

AYESHA DELPISH PROMOTED FIRST FULL-TIME STATISTICS PROFESSOR WILL BECOME CHAIR



The Department of Mathematics and Statistics celebrates the promotion and tenure of Dr. Ayesha Delpish. Delpish, who is now an associate professor, spearheaded the implementation of the statistics major and minor.

Delpish, the first statistician hired at Elon, joined the department in 2005 and became the Statistics Program Coordinator. A native of the Caribbean island of Trinidad, she received a bachelor's degree at Mount St. Mary's College, where she was the student representative on the board of trustees and received the Mount Leadership Award. She received a Ph.D. from Florida State University, where she was recognized with the Graduate Student Leadership Award. In 2006 she was selected as a Project NEXT Fellow, a program sponsored by the Mathematical Association of America aimed at mentoring new and recent doctoral graduates in the mathematical field through their first years of teaching. In 2009 she became a CAUSE Research Cluster Fellow.

One of Delpish's first tasks at Elon was the development of the statistics minor. She designed the courses and the structure for the minor by researching successful statistics programs from across the country. Once the minor was approved, she actively recruited students into the new statistics classes. In 2007 she led the successful search for two new statistics faculty members. She then began the initiative to create a major in statistics. Since the major is based on collaborations with other departments across campus, she effectively incorporated the specific needs and requirements for concentrations in various disciplines. The major was approved and implemented in Fall 2010. The statistics program now offers both B.A. and B.S. majors with concentration options in mathematics, biology, environmental science, psychology, economics and other social sciences.

Not only has Delpish led the way for statistics, she has also been a university leader. She has served on the Graduate Council, Faculty Research and Development committee, and Lyceum committee. From 2006 to 2009 she was the Faculty-in-Residence at the International Pavilion. More recently she served on the Physician's Assistant Feasibility Task Force and as an advisory committee member for the Center for the Advancement of Teaching and Learning.

Delpish has recent peer-reviewed publications in *Journal of Statistical Research*, *Academic Exchange Quarterly* and *Journal of Quantitative Analysis in Sport*. Since coming to Elon she has led 15 conference and workshop presentations at national and international conferences. During the past year she gave a presentation at the Joint Statistical Meeting in Vancouver, Canada, titled "Understanding P-Values and Statistical Significance." This past spring she spent a semester in London mentoring Elon students.

Delpish's husband, Ritson, also hails from Trinidad. He completed his master's degree at North Carolina A&T University and is now working on his doctorate degree.

This spring Delpish was chosen to become chair of the Department of Mathematics and Statistics. During the 2011-12 school year she will work with current chair, Jeff Clark, to become familiar with the chair responsibilities. She will assume the role of chair in 2012-13. Congratulations to Ayesha for her well-deserved promotion and her upcoming leadership in the department.

AMANDA KETNER WINS OUTSTANDING EDUCATION STUDENT AWARD

Amanda Ketner, a mathematics major who graduated in May, received the Outstanding Mathematics Education Student Award for the Central Region at the 40th annual conference of the North Carolina Council of Teachers of Mathematics (NCCTM) held Oct. 28-29, 2010 in Greensboro, N.C. Ketner accepted the award from NCCTM president Wendy Rich. The citation indicated that Ketner's dedication to mathematics education through her studies, service and scholarly work set her well above her peers at the state level.

Ketner presented her research in a talk titled "Great High School Investigation Adapted from College Math Journals" at the National Council of Teachers of Mathematics in Indianapolis in April. Her presentation was the hit of the session and her fourth national talk based on her multiple undergraduate research projects. She also co-presented two sessions at the NCCTM conference. "Exploring North Carolina Graphically" shared a data set and investigation that grew out of her statistics work with **Alan Russell**. "Bezier Curves have Great Connections" reflected Ketner's capstone mathematics research with Russell. She has also given talks at the MAA Mathfest in Pittsburg, Pa., the Shenandoah Undergraduate Mathematics and Statistics Conference in Harrisonburg, Va., the Southeastern REU Minisymposium in Asheville, N.C., the National Council of Teachers of Mathematics conference in San Diego, Calif., and the United States Conference on Teaching Statistics in Columbus, Ohio. Last summer she participated in the Research Experiences for Undergraduate (REU) program sponsored by the National Science Foundation.



Ketner is a member of Phi Beta Kappa, Phi Kappa Phi, Pi Mu Epsilon and Phi Eta Sigma. She is a North Carolina Teaching Fellow and a recipient of the Winston-Salem Foundation Sam L. Booke Mathematics Scholarship. She has accepted a teaching position with Woods Charter School in Chapel Hill.

NEWS FROM OUR STUDENTS

Three students graduated this year with a degree in statistics, a new major implemented in 2010: **McKenzie Young** (double major with political science), **Kevin Sheridan** (double major with economics) and **M. Brandon Landreth** (double major with biology). Sixteen math majors graduated in 2011, and four of them (**Greg Mader, Amy Eubanks, Amanda Ketner, and Melissa Turowski**) were inducted into Phi Beta Kappa.

Crystal Edwards '14 received a Black Excellence Award for the highest GPA for a female freshman, and **Keyona Osborne '12** received the same award for the junior female with the highest GPA. **Sam Jennings '11** was recognized for outstanding performance in student teaching at the School of Education Awards ceremony. **Amy Eubanks '11** and **Amanda Ketner '11** received the annual research awards from the department and **Melissa Ruth Turowski '11** received the department's academic achievement award.

Kristen Koenig '11 presented her research, "Voronoi Diagrams on the Sphere," at the Southeastern MAA meeting in Tuscaloosa in April. **Greg Mader '11** presented a poster at the Society of Industrial and Applied Mathematics (Southeastern Atlantic Section) on "Differential Equation Model for Malaria Endemic Populations." **Keyona Osborne '12** presented at the North Carolina Symposium for Women in Mathematics and Statistics. Her talk was titled "Simulation Study of Estimators Using Contaminated Data." **Trevor Edwards '12** presented at Mathfest in Lexington, Ky., on "P-adic Numbers and Galois Groups." **McKenzie Young '11** participated in a joint internship in survey methodology at the University of Maryland and as a Junior Fellow at the U.S. Census Bureau last summer.

Kristen Koenig '11 will teach math at Fleming High School in Roanoke, Va. **Dawn Bonizio '11** is a paid intern at Meridian Capital Group, a mortgage brokerage firm in New York City. She is training to be a junior analyst. (continues on page 3)

NEWS FROM OUR STUDENTS (continued from page 2)

Melissa Turowski '11 will join Teach for America in the fall. **Sam Jennings '11** will teach mathematics at South Brunswick High School in Brunswick County.

The following students are attending graduate school this fall:

Greg Mader '11 – NC State University in applied mathematics

McKenzie Young '11 – Duke University in political science

Michael Brandon Landreth '11 – East Carolina University in public health

DR. CHAD AWTREY JOINS THE DEPARTMENT



The Department of Mathematics and Statistics warmly welcomes a new assistant professor, **Dr. Chad Awtrey**, who comes to Elon from Arizona State University. He received his master's and doctorate degrees from Arizona State in mathematics with a focus on algebra and number theory. He was awarded the Dean's Distinguished Teaching Award, only the second time in the university's history that a mathematics graduate had won the award.

Awtrey was born in Atlanta and spent most of his childhood in Wisconsin. He graduated with honors from the University of Wisconsin with a bachelor's degree in mathematics and music performance. His wife, Connie, is a data analyst for UnitedHealthcare.

Although Awtrey's background is in mathematics, his second love is music. He is a singer, pianist and song writer. He has arranged hundreds of orchestral and choral pieces. Some are original and some are arrangements of existing pieces. He is the director of worship at the Assembly of God Church in Gibsonville, N.C. He plays drums, keyboard and electric guitar at the church. Connie plays the flute and acousticals. In his spare time, Awtrey loves golfing with Elon colleagues, working with undergraduates on their research and writing research articles.

During the past school year Awtrey has presented at numerous local and national conferences. Some of his talks include "Dodecic 3-adic" at the Southeastern Sectional Meeting of the American Mathematical Society in Winston-Salem, N.C., "Calculus: doing it write" at the annual meeting of the North Carolina Council of Teachers of Mathematics in Greensboro, N.C., and "Totally and tamely rami_ed sextic p-adic" at the national meeting of the American Mathematical Society in New Orleans. At Mathfest in Lexington, Ky., he gave three presentations this year: "Quintic polynomials and their solvability by radicals," "Galois group computations via resolvents and subfields," and "Combining problem solving and writing in single variable calculus courses." An article on his Galois groups research will appear in an upcoming issue of *International Journal of Pure and Applied Mathematics*.

Awtrey was chosen as a 2010-11 national Project NExT fellow of the Mathematical Association of America. He is the fifth department member to receive this honor. Project NExT (New Experiences in Teaching) is a professional development program for new or recent doctorate graduates in the mathematical sciences.

We warmly welcome Awtrey to the department. His enthusiasm for mathematics and his friendly demeanor have endeared him to both faculty and students.

MATH TEA CHANGES FOCUS

This spring, the Department of Mathematics and Statistics received a Funds for Excellence Grant to support our SOLVE campaign, an initiative to give mathematics and statistics more exposure at the university, in the community and in research. As a component of this campaign, faculty and students will work together each week on consulting projects during Math Tea. Check back next year for other initiatives in the SOLVE campaign.

NEWS FROM OUR ALUMNI

Hillery Motsinger '58 retired three years ago from her employment as a Texas public school administrator. She now travels to Bible colleges and other mission points around the world training students and instructors in teaching skills.

Mary Coolidge Ruth '66 and her husband, Bill, have just completed their ninth volunteer assignment (this one in Texas) as retired retirees. They expect to be at Elon homecoming this October for their 45th reunion.

Dave Scango '73 is the assistant division dean in mathematics at Northern Virginia Community College in Manassas, Va.

Mike Stanley '86 has worked for The Boeing Company for 24 years. He is now the lead data architect for the Enterprise Financial Data Warehouse that supports the five major business units of the company. The IT organization is spread out over the country, and he has the privilege of working from home. Mike, wife Melissa (Frank '90), and daughter Alex (14) live in Bear, Del., where they enjoy tax-free shopping. Alex had her Bat Mitzvah in December 2009.

J. Darrell Snead '88 reports that his daughter, Courtney H. Snead, is graduating from Elon this spring with an exercise sports science degree.

Andrew Spage '91 has been working for the past two years with the National Geospatial Intelligence Agency.

Kate Mansi Merrill '00 lives in Los Angeles with her husband, Jonathan, their almost-one-year-old son, Andrew, and their dog, Doppler. She is working on her doctorate of education in educational leadership at UCLA (expected completion 2013). She is a part-time curriculum consultant for The College Bridge, a new Los Angeles-based program that works with students to bridge the gap between high school and college-level mathematics. Kate has also earned a master's in science degree in mathematics education from NC State University (2003) and an Ed.S. in Educational Leadership from The George Washington University (2007).

Erin Krupa '02 is an assistant professor in the Department of Physics, Mathematics, and Math Education at Montclair State University in New Jersey. She received her master's in mathematics at Wake Forest University and her doctorate in math education at NC State University.

Kathleen Iwancio Lovin '03 received her doctorate from NC State University in Fall 2009, and she works for WebAssign on NC State University's Centennial Campus. She and her husband are currently living in Clayton, N.C., and are expecting a baby boy in July.

Adam Benjamin '04 successfully defended his thesis in April on mobile mapping in the forest. This will lead to his August graduation from the University of Florida with an M.S. in geomatics. In May, he started a new full-time geomatics position in a teaching/research/advising capacity at the UF Fort Lauderdale Research & Education Center. His part-time Ph.D. program will begin in January 2012. He would love to talk to current students or alumni interested in pursuing a graduate degree in the field of applied science/math particularly in the geomatics field.

Amy Oliver Nicholson '04 is in her fifth year of teaching Algebra 2, AP Calculus and AP Computer Science at Eastern Alamance High School. She was named the Mid State 3A Coach of the Year for softball during the 2010 season. She received certification for the National Board for Professional Teaching Standards in 2010. This year she was named the Eastern Alamance Teacher of the Year and is one of six Alamance-Burlington Schools System District Finalists for Teacher of the Year for 2011 (winner to be announced in September). She and her husband, Adam Nicholson, are celebrating their fifth anniversary this year. They serve as parents to their dog, Kaci (a hunting beagle who sometimes forgets she is supposed to be a pet).

Cara McAllister Ashby '04 and her husband, Steve, are the proud parents of Emma Catherine Ashby born January 14, 2011. They live in Mt. Pleasant, NC. Cara is a math teacher and athletic trainer at Mount Pleasant High School.

Jen David Ragan '05 graduated from Wichita State University with a master's in mathematics and statistics in May, 2011. Prior to graduate school, she taught high school math for three years in three different states since her husband's military career has taken them all around the country. She will return to the high school classroom in the fall to teach math.

Diana Liberto '05 has been teaching college math, geometry and AP computer science at North Harford High School for the past five years. She also teaches at Harford Community College and the Center of Talent Youth through Johns Hopkins. She is getting married on May 27, 2012. (continues on page 5)

MORE NEWS FROM OUR ALUMNI

(continued from page 4)

Brian Hooper '06 is employed at Harris Teeter as an operations analyst in the industrial engineering department where he creates and analyzes reports dealing with the day-to-day operations of all Harris Teeter stores.

Matt Christian '07 received a master of science degree in mathematics from the University of North Carolina at Chapel Hill in August 2010. He is now living in Princeton, New Jersey, and working for ZS Associates, a business consulting company, as an operations research associate.

Aundrea Carter '08 received a master of science degree in educational research methodology at the University of North Carolina at Greensboro in May 2011. She is entering the Ph.D. program in Educational Research Methodology at UNC-G in the fall.

Matthew "Woody" Cohan '09 had a brief stint as a professional blackjack dealer. He is now working for Bank of New York Mellon, as an operations accountant. He is getting married in July and is currently living outside of Philadelphia.

Karen Hooper '09 works as underwriter at an insurance company in High Point, N.C. She has received her insurance license and hopes to move forward with designations shortly. She is involved with High Point Leadership through the High Point Chamber of Commerce and learning about the community and opportunities for service involvement. She will marry Taylor Ellison on June 9, 2012 yesA (yes, that is my math side showing - had to find a cool date and what better than $6+3=9+3=12$).

Abbie Lauer '09 received a master's degree in statistics from the University of South Carolina in May 2011. She will be employed as a biostatistician at Wake Forest University's School of Medicine starting in May.

Cindy Goodson Blanchard '10 teaches math at Central High School in Knoxville, Tenn.

Melissa Gaisser '10 will attend Florida State University in the fall to pursue a master's in statistics.

Catherine Jade Thierer '10 is teaching algebra and geometry at Tuscarora High School in Frederick County, Md.

CRISTA COLES ARANGALA SPEARHEADS "LEAF" FORUM IN SRI LANKA

Periclean Scholars in the Class of 2011 worked for three years to raise awareness of environmental issues in the nation of Sri Lanka, and in January, the group hosted a national conference there supported by a \$5,000 grant from the American Cultural Center at the U.S. Embassy in Colombo. The summit was supervised by **Crista Arangala**, mentor of the Periclean Scholars Class of 2011, and professor Tom Arcaro, Director of Project Pericles at Elon University, with support from partners and administrators from the University of Colombo, Rainforest Rescue International and other leaders in and around the city of Colombo.

The goal of the summit was to facilitate conversations between distinguished scholars, globally recognized leaders and invited guests on issues of environmental education and stewardship, focusing specifically on how these issues affect and impact the regions and peoples of Sri Lanka. More information can be found at www.leafsrilanka.org.

Arangala also secured a grant from the Park Foundation to create a documentary on the environment in Sri Lanka. The Periclean Scholars also raised funds to build a library in Sri Lanka and brought books to the library in January. They also funded a school environmental club there.

NEWS FROM THE FACULTY

Alan Russell published “A Model for Undergraduate Research in Statistics Education” in the July 2010 edition of *International Journal for the Scholarship of Teaching and Learning*. He received a grant from the Japan Foundation’s Center for Global Partnership to support his work, “Origami as a Gateway for the Study of Japanese Culture and Society.” The grant also allowed him to strengthen his work with Clover Garden Charter School. He also received a grant from the Elon Center for the Advancement of Teaching and Learning to support mathematics creativity as a teachable theme. Russell and **Amanda Ketner ’11** presented “Great High School Investigations Adapted from College Math Journals” at the National Council of Teachers of Mathematics 2011 Annual Meeting in Indianapolis, Ind., in April. At the same conference Russell shared insights gained from his math origami course and the results of his grant from the Japan Foundation in a talk titled “Papierfalten, Papiroflexia, or Origami: Folding Your Way through School Mathematics.” He also presented “Measurement Activities for K-8 Teachers” at the North Carolina Council of Teachers of Mathematics (NCCTM) State Meeting with Jan Mays in Greensboro last October. Russell and Ketner gave two talks at the NCCTM meeting: “Exploring North Carolina Graphically” and “Bezier Curves Have Great Connections.”

Skip Allis continues to work on his doctorate at UNC-G in higher education. He has to complete two more classes for his degree requirements. He served on the Graduate Council and helped draft changes to allow the council to assume curriculum committee duties for graduate level classes. He is the department’s General Studies Coordinator.

Jan Mays serves on the General Studies Council, the Promotion and Tenure Task Force, and the Writing Across the Curriculum Committee. She did a workshop with Todd Lee’s wife, Hollylynn, at NC State University as part of an NSF grant on “Preparing to Teach Mathematics with Technology,” mostly using Fathom, Excel and Tinkerplots. Mays’ daughter, Emily, is getting married this summer.

The Elon Department of Math and Statistics was a partner in a North Carolina Department of Education math/science grant. TEAMS (Teachers Empowering All Students in Math and Science) focused on enhancing math and science content knowledge as well as leadership skills for K-8 teachers in three school systems. **Janice Richardson** served on the executive committee for the grant over the past three years. **Richardson, Lisa Beuerle, Kirstie Doehler, Jan Mays and Alan Russell** presented workshops on algebraic reasoning, geometry, statistics and measurement. **Russell**, pictured on the right, served as a facilitator during the 2010 summer institute and provided leadership training during the 2010-11 academic year.



Jeff Clark continues as chair of the department and chair of the University Curriculum Committee. He is an ex-officio member of Academic Council and the liaison person from the Curriculum Committee to the General Studies Review Committee. In March, he presented “Using Python to Teach Numerical Analysis” at the International Conference on Technology in Collegiate Mathematics in Denver. He also gave talks titled “Mentoring Undergraduate Research for All Mathematics Majors” at the Joint Mathematics Meeting in New Orleans in January and “Undergraduate Research and LaTeX” at Mathfest in Pittsburg, Pa. last August.

Bernice Foust’s husband, Tony, retired from General Electric after 35 years of service. He stays busy at his church where he is the chair of the board of trustees. Their daughter, Jessica, graduated from Elon this spring with a degree in exercise science. Jessica plans to work in the medical field and then attend graduate school.

Janice Richardson was a facilitator with Dr. Jim Bissett, professor of history, on a history study tour to Williamsburg, Philadelphia, Boston and New York for freshmen teaching fellows during Winter Term. She serves on the Teacher Education Committee. She also served on the Campbell University Teaching Fellows Evaluation Team in April.

Crista Arangala served on the Promotion and Tenure Committee this year and has been elected to a three-year term on Academic Council. She is also associate director of the Periclean Scholars program. More about Arangala on page 5.

MORE NEWS FROM FACULTY (CONTINUED FROM PAGE 6)

Lisa Beuerle graded AP exams last summer and chaired a committee writing the five-year plan for the department. Her older daughter, Lauren, will be in the third grade next year, and her younger daughter, Rachel, will be in the first grade.



Laura Taylor was married on August 7, 2010, to Christopher Baysden (see photo to left). They are living in Raleigh, N.C., where he works for the *Triangle Business Journal*. She was a statistical consultant on a grant, “Seeing Through a Glass Darkly,” with Erskine Theological Seminary. She is working with **Kirstie Doehler** and a colleague at CTB-McGraw Hill to create a survey to measure faculty perceptions about statistics. She presented “Solutions to the Sixth Problem on the AP Statistics Exam” at the NCCTM conference in 2010 to help teachers prepare students for the exam. She will become the Statistics Program Coordinator for the department next year. She advises the Elon women’s club volleyball team.

Kirstie Doehler and her husband welcomed daughter Kennedy into their family on August 15, 2010 (see photo to the right). Doehler gave a presentation at the North Carolina Symposium for Women in Mathematics and Statistics titled “Faculty Perceptions Toward Statistics,” which is based on research with **Laura Taylor**. She has



co-authored two journal articles: “The mediating and moderating effects of differentiation of self on body mass index and depressive symptomatology among an American college sample” in *Counseling Psychology Quarterly*, and “The Parentification Inventory: Development, Validation, and Cross-Validation” in *The American Journal of Family Therapy*. She serves on the Athletics Committee and is the advisor for the men’s club volleyball team.

Karen Yokley spent the spring on a research sabbatical working on agent-based models involving malaria. Malaria equations were proposed over 40 years ago, but now there is more computational capability to describe how they are transmitted. She is also studying mathematically how a rat’s ventilation rate is depressed in the presence of an irritant. Yokley made a presentation titled “An Agent-Based Approach to Modeling Malaria Infection” at the North Carolina Symposium for Women in Mathematics and Statistics. Yokley serves on the Admissions Committee and is on the arrangements committee of Phi Beta Kappa, and a committee to look at internships in the College of Arts and Sciences.

Todd Lee is the area director for mathematical and natural sciences of the Elon College Fellows Program. He is co-chair of the Quality Enhancement Program, an initiative required for Elon’s reaccreditation (SACS) involving student learning. Five focus areas have been chosen, and one of those will be selected for implementation in the fall. Next year, Lee will serve on the SACS Assessment Committee. He also is on the President’s Diversity Council and its subcommittee on curriculum and pedagogy. Lee published an article titled “Turning all the Lights out” with **Crista Arangala**, Ellen Mir (a former Elon professor), and Brianna Yoho (a student), in *Journal of Undergraduate Mathematics and its Application*.

Helen Walton continues to serve as secretary, treasurer and historian of Elon’s Phi Beta Kappa chapter. She is also working on Elon’s reaccreditation report. She has been the editor of this newsletter for 15 years.

NEW PROCEDURE FOR DONATIONS

The Office of University Advancement has made it easier for donors to send their gifts online directly to departments within the College of Arts and Sciences at www.elon.edu/makeagift. Please be sure to select the Department of Mathematics and Statistics from the drop down menu so that your gift can be appropriately designated. This procedure enables alumni, parents and friends to give back to the department that has touched them the most. These donations help us provide money for scholarships and other projects within the department. The Department of Mathematics and Statistics recognizes with grateful appreciation the following donors for fiscal year 2010-11: **Meredith Webster '96, John Swain '72, Watts Realty (John Watts '80), Amy Flower '04, Harold Williams '66, Rose Codero Prey '01, Cynthia Goodson Blanchard '10, Cam Jessup Nichols '10, Nicholas Harrison '02, Ashley Noronha '01, Brad Feldman '10, Kathleen Iwancio Lovin '03, David Runkle '06, Briana Yoho '05, Leon Holloway '87, Bob Davis '03, Lori Horton See '85, Lucia-Lee McCann Booth '65, Tammy Raper Newbern '94** and United Technologies Corporation Matching Gift Center.

NEED EMAIL ADDRESSES

Each spring we contact all Elon math alumni by email to seek news for this publication. So far, we only have the email addresses for half of all the Elon math graduates. Please send us your email address so you can be a part of our network. Send it (and any news) to Helen Walton in the math department at walton@elon.edu. We continue to circulate your responses to the math faculty and our retired faculty.

CHECK OUT OUR WEBSITE

To read the latest information about the department, see our photos and get our email addresses and phone numbers, visit our website at http://www.elon.edu/e-web/academics/elon_college/mathematics_statistics/. This newsletter is a production of the Department of Mathematics and Statistics at Elon University.

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