



Fall 2014

Volume 12

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Welcome from Department Head Eric Smith

I am pleased to report that the department has had another successful year thanks to the efforts of faculty, staff, students, and alumni. One of our major accomplishments is the renovation of the student offices and the LISA space. The new space includes an open area for student collaboration, office space for Ph.D. students, and LISA.

Thanks to the support from alumni and corporate partners, our graduate program continues to improve and expand. Last year we graduated 17 masters level students and 7 Ph.D. students. Our recruiting efforts continue to benefit from the devotion our graduate coordinator, Jeff Birch; the financial support from our Corporate Partners program; and staff support from Christina Dillon. This fall we add **21** new students to our program for a total of **80** students.

Our undergraduate program is thriving with **115** undergraduate majors in the program. We have added a new sequence in data analytics and have developed a first year experience class to help freshman gain a better understanding of what statistics is about. We also have a thriving minors program and actuarial science program. The department graduated eighteen students.

Our Laboratory for Interdisciplinary Statistical Analysis (LISA) continues to expand and improve its services and training of our students. The laboratory has expanded its short course selections. The article below about LISA 2020 by Eric Vance discusses some of the other enhancements to LISA.

Several faculty members in the department have been recognized for their research. **Bill Woodall** was honored as a recipient of the Box Award. He was also the conference honoree for the 29th Quality and Productivity Research Conference. **Yili Hong** received the Young Business and Industrial Statistician best paper award at the ISBIS meeting.

The department continues to grow and has added two new faculty members this year. **Marco Ferreira**

joins us from the University of Missouri. He brings expertise on Bayesian modeling especially multiscale modeling. We are also pleased to have hired **Allison Tegge** whose background is in informatics and computational biology. She will help strengthen our computational statistics program and expand our collaborations with computer science and biology. Sadly, **Marlow Lemons** left us for a position with the Census Bureau following his completion of a Ph.D. He will continue to support the department through online courses. Also, after many years at Virginia Tech, **Golde Holtzman** has retired. We will miss his humor, warmth and contributions to the department.

Finally, through your support we are able to help students through fellowships to entering and continuing students. The second annual **John Bartko** award for outstanding collaboration and consulting was presented this year to Marcos Carzolio. John was a 1962 graduate who had a successful career in statistics and has given generous support for an award related to statistical collaboration. The **Ray Myers** award was given this year to Meng Zhao for skill in linear models and experimental design. The **Jean Gibbons** award is in its seventh year and provides money to enhance the education of a top incoming graduate student. This year's recipient is Paul Sabin. These and other awards are described below. We are grateful for the financial support to help with the recruiting and training of our students. As you are aware, our students are facing continued financial stress and we hope that you are able to continue to help support our programs. We can really use the support! Opportunities to contribute to various scholarships are described on the last page of the newsletter. In particular this year we are trying to raise enough money to endow the Jesse C. Arnold award. Contributions to the general statistics fund are also welcomed. And, don't forget to stop by for a visit if you are in the area. We'd love to hear about what you have done since we saw you last.



Overlooking the Drillfield from the 4th floor of Hutcheson – taken by Betty Higginbotham

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Scott Ryan Terrell received three degrees from Virginia Tech: B.S. Statistics, B.A. Economics, and B.S. Math.

Congratulations to all of our undergraduate degree and award recipients!



Undergraduate Degrees and Awards

This year thirteen undergraduates completed their degrees. They included **Elisabeth H. Adams, Jonathan Peter Ammirati, Steven Lloyd Buehler, William Russell DeShong, John Benjamin DiTrapani, Nolan Patrick Henry, Robert Benn Lewis, Joel Thomas Martinez, Carolyn Paige Meier, Thomas Chester Ponikowski, Tyler Richard Proctor, Gregory Rolland Smucker, and Scott Ryan Terrell.**

The Whitfield Cobb Award is presented to the graduating senior with the highest

academic performance overall. This year's recipient is **Elisabeth H. Adams.**

The Clyde Y. Kramer Award is presented to a graduating senior who has shown outstanding service to the University and the broader community. This year's recipient is **Jonathan Peter Ammirati.**

This was the first year the Undergraduate Research Award was given in recognition of outstanding undergraduate research and his work in LISA. This year's recipient is **John Benjamin DiTrapani.**



- John H Kroehling Scholarship Recipients**
Claire Kelling
Meghan Finley
- Marion & Charlotte Eckert Scholarship Recipients**
Hunter Carraway
Gregory Lomaka
- Clyde Kramer Scholarship Recipients**
Claire Kelling
Meghan Finley
Christina Eiginger

Undergraduate Student Internships & Activities

During the summer of 2014, four of our undergraduate students worked as interns for a broad variety of organizations. These students and their companies are:

- Kelsey Carlston** – PlaceWorks, Santa Ana, CA
- Meghan Finley** – Boeing Company
- Claire Kelling** – Worcester Polytechnic Institute & State Street Global Advisors
- Kyle Malec** – Royall and Company
- Anthony Pietromonaco** – Boos, Allen, Hamilton
- Tyler Proctor** – Virginia Tech Office of Assessment and Evaluation
- Madison Shuler** – Royall and Company



Claire Kelling working during her internship

Undergraduate Program

By *Leanna House, Undergraduate Committee*

The undergraduate statistics program continues to evolve in response to ever-changing student and faculty needs. For 2013-2014, the program took time to settle into recent changes, including those related to administration and new courses.

The structure and personnel of the undergraduate statistics administration saw a full overhaul in August 2012. In 2013-2014, all of the administrators remained and, with a year of experience, improved the implementation of their duties. For example, all first year students entered with clear schedules, the academic course check sheets for majors and minors was approved early and extended to include more electives, scholarships were advertised and awarded seamlessly, and graduation remained a fun, family-oriented event.

Also, in 2013-2014, several courses that were designed or redesigned were offered, including The First Year Experience in Learning from Data (STAT 1004) and Introductory Data Analytics and Visualization (STAT 3654). One of the many goals of STAT 1004 was to give students early exposure to sub-disciplines and applications of statistics that motivate analytical careers. Hence, this course invited several guest statisticians to speak on how they use data. Written feedback from students suggested that

they were unaware of the many career options available to them after graduation and that they were motivated to learn more in future coursework.

Introductory Data Analytics and Visualization (STAT 3654) was team taught by three statistics faculty and 25 students from several majors enrolled. As the course name suggests, the course focused heavily on data visualization and covered basic supervised and unsupervised analytic strategies for large datasets. At the end of the course, the students presented group projects. While working together or during presentations, several students experienced first hand the benefit of multidisciplinary research teams.

For this year, 2014-2015, we have two main goals for the undergraduate program. One, to include graduate and undergraduate students more in advising the Statistic majors and minors than we have in the past. Current students have first hand knowledge about our department and courses. They are perfect for the jobs! Second, we will evaluate our current curriculum to identify areas to improve, remove, add, and revamp. We learned last year that our course policies work well. Now, it is time to evaluate course content and make adjustments in response to modern demands.

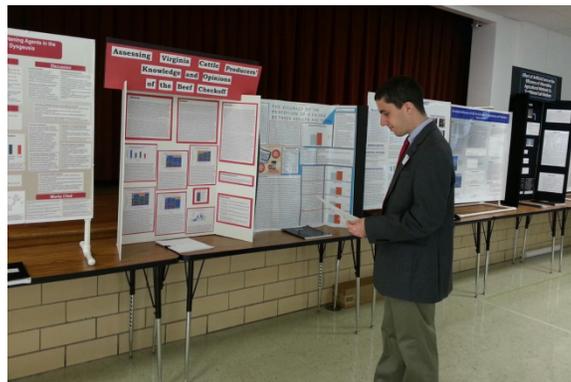
There are 351 Statistics Students

- 115 majors
- 71 minors
- 85 Actuarial Science minors
- 80 graduate (M.S. & Ph.D.)

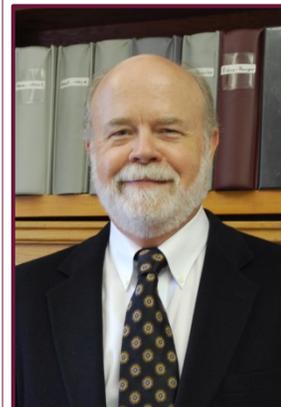
The department awarded 13 undergraduate degrees, 17 masters degrees, and 7 Ph.D.'s in Fall 2013 to Summer 2014.



AP Stats Exam: Students concentrate on answering question on the AP Statistics Practice Exam, designed to simulate the actual exam.



Archimedes Competition: Former Statistics Club President Jonathan Ammirati judges science fair projects of Governor's School students.



In April, Bill Woodall gave the W.L. Gore Lecture Series Keynote. The lecture series features experts in the application of probability, statistics, and experimental design in decision making. His talk was entitled "Monitoring and Improving Surgical Quality" ([read more](#)).

The Statistics Club at Virginia Tech

By **Steven Hurwitt, Club President**

The Statistics Club at Virginia Tech is an organization consisting of passionate undergraduate students who are dedicated to serving and educating others through the use of statistics. The primary goals of the club are to educate the surrounding communities about the benefit of statistics, and to use statistics to help them in some way. An internal goal of the club is to educate its members about the different employment opportunities that exist in our field.

In the past the club has gotten involved with events such as a poker night, high school science fairs, competition among Governor's School students, administering a practice AP Statistics exam, and a chess tournament. For the poker night we educated university students about the rules and odds of the game, and then held a competition where the winners received prizes. We have helped out at various science fairs

such as the Virginia State Science Fair, and the Regional Science Fair. At these we give out awards to students who demonstrate the best use and knowledge of statistics in their work. We have also held competitions for students of the Southwest Regional Governor's School in which we gave awards again for the use of statistics in their science projects.

The club also enjoys a variety of speakers from the corporate world who provide useful insight to students about the skills it takes to get a job in our field, as well as the different jobs available to students at the Undergraduate and Graduate level. Past speakers include those involved in market research and actuarial science.

If you would like to get involved with the club or would like to speak to the club about your company, work in academia, or experience in graduate school please don't hesitate to contact Steven Hurwitt at shurwitt@vt.edu.

Graduate Student Internships

During the summer of 2014, eight of our M.S. and Ph.D. students worked as interns for a broad variety of organizations. These students and their companies are:

- Jon Atwood** – Virginia Tech Transportation Institute
- Rose Eddy** – Eastman Chemical Company
- J.T. Fry** – Allianz Global Assistance
- Ana Ortega** – PARC a Xerox Corporation, East
- Zhibing (Alex) Xu** – United Airlines
- Peng Sun** – Capital One
- Lin Zhang** – Dow AgroSciences
- Matthew Slifko** – Hartford Insurance
- Liang (Sally) Shan** – Liberty Mutual
- Adam Edwards** – American Credit Acceptance

As an intern, our students not only gain

valuable experience as a practicing statistician but they are paid a competitive salary. Additionally, for each month of intern experience the student can receive one academic credit that applies toward their degree. To receive academic credit the intern needs two mentors, a faculty member within our department and their work supervisor. The student must summarize their intern experience by writing a technical report on their work accomplishments and present their intern experiences in a seminar to the students and faculty of the department. These reports are evaluated and graded by their mentors. Thus, a summer internship can result in a three-credit graded course, one that can be used as an elective in the student's program of study.



A student ponders his next move in a game of five card draw at the Club's Poker Night.



Dr. Marlow Lemons contemplates the best strategy against an elementary school student in the Chess Tournament.



An employee of Nielsen speaks to the Club about the different opportunities they have for undergraduates.



Science Fair: Members pose with student winners of the Statistics Club Award.

Statistics, baseball go hand in glove for student

By **Rosaire Bushey, Communications Director, College of Science**

For Jonathan Ammirati of Arlington, Va., a statistics major in the College of Science, baseball isn't only a passion, but a calling.

Ammirati was one of just five students who earned a scholarship from the Society of American Baseball Research, or SABR, to attend an annual convention involving advanced baseball statistics over the summer.

"I was able to spend about a week in Philadelphia attending sessions about different types of statistics, baseball history, and the science of the game," Ammirati said.

Attending different presentations, he got to see proof of what he's always known - that statistics and baseball are made for each other. "There are 18 different pieces of data that are collected from each pitch," he said. Advanced technology makes it possible to make a data point out of everything from where a pitcher releases the ball to what angle his arm is during the delivery. "About 95 percent of all the data collected for professional baseball in the United States has been collected in the last 12 years," Ammirati said.

The challenge, as with much of statistics, is how to apply the "big data" gained. "A single piece of data isn't really useful by itself, you have to be able to do something with it. For instance, maybe looking at how

pitchers are winding up or releasing the ball will help players avoid injuries," he said.

Understanding the statistical methods behind the data collection has allowed Ammirati, an admitted Mets fan, to do something at Virginia Tech that few undergraduates achieve - he's a collaborator with the Laboratory for Interdisciplinary Statistical Research, better known as LISA, an organization run through the statistics department to help Virginia Tech researchers from all disciplines use statistics in a meaningful way.

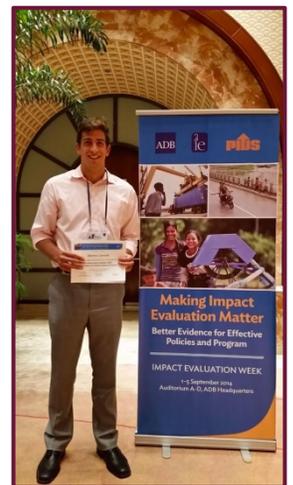
"We help researchers with everything from experimental design to analysis and interpretation," he explained. "Those who come in with a question are always helped in some way and I haven't had a collaboration where I didn't feel the person seeking assistance wasn't better off in the end."

While Ammirati is looking at the possibility of both grad school and a career after graduation, he's currently preparing for a research project for his final semester with a thesis of whether the changing dimensions of ball parks really enhances player performance, and whether or not smaller parks are really advantageous to home teams.

Whether or not his results are conclusive, with his statistics background, his answer is sure to be in the ballpark.



Jonathan Ammirati



Marcos Carzolio won 2nd prize at the Making Impact Evaluation Matter Conference for his work in Mozambique as an on-the-ground statistician.



Faculty and students prepare for a float down the New River at the annual First Year Float to welcome new and returning students.



Lulu Cheng

Ph.D. Recipients

Lulu Cheng (2013)

Title: Statistical Methods for Genetic Pathway-Based Data Analysis
Chair: Inyoung Kim

Ning Wang (2013)

Title: GLR Control Charts for Monitoring Correlated Binary Processes
Chair: Marion Reynolds
Now: DuPont



Ning Wang

Yajuan Chen (2014)

Title: Cluster-Based Profile Monitoring in Phase I
Chair: Jeffrey Birch
Now: Senior Statistician, Pfizer, Andover, MA

Yuanyuan Duan (2014)

Title: Statistical Predictions Based on Accelerated Degradation Data and Spatial Count Data
Chair: Yili Hong



Yajuan Chen

Mark Thomas Seiss (2014)

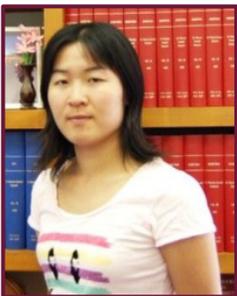
Title: Improving Survey Methodology Through Matrix Sampling Design, Integrating Statistical Review into Data Collection and Synthetic Estimation Evaluation
Chair: Eric Vance
Now: Statistician/Analytic Consultant at Dun and Bradstreet

Jonathan Wesley Stallings (2014)

Title: General Weighted Optimality of Designed Experiments
Chair: J.P. Morgan
Now: Assistant Professor, North Carolina State University, Raleigh, NC

Rebecca Dickinson (2014)

Title: Statistical Methods for Improving and Maintaining Product Reliability
Chair: Geoff Vining
Now: Research Staff Member at The Institute for Defense Analysis (aka IDA), Arlington, VA



Yuanyuan Duan



Mark Seiss

Masters Recipients

The Fall 2013 Master of Science graduates were **William Tyler Bradley**, **Jennifer Li Cheng** (Data Analyst at VHQC), **Jian Huang**, **Xiao Li**, **Wei Ma**, **Jing Niu**, **Diana Christine Pragel** (Institutional Researcher and Instructor at the Elmira Business Institute, NY), **Sarah Catherine Richards**, and **Xiaoyue Shu** (Financial Analyst for BMO Harris Bank). **Shuyu Chu**, and **Matthew James Keefe** are continuing as Ph.D. students in the department. **Lonesome Malambo** is continuing as a Ph.D. student in Geospatial and Environmental Analysis and **Huiquan Jiang** is continuing as Forest Biometrics Ph.D. student both at Virginia Tech.

In Spring and Summer 2014, Master of Science degrees were awarded to **Rajat Shrivastava**, **Roberto Carlos Guzman-Franco**, **Emanuel Mbazi Msemu** (Sokoine University of Agriculture, Tanzania), and **John Whitt Mulheren** (Experience Studies Analyst for Genworth Financial).



Jonathan Stallings



Rebecca Dickinson

Graduate Recruiting

By *Jeffrey Birch, Graduate Coordinator*

Last spring, a large number of students applied for admission to our graduate program. In all, 169 applications were reviewed. Among those accepted into our program, our incoming class of 2013 consists of 21 students, nine on full TA support from the department and 12 fully supported from other departments within VT. The 2014 academic year begins with 80 graduate students.

Our graduate students are very bright, inquisitive, energetic, enthusiastic, and excited about learning. Our program continues to grow with more faculty, more students, and more new courses. It is indeed a great time to be part of the Department of Statistics at Virginia Tech.

Departmental Awards

The Boyd Harshbarger Award is awarded for outstanding academic achievement by a first year graduate student. This year's recipient is **J.T. Fry**.

The Jesse C. Arnold Award is awarded for outstanding teaching by a graduate teaching assistant. This year's recipient is **Ana Ortega**.

The Klaus Hinkelmann Award is awarded for outstanding service by a graduate student to the department or university. This year's recipient is **Yiming Peng**.

The Raymond Myers Award is given to the top

student in Linear Models and Experimental Design. This year's recipient is **Meng Zhao**.

The Gibbons Statistics Award is given to an outstanding first year Ph.D. student in statistics. This year's recipient is **R. Paul Sabin**.

The Rose Costain Award is given to an outstanding graduate student citizen in the Department of Statistics. This year's recipient is **Ana Ortega**.

The John Bartko Award is given for outstanding collaboration, communication, and consulting by a graduate student. This year's recipient is **Marcos Carzolio**.



J.T. Fry

Graduate Awards Details

By Jeffrey Birch, Graduate Coordinator

To help recognize the important contributions made to our graduate program, the Department of Statistics annually presents seven awards to our graduate students for their special contributions in the areas of academics, teaching, service, and citizenship.

With these awards comes a certificate and the recipient's name is placed on a plaque, which is displayed outside the main office door. Two awards also include a book of the recipients' choice and five awards include a sizable financial gift, made possible by generous financial contributions from friends of the department.

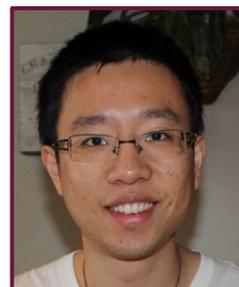
The Boyd Harshbarger Award is given annually for superior academic performance by a first year student. The award is named after our department's founder and first department head. The winner for superior academic performance by a first year student is **J.T. Fry**. J.T. joined our department after receiving a B.S. degree in mathematics from Grove City College in 2009. He earned an outstanding 3.95 gpa while taking our first year core courses, the highest gpa among this year's class. J.T. also earned a Ph.D. pass on the May Qualifying Exam by achieving the highest score on this difficult examination. Due to the donations of the Harshbarger family, J.T. will also receive a generous financial gift.

The Jesse C. Arnold Award is given annually for outstanding teaching by a graduate teaching assistant. Dr. Arnold was our department's second department head. The winner for outstanding teaching by a graduate teaching assistant is **Ana Ortega**. Ana has been teaching STAT 4705, Statistics for Engineers, for the past five semesters with class sizes of over 100 students. Ana seems to have figured out the right approach as her student teacher evaluations are the highest student evaluations among our TA Teachers for this past academic year.

The Klaus Hinkelmann Award is given annually for outstanding service by a graduate student to the department. Dr. Hinkelmann was our department's third department head. The winner for the Hinkelmann award for outstanding service to the department is **Yiming Peng**. Since joining LISA in summer 2010, Yiming has worked on 89 collaboration projects. Clients find Yiming respectful and considerate, often complimenting his meeting organization skills. He takes the time to thoroughly understand their research and make sure that the statistical methodology he chooses is the most appropriate for answering their research questions. In addition to his work on collaboration projects, he has also presented four short courses for the LISA Short Course series and has hosted Walk-In Consulting for seven semesters.



Ana Ortega

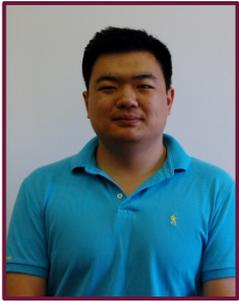


Yiming Peng

Graduate Award Details Continued on Page 8

Graduate Awards Details

By Jeffrey Birch, Graduate Coordinator



Meng Zhao

A fourth award is named the Ray Myers Award and is given to the outstanding student in the linear models and design of experiments courses. Dr. Myers taught linear models and response surface methodology for many years in our department and used linear models and design of experiments heavily in his research and books. The winner of the award is **Meng Zhao**. Meng joined our department after earning B.S. and M.S. degrees in Biotechnology from Penn State University. He completed our first year core courses with a 3.94 gpa and earned a Ph.D. pass on the May Qualifying Exam with a high score on this exam. He earned the grade of "A" in both the linear models course and the design of experiments course and was considered by Drs. Yili Hong and J.P. Morgan, the instructors for these courses, respectively, as one of the top students in each class. The award includes a sizable financial gift.



Ana Ortega

The Rose Costain award is named after Rose Costain who worked in our department for 17 years as an administrative assistant for the graduate program and as an editorial assistant for two journals edited by departmental faculty, Biometrics and The Journal of Statistical Computation and Simulation. Her work helped to foster a friendly and caring attitude within the graduate program. The award is given to the graduate student for outstanding citizenship to the department. The recipient for the Rose Costain Award is **Ana Ortega**. The award includes a generous financial gift. Ana's list of service activities is impressive. She volunteers for just about everything that needs to be done in the department. For some examples, she chaired the Social Committee, is a member of the Corporate Partners Committee, was secretary-treasurer for our chapter of Mu Sigma Rho (the national statistics honor society), she will run our TA Teacher Mentoring Workshop for the upcoming academic year, and she is one of the first I call one to host visiting faculty and students to the department.



Paul Sabin

Gibbons Statistics Award, made available by the generous contribution of Dr. Jean Gibbons and her late husband Dr. Jack Fielden. Dr. Gibbons received her Ph.D. from our department many years ago. This award is presented to the 2014 outstanding first year Ph.D. candidate in statistics. The recipient of this award is **Paul Sabin**. We had 175 applications for our next year's graduate class and Paul was clearly among the best. Paul has earned B.S. and M.S. degrees in statistics from Brigham Young University in May, 2014. His overall gpa in both programs was an outstanding 3.95. His letters of recommendation were all very strong. The award includes a sizable financial gift.

The John Bartko Ph.D. '62 Prize in Statistics is named after John Bartko who earned his Ph.D. in statistics from our department in 1962 and whose generous contributions fund this award. Dr. Bartko served for 33 years as a Research and Consulting Statistician at the National Institute for Mental Health. Dr. Bartko is also a Fellow of ASA. The award is given for excellence in statistical collaboration, communication, and consulting by a graduate student. The recipient of the Bartko Award is **Marcos Carzolio**. In his two and a half years at Virginia Tech, Marcos has worked on over 44 LISA projects as both an associate and lead collaborator. He has taught several LISA short courses on survey design and methodology, as well as one on data mining basics. Through his LISA collaborations, Marcos has published on environmental factors and diarrheal disease in Botswana, and has traveled to Mozambique to collect, clean, and analyze data on water access in rural villages. His travels to Mozambique have been documented in his AmStat News article, [Master's Without Borders](#). Marcos has presented his work at ASA's Conference on Statistical Practice, the Joint Statistical Meetings, and the Making Impact Evaluation Matter Conference at the Asian Development Bank in Manila, Philippines. Currently Marcos is conducting research at the Network Dynamics and Simulation Science Laboratory on predicting influenza in the US. The Bartko award also includes a sizable financial gift.



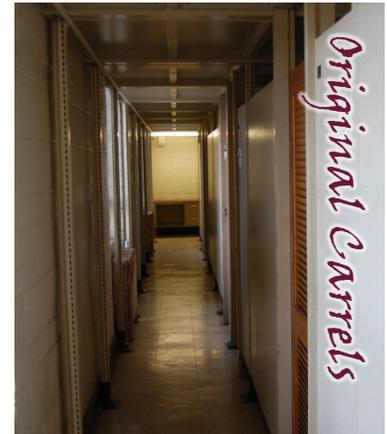
Marcos Carzolio

Recruiting top students is necessary to maintain the quality of our department. To help us in this regard, we have the Jean Dickinson

Hutcheson Renovation

On January 9th, 2012, the Department of Statistics was alerted that renovations to the fourth floor graduate student carrels and rooms near the elevator would be beginning during the spring semester. After many setbacks, a few final touchups are being made and people began moving into their new spaces on August 15, 2014.

The new space includes five shared graduate student offices accommodating at least 24 students, a large shared collaboration space for students, a meeting room for LISA, and five faculty offices. With the movement of many offices, three additional areas in the non-renovated space were converted into graduate student office space as well.



For a full set of pictures, please visit our Facebook page.

Current Partners:



Welcome to Our New Partner:



Corporate Partners Program

By Anne Driscoll, Committee Chair

The fifteenth annual Virginia Tech Department of Statistics Corporate Partners Conference is planned for October 14 through October 16, 2014. In addition to our continuing corporate partners— **American Credit Acceptance, Capital One, DuPont, Eastman Chemical Company, Eli Lilly and Company, General Electric, Google, Minitab,** and **SAS**—we will be welcoming **W.L. Gore & Associates** as a partner this year. **W.L. Gore & Associates**, a global manufacturing company, has strong ties to the department including alumni John Szarka and Willis Jensen.

This year, the Corporate Partners program is under new leadership. Anne Ryan Driscoll, an Assistant Professor Practice in the Statistics Department, is the new committee chair. Anne takes over the position from Golde Holtzman, who retired this past spring after loyally serving as a successful chair from many years.

Another change for the Corporate Partners program is a mid-week conference. The conference will begin on Tuesday with a welcoming reception and partner presentations on Tuesday, October 14 and end with the MSR seminar on Thursday morning. This year we are especially honored to have Dr. Raymond Myers, Professor Emeritus (1962-1969, 1971-1995), speak at an invited session on Wednesday. His talk is titled, "The Colorful History of the Stat Department at VT from 1951-2014 with Emphasis Placed on Boyd Harshbarger and I. J. Good."

Student leadership continues to grow as well—this year by Ana Maria Ortega Villa, Lin Zhang, Matthew Keefe, Matthew Slifko, and Stats Club president Steven Hurwitt. Finally, we thank Geoff Vining and Bill Woodall, for serving on the Corporate Partners Committee, and Mary and Bill Woodall, for hosting the welcoming reception at their lovely home. For further information about the corporate partners program, see the website, or contact Anne Driscoll (agryan@vt.edu, 540-231-0087).

Mu Sigma Rho Student Research and Collaboration Seminar

Ph.D. Research

Stephen Loftus – Grouped Covariate Regression in Oversaturated Models

Qing Li – Detecting the Change-Point of Driving Risk for Novice Teenage Drivers in Recurrent Event Context

Xiang Zhang – Dynamic Probability Control Limits for Risk-Adjusted Bernoulli CUSUM Charts

LISA Collaborations

Steven Hurwitt – Beyond the Classroom: Defining my Role in Statistical Collaboration Through LISA

Ian Crandell – LISA 2020 in Nigeria

Alumni Updates

Jean Gibbons '62

As part of its 10th anniversary celebrations, Jean Gibbons and 11 other alumni were inducted into the inaugural class of the College of Science Hall of Distinction. The honor is given to those people who embody the college goals of enhancing the well-being and development of their community, the commonwealth, the nation, or the world, and who exemplify Virginia Tech's motto *Ut Prosim* (That I May Serve). ([Read more](#))

Check out the fascinating AmStat News article "[Merit Matters Most: Meet Jean D. Gibbons](#)" to learn more about Jean.

Changsoon Park '84

The department is pleased to hear that Dr. Changsoon Park has been elected as the President-Elect of the Korean Statistical Society for 2014 and will serve as the President for 2015. Park earned his Ph.D. from our department in 1984 with Dr. Marion Reynolds serving as his dissertation advisor. He is currently a professor in the Department of Statistics at Chung-Ang University, in Seoul, Korea.

Barbara Price '73

ABET has named Virginia Tech alumna Barbara Price Ph.D as one of its new Fellows for 2013. Price received her MS in Statistics in 1971 and then went on to receive her Ph.D. in 1973. ABET is the recognized accreditor for college and university programs in applied science, computing, engineering, and engineering technology. The Fellow of ABET Award is presented annually to recognize individuals who have provided sustained quality service to the ABET-related professions, in general, and to education within the ABET disciplines, in particular, through the activities of ABET. ([Read more](#))

Bob Quisenberry '62

G. Robert "Bob" Quisenberry, of Richmond, received Virginia Tech's highest honor, the William H. Ruffner Medal. Established in 1976 by the Virginia Tech Board of Visitors and presented annually at University Commencement, the [Ruffner Medal](#) recognizes individuals who have performed notable and distinguished service to the university. ([Read more](#))

Tim Robinson '97

The department is pleased to report that one of our Ph.D. graduates, Dr. Timothy Robinson, has been elected as an ASA Fellow. Tim is currently a professor in the Department of Statistics at the University of Wyoming. He graduated with his Ph.D. in 1997 with Dr. Jeff Birch as his advisor.

Other exciting news for Tim is that he has recently been [chosen to lead the University of Wyoming's Medical Education Program](#) and [that he was named a Fellow for the American Society for Quality](#).

Share your news with the department!

The department loves hearing from our alumni! Please send any updates to our news editor, Tonya Pruitt (trpruitt@vt.edu), and indicate if you want the news shared internally or if we can post it on our website.



Jean Gibbons



Changsoon Park



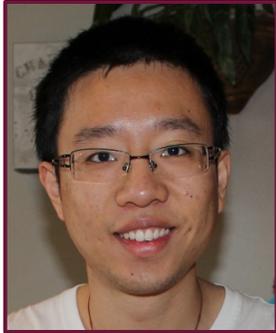
Barbara Price



Bob Quisenberry



Tim Robinson



Yiming Peng

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Outstanding LISA Collaborator of the Year: Yiming Peng

During 2013, LISA received 57 nominations for the Outstanding LISA Collaborator of the Year award.

Since joining LISA in summer 2010, Yiming has worked on 89 collaboration projects. Clients find Yiming respectful and considerate, often complimenting his meeting organization skills. He takes the time to thoroughly understand their research and make sure that the statistical methodology he chooses is the most appropriate for answering their research questions. In addition to his work on collaboration projects, he has also presented four short courses for the LISA Short Course series and has hosted Walk-In Consulting for seven semesters.

As well as being an excellent leader, clients often note how well Yiming works with his partner collaborators. He often builds his teammates' confidence and develops them into much stronger collaborators. Tina Bhandari was especially impressed with the assistance she received. "Yiming and Wei were exceptional. They were truly exemplary and I would recommend that others learn from them. My problem may have been

simple for them, but their professionalism and understanding of the client was also exemplary. If there is a way I can get them more recognition for the work they do please let me know."

Jason Perry, a distance graduate student in the School of Education, wrote in his nomination, "Yiming quickly had a vision for my research. He asked very good questions which caused me to think." This insight would develop into a collaborative co-authorship with Jason later adding, "Yiming Peng was tremendously helpful with all aspects of this project," and, "Yiming Peng is a great communicator and statistician." Due to the care he takes with projects, Yiming is currently working on five co-authored publications with his clients.

"Yiming is a fantastic statistical collaborator," says Eric Vance, director of LISA. "He takes the time to fully understand the clients' research and then he comes up with a plan for how to use statistics to answer the research questions. This makes him very popular with clients as a co-author and collaborator in their research."

LISA Quick Stats for 2013-14

- 349 Collaboration Clients
- 469 Walk-In Clients
- 506 Short Course Attendees
- More than 7257 hours of statistical assistance



Tonya Pruitt

Tonya Pruitt receives President's Award for Excellence

By Mark Owczarski, University Relations
 Tonya Pruitt, administrative specialist for the Laboratory for Interdisciplinary Statistical Analysis, has received the university's 2014 President's Award for Excellence.

In 2009, Pruitt began providing part-time administrative support for Virginia Tech's Laboratory for Interdisciplinary Statistical Analysis which was created the year before to provide research infrastructure in statistics for the university.

"As Tonya has grown professionally and gained more skills, the laboratory has also grown," wrote Eric Vance, research assistant professor in the Department of Statistics and director of the Laboratory for Interdisciplinary Statistical Analysis, in his letter of nomination.

In 2013, the laboratory helped 1,453

researchers across Virginia Tech in its three main services of statistical collaboration meetings, walk-in consulting, and educational short courses. Pruitt organized and administered all these services.

"Now in 2014, Tonya is enabling us to build a network of 20 statistical collaboration laboratories in developing countries by 2020 so that more people around the world will benefit from statistical thinking," added Vance. "Her combination of organizational skills and sense of personal responsibility exemplify the qualities we all aspire to. She is able to anticipate challenges and frequently has solutions for problems before they even arise. Her contributions have made the Department of Statistics a better place for all faculty, staff, and students, and her service is an indispensable part of the laboratory's success." ([Read more](#))

Olawale Awe Trained as the First LISA Fellow

In last year's newsletter we announced that Mr. O. Olawale Awe was selected from a pool of 108 applicants from 34 countries to become the First LISA Fellow in the LISA 2020 program. For this fellowship, which was supported by a Google Faculty Research Award to Dr. Eric Vance, Olawale was educated and trained for 12 months at Virginia Tech and LISA to communicate and collaborate with non-statisticians to help them apply statistics to solve real-world problems, to create a stat lab that would provide statistical collaboration services and train other statisticians to do the same, and to continue his research on applying Bayesian models to more accurately forecast Nigerian economic time series data.

Now we are proud to announce that Olawale has completed his training and has returned to his old position as lecturer at the Obafemi Awolowo University (OAU) in Nigeria and his new position as Director of the Laboratory for Interdisciplinary Statistical Analysis and Collaboration (LISAC) at OAU.

While serving as an associate and a lead collaborator in LISA, Olawale collaborated with researchers from 17 departments on 23 LISA collaboration projects, helped 37 visitors answer quick statistics questions during LISA Walk-in Consulting, prepared and presented three short courses on statistics to 54 attendees, submitted two manuscripts and published one, and presented his work at six conferences.

His paper, "Statistics Education, Collaborative Research and LISA 2020: A View from Nigeria" was a prestigious invited paper at the 9th International Conference on Teaching Statistics (ICOTS) in Flagstaff, Arizona. His paper, "LISA 2020: A Vision Toward Research Development in Nigeria" won honorable mention from the American Statistical Association's Section on Statistical Consulting as the best contributed paper.

Mr. Awe also made significant progress on his Ph.D. research while at Virginia Tech. His research with statistics Ph.D. student Ian Crandell and Dr. Scotland Leman is the first attempt to use Bayesian methods to analyze Nigerian economic time series data. His paper titled, "A Time Varying Parameter State Space Model for the Nigerian Economy" won the best student paper runner-up award from the Virginia Academy of Sciences statistics section. This paper (co-authored with Ian Crandell) has been submitted to the American Statistical Association's Journal of Business and Economic Statistics and is currently under review.

LISA 2020 is a network of statistical collaboration laboratories that trains statisticians from developing countries to become effective, practical, collaborative statisticians who will help solve real-world problems. Our goal is to build a network of 20 statistical collaboration laboratories in developing countries by 2020.



Dr. Benedicto Kazuzuru (left) from Sokoine University of Agriculture in Tanzania and Jingli Xing (right) from Renmin University in China are currently training with LISA as part of the LISA 2020 program.



Olawale Awe, the First LISA Fellow, finished his one year experience training with LISA and returned to Nigeria to establish a statistical collaboration laboratory.



Emanuel Msemu, a LISA Fellow from Tanzania, won the Best Contributed Paper from ASA's Section on Statistical Consulting at JSM.



Ian Crandell will be visiting Obafemi Awolowo University in Nigeria to assist Olawale Awe with establishing the statistical collaboration laboratory.



Marco Ferreira

Marco Ferreira & Allison Tegge Join the Department

By *Eric Smith, Department Head*

Marco Ferreira joined the department following a successful stay at the University of Missouri as an associate professor. He received his Ph.D. from Duke University under the guidance of Mike West. Marco is an international expert in the areas of spatial analysis, time series, and Bayesian analysis. He is well known for his book “Multiscale Modeling: A Bayesian Perspective” that was co-authored with Herbie Lee.

Allison Tegge obtained her bachelors

and masters degrees from the University of Illinois in 2006 and 2008, respectively, and her doctoral degree in informatics from the University of Missouri, Columbia, in 2012. She recently received the Individual Postdoctoral Fellowship, also known as an F32, by the National Institute of Environmental Health Sciences through the Ruth L. Kirschstein National Research Service Awards program. Allison is currently a post-doctoral associate in VT’s Department of Computer Science and will join the department in January as a research assistant professor.



Allison Tegge

Golde Holtzman honored with emeritus status

By *Rosaire Bushey, Communications Director, College of Science*

Golde Holtzman, associate professor of statistics in the College of Science at Virginia Tech, has been conferred the title of “associate professor emeritus” by the Virginia Tech Board of Visitors.

The title of emeritus may be conferred on retired professors, associate professors, and administrative officers who are specially recommended to the board of visitors by Virginia Tech President Timothy Sands. Nominated individuals who are approved by the board of visitors receive an emeritus certificate from the university.

A member of the Virginia Tech community since 1980, Holtzman made significant contributions to the understanding of statistics through his research in biomathematics and environmental statistics.

He supported the scientific community through service to organizations including a term as the president of the Virginia Academy of Science. He advised and collaborated with numerous faculty and staff members and students on statistical

analysis.

Holtzman taught a wide variety of undergraduate and graduate courses across the statistics curriculum, placing strong emphasis on pedagogy and student learning.

He served his department as the head of its Corporate Partners Program and organized the annual meeting with the partners.

Holtzman received his bachelor’s degree from the University of California, Los Angeles, a master’s degree from the University of Arizona, and a Ph.D. from North Carolina State University.



Golde Holtzman



Golde Holtzman shares a story during his retirement luncheon.

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Contributing to the Department

The faculty have worked hard to improve the program over the last four years. Our success has been greatly enhanced by the generous support of alumni and friends. We are extremely grateful for contributions from Dr. Jean Gibbons, Dr. Ray Myers, and John Costain.

We can greatly benefit from your support

regardless of the size of the contribution.

If you wish to discuss opportunities for supporting graduate students or faculty through your contributions, please feel free to give Dr. Smith a call.

Your support and encouragement is greatly appreciated!

Help us Endow the Jesse C. Arnold Teaching Award!

This year we are asking for your support in helping us to endow the Jesse C. Arnold Teaching Award. We only need \$28,000 to achieve the minimum for the fund to be endowed. We have been given a generous donation to start the process. In the words of the donor "Jesse was a

tremendous supporter of the department of Statistics. He was a great mentor to young faculty and students and we remember his humor and support. We hope that others will agree and support this effort." So please help us in our efforts to achieve our goal!

Contributing to the department is easy. Simply detach the form below and mail it to the Office of University Development with your contribution.

University Development
 Virginia Tech
 902 Prices Fork Rd. (0336)
 Blacksburg, VA 24061

I want to contribute to the success of the Virginia Tech Department of Statistics.
 Fund information:

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