mathematics. He worked with **Muhammad Islam** and wrote a math clinic project entitled "Role of resolvent in perturbed nonlinear Volterra integral equation."

Nataliia Medynets (August 12) earned the MFM degree. She worked with **Carl Chen** (Department of Economics & Finance) and wrote a math clinic project entitled "Hedge fund performance and strategies under different market regimes."

Emad Michael (August 12) earned the MS degree in applied mathematics. He worked with **Muhammad Islam** and wrote a math clinic project entitled "Role of resolvent in perturbed nonlinear Volterra integral equation."

Amani Sayed (August 12) earned the MFM degree. She worked with **Youssef Raffoul** and wrote a math clinic project entitled "Classification of solutions of systems of integrodifferential equations."

Tao Tian (August 12) earned the MFM degree. He worked with **Paul Eloe** and wrote a math clinic project entitled "Option pricing based regime-switching recombining tree."

Danping Wang (August 12) earned the MFM degree. She worked with **Albert Wang** (Department of Economics & Finance) and wrote a math clinic project entitled "On credit risk-downgrade risk prediction."

Xin Yu (August 12) earned the MFM degree. He worked with **Carl Chen** (Department of Economics & Finance) and wrote a math clinic project entitled "Comparative analysis between contrarian and momentum strategies in the American stock market."

Beverly Ali (December 12) earned the MFM degree. She worked with **Serigne Diop** (Gresham Risk Institute) and wrote a math clinic project entitled "Assessing risk of hedge fund investments using Value-at-Risk."

Faridah Alruwaili (December 12) earned the MS degree in applied mathematics. She worked with **Maher Qumsiyeh a**nd wrote a math clinic project entitled "Transfer function models."

Joshua Craven (December 12) earned the MS degree in applied mathematics. He worked with **Muhammad Usman** and wrote a math clinic project entitled "A numerical method for determining bifurcation curves."

Shaina Lynn Palda (December 12) earned the MME degree. She worked with **Becky Krakowski** and wrote a math clinic project entitled "The impact of guided notes in students' attitudes toward mathematics and achievement in an algebra II classroom."

Ziqi Qiao (December 12) earned the MFM degree. He worked with **Carl Chen** (Department of Economics & Finance) and wrote a math clinic project entitled "Idiosyncratic risks in different regimes and the cross-section of expected stock returns."

Arthur Zeyda (December 12) earned the MFM degree. He worked with **Muhammad Usman** and wrote a math clinic project entitled "Numerical solution of the Black-Scholes-Merton PDE using sinc-collocation method."

Dan Zhang (December 12) earned the MFM degree. She worked with **Paul Eloe** and wrote a math clinic project entitled "Application of radial basis functions to the numerical solution of option pricing models."

Junyao Zhang (December 12) earned the MFM degree. She worked with **Paul Eloe** and wrote a math clinic project entitled "A numerical algorithm to value the American call option."

Jieai Zheng (December 12) earned the MFM degree. She worked with **Carl Chen** (Department of Economics & Finance) and wrote a math clinic project entitled "The ability of credit default swap to predict corporate default."

Hala Ali (May 13) earned the MS degree in applied mathematics. She worked with **Youssef Raffoul** and wrote a math clinic project entitled "Boundedness in nonlinear functional differential equations with applications to Volterra integrodifferential equations."

Nada Alshehri (May 13) earned the MS degree in applied mathematics. She worked with **Youssef Raffoul** and wrote a math clinic project entitled "Boundedness in nonlinear functional differential equations with applications to Volterra integrodifferential equations."

Saeed Althubiti (May 13) earned the MS degree in applied mathematics. He worked with **Youssef Raffoul** and wrote a math clinic project entitled "Periodic solution and stability in nonlinear neutral system with infinite delay."

Kara Biltz (May 13) earned the MFM degree. She worked with **Paul Eloe** and wrote a math clinic project entitled "Using Monte Carlo simulation to calculate American option price."

Robert Deis (May 13) earned the MFM degree. He worked with **Maher Qumsiyeh** and wrote a math clinic project entitled "Bootstrap method with time series data."

John Denterlein (May 13) earned the MFM degree. He worked with **Paul Eloe** and wrote a math clinic project entitled "Monte Carlo simulations for European and American put options: diffusion and jump-diffusion models."

Grace Fasano (May 13) earned the MFM degree. She worked with **Ruihua Liu** and wrote a math clinic project entitled "A comparison of the Merton jump diffusion and Kou double exponential model for European options."

Linjiang Gui (May 13) earned the MFM degree. She worked with **Carl Chen** (Department of Economics & Finance) and wrote a math clinic project entitled "Fund flows and US stock market return."

Christina Haas (May 13) earned the MFM degree. She worked with **Carl Chen** (Department of Economics & Finance) and wrote a math clinic project entitled "Credit default swaps as risk indicators at the firm level."

Nicholas Haynes (May 13) earned the MS degree in applied mathematics. He worked with **Muhammad Usman** and wrote a math clinic project entitled "The sinc-collocation method for approximating nonlinear PDEs."

Jiuxin Jiang (May 13) earned the MFM degree. He worked with **Ruihua Liu** and wrote a math clinic project entitled "A recombining tree method for option pricing in a regime-switching jump diffusion model."

Faruk Kilinc (May 13) earned the MS degree in applied mathematics. He worked with **Youssef Raffoul** and wrote a math clinic project entitled "Exponential stability and instability in finite delay nonlinear Volterra integro-differential equations."

Sophia Munyemana (May 13) earned the MFM degree. She worked with **Ruihua Liu** and wrote a math clinic project entitled "A comparison of the Merton jump diffusion and Kou double exponential model for European options."

Babatunde Oni (May 13) earned the MS degree in applied mathematics. He worked with **Youssef Raffoul** and wrote a math clinic project entitled "Exponential stability and instability in finite delay nonlinear Volterra integro-differential equations."

Haefa Salem (May 13) earned the MS degree in applied mathematics. She worked with **Youssef Raffoul** and wrote a math clinic project entitled "Exponential decay and unboundednaess in finite delay Volterra integro-differential equations with forcing term."

ALUMNI NEWS

Rafe Donahue (88) stays active and this time he is in the news
http://www.newschannel5.com/category/125220/video-landing-page?clipId=8010045&autostart=true
He discusses one's chances to win the lottery on the Nashville evening news under the title "The only winning move is not to play." Rafe graciously served as a panel member last fall for the Biennial Alumni Seminar.

Tom Bohman (91) currently serves as the chair of the Department of Mathematical Sciences at Carnegie Mellon University. On April 6, he delivered an invited address at the 54th MIGTHY (Midwest Graph Theory) Conference at Miami University.

Kristen Lampe (93) was promoted to the rank of Professor at Carroll College (Wisconsin). Kristen served as an invited lecturer at the 2005 Undergraduate Math Day at UD.

Geoff Dietz (00) is currently Chair of the Department of Mathematics at Gannon University in Erie, PA, where he earned tenure and promotion to Associate Professor. He and Amber (00, BS CHM) happily announce the birth of their fourth child, Julia, on November 13, 2011. Geoff can be reached at dietz005@gannon.edu

Jeff Neugebauer (06, 08) has completed his first year as an assistant professor at Eastern Kentucky University. He visited UD in March and delivered a colloquium to the faculty and graduate students.

Christopher Cabanski (07) defended his Ph.D. dissertation on Tuesday March 27. He earned a Ph.D. from the Department of Statistics and Operations Research, University of North Carolina. He wrote his dissertation on "Statistical Methods for Analysis of Genetic Data". He has accepted a position as Postdoctoral Research Associate at the Genome Institute and Washington University School of Medicine in St. Louis.

Ran Huang (06) and Chunlei Zhang (ELE 06) are pleased to announce that they are parents of twin sons, Leo and Milo.

Dan Roberts (07) earned a Ph.D. in mathematics from Auburn University. He has accepted a tenure track position at Illinois Wesleyan University. Dan is also pleased to announce the birth of his daughter, Isadora Hope Roberts.

Chuck Wai (09) and **Lulu Peh (09)** visited campus in September with their son, Wayne. They are both employed by Zurich Insurance and live in the Chicago area.

Beverly Ali (12) has accepted a mathematics teaching position at Sinclair Community College.

Jungmi Johnson (12) has accepted a position as Math Lab Manager at Sinclair Community College.

OBITUARY

Rev. Fr. Thomas Joseph Grilliot (62)

Rev. Fr. Thomas Joseph Grilliot passed away on Monday September 10, 2012 at Mercy Siena Woods Care Community of Dayton. He was born December 29, 1940 in Dayton. Fr. Grilliot was a graduate of Chaminade High School, earned a Bachelor of Science from the University of Dayton, and he earned a Ph.D. degree in mathematics from Duke University. He served as a professor for five years at the Pennsylvania State University before continuing his education at Mount St. Mary's Seminary of the West, Cincinnati. He was ordained into the priesthood on June 25, 1976 and he actively served as a pastor at multiple parishes until his retirement in 2011. Throughout his life he continued his interest in mathematics. He served as a visiting associate professor at Notre Dame University during the 1981/82 academic year; he taught mathematics as an adjunct faculty member at Miami University and the University of Dayton. He delivered several colloquium lectures in number theory at the University of Dayton.