Annual Report Executive Summary for 2012

Department of Statistics

The Department of Statistics at Virginia Tech was founded in 1949 and is the third oldest department of statistics in the nation. The Master’s program started in 1949 and the PhD program in 1951. In the 60 plus years of the existence of our department we have conferred over 1000 graduate degrees: 1126 to be exact, 794 masters degrees and 332 doctoral degrees. That is an average of about 18 graduate degrees per year. The undergraduate program was initiated in 1957 and has graduated 551 students.

<table>
<thead>
<tr>
<th>Learning: Undergraduate</th>
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<tr>
<td>The undergraduate program is thriving both in and outside the classroom. Inside the classroom, we have new professors and high enrollment. Outside the classroom, we have new administration and active committees. As part of a multi-year strategy to re-structure the undergraduate major, our committees focus on revamping and developing isolated courses that address the needs of our major and the university.</td>
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<td>One of our new courses is called The First Year Experience in Learning from Data, (STAT 1004). In this course, students (who may or may not be statistics majors) will gain exposure to various sub-disciplines and applications of statistics that motivate analytical careers, experience the creative process of data exploration, and learn about Virginia Tech resources available to undergraduates. We expect this course to help us recruit students from University Studies to the Statistics major and motivate our majors to do well by understanding a bit about the vast opportunities awaiting them after graduation. We will offer this course for the first time in Fall 2013.</td>
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<td>Other courses we have developed were inspired by new data collection technologies and research problems of today, including Introduction to Statistical Genomics (STAT 4364), Introduction to Statistical Neuroscience and Image Analysis (STAT 3424), and Data Analytics and Machine Learning (STAT 4654). We expect many statistics majors, as well as students from other disciplines including Biology, Systems Biology, Neuroscience, Psychology, and Computer Science, to take one or more of these classes. We are particularly excited about Data Analytics and Machine Learning. In this course, students will get hands-on experience managing, analyzing, and learning from big data.</td>
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<tr>
<td>Number of undergraduates: 103 majors, 53 minors, 62 Actuarial Science minors</td>
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<td>Graduated 18 majors in 2012.</td>
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<table>
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<th>Learning: Graduate</th>
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<td>Number of graduates, 2012: 1126</td>
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Our graduate program specializes in training students in statistical theory balanced with extensive applications including practical experience obtained by consulting and internship opportunities.

A graduate degree in statistics is highly valued by those that count—employers of statisticians. Nearly one hundred percent of our graduates for the past many years leave Virginia Tech with jobs or, at least, with job offers. And, often our graduates have received multiple offers. Our recent graduates began their professional careers at such places as the Merck, Capital One, Morgan Chase, DuPont, Lilly, General Electric, GlaxoSmithKline, Minitab, and numerous universities among many others.

We have a very active collaboration and consulting center with faculty, staff, and students from the entire campus visiting LISA (Virginia Tech’s Laboratory of Interdisciplinary Statistical Research) throughout the year. All of our students are trained in interdisciplinary collaboration via coursework and practical experience. In fact, each MS student must work in LISA for at least one semester for a minimum of five hours per week.

We have a very active Corporate Partners Program where corporations (including BD, Capital One, DuPont, GE, JP Research, Lilly, Minitab, RJ Reynolds, and SAS) sponsor student recruiting and provide scholarships for students. Our Corporate Partners, and other companies, visit us regularly as we are among their top choices for recruiting new hires and interns.

We have a strong internship program with members of our Corporate Partners and other corporations. Statistics interns earn a great summer salary. In addition, an intern can receive three hours of credit for their summer intern experience as we believe that on the job training can be just as valuable as in-class training.

Number of graduate students: 78

Number of PhDs awarded: 7

Number of Masters awarded: 15

Funded on grants: 11 in Spring and 12 in Fall

Post-doctoral students funded: 0

Funded on fellowships: 0

Our department has had another outstanding year in terms of publications and grant support with solid productivity in both grant funding and number of publications. Faculty members in the department are very active in research ranging from bioinformatics, biostatistics, data analytics, industrial statistics, reliability theory, design of experiments, regression analysis, and Bayesian
statistics. In the calendar year 2012 the department had the following:

Number of grants: 16 new, 34 continuing, 31 submitted

Amount of grants: over $1,974,709 (new grants)

Research expenditures: $577,078 (PI expenditures)

Number of publications 45

Number of papers in press 32

**Engagement**

LISA (Laboratory for Interdisciplinary Statistical Analysis) has been advancing research at Virginia Tech via expert statistical analysis since 1948. LISA’s mission is to train statistics students to become interdisciplinary collaborators and to demonstrate the value of statistical thinking through collaboration on research projects. We provide statistical advice, analysis, and education to Virginia Tech researchers by offering individual collaboration meetings, walk-in consulting, educational short courses, and support for interdisciplinary research projects. LISA’s statistical collaborators are trained to help researchers design experiments, analyze and plot data, run statistical software, interpret results, and communicate statistical concepts to nonstatisticians.

LISA (Virginia Tech’s Laboratory for Interdisciplinary Statistical Analysis) activities in 2012:

Collaborations: 412 clients, 6305.75 hours

Short Courses: 506 attendees, 22 courses over 28 sessions Walk-in Consulting Service: 396 clients, 649 hours.

Corporate partners program – 8 members (Becton Dickenson, Capital One, DuPont, Eli Lilly and Company, General Electric, Minitab, R.J. Reynolds, SAS)

Six faculty members are associate editors for eight journals, one faculty member is on the editorial boards of three journals

**Diversity**

Enhanced graduate education through teaching mentoring of women in Statistics. This is lead by Leanna House.

Enhanced graduate education through research topic courses and graduate student led seminars

Improve diversity through increased recruiting efforts and undergraduate programs through the Statistics Club.

Participation in departmental, college and university activities related to diversity
<table>
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<th>Goals for 2013</th>
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<tr>
<td>Mentoring new faculty</td>
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<tr>
<td>Increase grant submissions and funding</td>
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<tr>
<td>Enhancing LISA (Laboratory for Interdisciplinary Statistical Analysis)</td>
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<tr>
<td>Improve graduate service teaching and service teaching to non-majors</td>
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<tr>
<td>Enhance undergraduate experience and improve undergraduate education through FYE and new sections of critical classes</td>
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<td>Increase collaborations with Carillon, VBI, VTTI and ICTAS</td>
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<td>Improve graduate student office space</td>
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<td>Finalize new MA in applied statistics</td>
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Details

New Grants


3. **Guo, F.** (PI, Co-PI Hankey) – Shanghai Naturalistic Driving Study, Tonji University. $121,000 (90% effort), 2012~.

4. **Guo, F.** (PI, Co-PI Hankey) – International Driver Behavior Comparison using Shanghai NDS, National Surface Transportation Safety Center for Excellence. $140,000 (90% effort), 2012~.

5. **Guo, F.** (PI, Co-PI Hankey) – Crash and Near-Crash Analysis for Shanghai NDS, National Surface Transportation Safety Center for Excellence. $50,000 (90% effort), 2012~.


7. **Guo, F.** (PI) - Old Driver Fitness-to-Driver Analysis Using Naturalistic Driving Data, National Surface Transportation Safety Center for Excellence. $25,000 2012~.

8. **Guo, F.** (PI) – The Impacts of Safety Critical Events on Driver Behaviors, National Surface Transportation Safety Center for Excellence. $25,000 (100% effort), 2012~.


**Grants (continuing):**

1. **Franck, C.F.** (PI McCoy) – Promote sustainable and affordable housing through adoption and diffusion of green building, HUD – Sustainable Communities Research Grant (SCRG). 1/2012-1/2014.


9. **Smith, E.P.** (PI Marchant/Mack) – Improvement and Marketing of the Food and Agricultural Education Information System (FAEIS), USDA/NIFA. $285,000 (GRA and one month salary to LISA), 2010-2012.


14. **Guo, F.** (Co-PI, PI Flitch) – Development and Demonstration of Pavement Management Programs, Federal Highway Administration. $131,268 (Phase I) (20% effort), 2011-.


16. **Guo, F.** (Co-PI, PI Hickman; Co-PIs Hanowski/Mabry) – Commercial Driver Individual Differences Study, Federal Motor Carrier Safety Administration. $3,000,000 (10% effort), 2010-2015.


20. **Holtzman, G.** (Co-I, PI Zallen; Co-I Willis-Walton) – Online Decision Tool for People Considering a Genetic Test for Alzheimer's Risk, NIH (R03). $5,200 (partial salary and fringe) for two years.


22. **Hoeschele, I.** (Co-I, PI Gao) – Haplotyping and QTL mapping in pedigrees with missing data, NIH (1R01GM073766-01A2). $1.1 Mill (Hoeschele portion: $177,582). 06/01/0705/31/13.


30. **Du, P.** (PI, Co-PI Liang) – Nonparametric smoothing for data with multiple components, National Science Foundation (DMS-1007126). $100,006 (2 summer months of salary for Du each year in 06/01/2010-05/31/2013).


33. **Hong, Y.** (PI) – Statistical Methods for Modern Reliability Data, DuPont Young Professor Grant, $75,000, 08/15/2011-08/14/2014.

34. **Hong, Y.** (Co-PI; PI Kolivras; Co-PI Campbell, Gaines, Prisley) – Environmental Variability and Disease Emergence: Spatial Patterns of Lyme Disease Emergence in Virginia, NSF-BCS-GSS. $199,998. 09/15/2011-08/31/2013.

Grants Pending:


2. **Franck, C.F.** (PI) – Enhancing Relapse Prevention for Smoking Cessation with rTMS, City College of New York. 7/2013-6/2015


10. **Vance, E.A.** (Co-PI Alexander) – What is the epidemiology of Mycobacterium mungi - how can we control this emerging wildlife disease?, Morris Animal Foundation.


15. **Vance, E.A.** (PI) – Developing Statistics Capacity in Developing Countries, Google Research Awards.

16. **Guo, F.** (PI, Co-PI Hankey) – Tie 1 University Transportation Center on Dissemination and Analysis of Naturalistic Driving Data, Department of Transportation. $1,500,00 for the first year; possible renew for another year.

17. **Guo, F.** (PI, Co-PI Hanowski) – Evaluate the Safety Impacts of Sleeping and Activity Patterns for Commercial Truck Drivers, National Institute of Occupational Safety and Health. $43,000.


19. **Zhu, H.** (PI) – Mentoring Projects for New Tenure-track Assistant Professors, DuPont Young Professor Program.

20. **Hoeschele, I.** (sub-contract-PI, PI Ding) - Methylomics and Transcriptomics of Cognitive Impairment, NIH. $312,982 (Hoeschele portion).


23. **Hong, Y.** (PI; Co-PI Jin, Li; Collaborator Gu) - Physically Motivated Reliability Models for Predicting Lifetime of Polymeric Components in Photovoltaics, DOE. $750K.


26. **Smith, E.P.** (PI, Co-PI **House, Leman, Deng, Kim**) – Computational Modeling Visualization Center, Virginia Tech, College of Science. $13,146.

27. **House, L.** (Senior Personnel; PI Feng, Co-PI Cao, de Sturler, Ryder, Sandu, Watson; Senior Personnel Butt, Crawford, Hiro, Hin, Midkiff, Onufriev, Pleimling, Ramakrishnan, Roy, Tafti, Tu, Wynne, Yao) – IGERT-CIF21: Democratizing Parallel Computing via Integrative Education and Research, NSF, Office of Cyberinfrastructure. $3,237,144 (0% Credit, but funding for graduate students).
28. Du, P. (PI, Co-PI Liang) – A symphony of penalty regularization in nonparametric spline estimation for complex data, National Science Foundation. $281,025 (2 summer months of salary for Du each year in 06/01/2013-05/31/2016).

29. Du, P. (PI) – Nonparametric smoothing in analysis of complicated lifetime data, National Security Agency. $40,000 (100% effort for Du each year in 06/01/2013-05/31/2015).


Books and book chapters (published or in-press):


Papers Published:


**Papers In Press:**


Faculty

Instructors/Professors of Practice
1. Marlow Lemons
2. Jane Robertson
3. Anne Ryan

Assistant Professors
4. Xinwei Deng
5. Feng Guo
6. Yili Hong
7. Leanna House
8. Dong-Yun Kim
9. Scotland Leman
10. Xiaowei Wu
11. Hongxiao Zhu

Associate Professors
12. Pang Du
13. Golde Holtzman
14. Inyoung Kim
15. George Terrell

Full Professors
16. Jeff Birch
17. Ina Hoeschele
18. JP Morgan
19. Eric Smith
20. Geoff Vining
21. Bill Woodall

Research Faculty
22. Chris Franck
23. Jie Li
24. Eric Vance

Adjunct Faculty
Kristian Lum
Kristi Griffiths Shirley
Hou
Ilya Lipkovich
Angie Neff-Patterson
Spring 2012 Graduates

BS Degree Completion
Remmie Leroy Arnold IV Justin
Bradley Davis
Jason Farley Dods
Adam Michael Edwards
Kelly Louisa Geyer Alicia
Gabrielle Hertling Jonathan
Nicholas Kaelin
Elizabeth Ann Kimball
Chang Liu
Christina Marie McBride
Allison Amanda Moore
John Whitt Mulheren
Emily Anne O’Rourke
George Joshua Rooney
Andrew Buscher Wanamaker
Chi Keung Yeung

MS Degree Completion Qing Li
Ying Li
Rong Nie
Nicholas Anthony Stewart
Chongrui Yu

PHD Degree Completion Ciro
Velasco-Cruz
Sai Wang
Huaiye Zhang

Summer 2012 Graduates

BS Degree Completion
James Gerald Lucas

PHD Degree Completion
Jennifer Lin Karam Kensler

Fall 2012 Graduates

BS Degree Completion
Kim Virginia Roepe

MS Degree
Liam
Alexander Cryan
Mingqian Dai
Adam Howard James
Rimy Malla
Ashley Teal Nelson
Matthew Aaron Lanham
Amy Louise Tillman
Edwin Jan Yu Tsay
Joshua Sawyer Washburn
Chaoping Xie

PHD Degree Completion
Zaili
Fang
Chao Han
Nels Gordon Johnson

Corporate Partners Program

The Corporate Partners program involves the following partners:

Becton Dickinson Diagnostics
Capital One
DuPont
Eli Lilly
General Electric
Kraft
Minitab
SAS
Service

Jeff Birch

- Chair, Teaching Evaluation Committee, 2000-present.
- Chair, Graduate Committee, 2001-present.
- Personnel Committee, 2009-present
- Faculty Advisor for Mu Sigma Rho (national statistics honor society)
- Director of Graduate Programs in Statistics, 2001-present.
- Coordinator for STAT 3005-3006
- Faculty advisor, Mu Sigma Rho. (National Statistics Honor Society) 1991-present
- Referee for the following journals: *Quality Engineering and Reliability International* (one article), *Journal of Quality Technology* (one article)

Xinwei Deng

- Member of Colloquium committee: coordinate and assist organizer on the colloquium arrangement for Spring 2012
- Organizer of colloquium committee: invite and organize the department colloquium series for Fall 2012
- Core faculty of new undergraduate program CMDA (Computational Modeling and Data Analytics)
- Search committee member (from Fall 2012): department of statistics, Virginia Tech
- Master oral exam committee member for 3 statistics graduate students
- Meeting faculty candidates for Department of Mathematics, Department of Computer Science in Spring 2012
- Key member of scientific program for IMS/ASA Spring Research Conference 2012 Conference Committee
- Session organizer for:
  - INFORMS 2012: Invited Session “Advance in Modeling Massive Data”
- Session chair for:
  - SRC 2012, Contributed Session “Design and Analysis of Experiments: Some Cutting-Edge Applications”
  - ICISE 2012, Invited Session “Computer Experiments (I)”

Pang Du

- Department Personnel Committee, Fall 2012 – present
- Department Search Committee, Fall 2012 – present
Statistical Association (3 papers), Scandinavian Journal of Statistics (1 paper), Statistics and Computing (1 paper and 1 revision), Statistics and Probability Letters (1 paper), Scandinavian Journal of Statistics (1 paper), Statistics and Probability Letters (1 paper), WIREs Computational Statistics (1 paper and 1 revision). **Chris Franck**

- As part of a LISA project I secured a co-authorship for myself and graduate student Stephen Loftus. See published papers. I mentor a number of graduate students through LISA and I am on more than 5 PhD committees. I also worked on 46 Projects, totaling 1179.25 hours.
- Member of the Medical School Curriculum Committee at Virginia Tech Carilion School of Medicine
- Member of the College of Science Communication Committee

**Feng Guo**

- Department of Statistics Computing Committee (2007~ present)
- Member of the Transportation Research Board Committee on Statistical Methods, (ABJ80)
- Member of the Transportation Research Board Committee on Safety Data, Analysis, and Evaluation (ANB20)
- Member of the Transportation Research Board Subcommittee on Traffic Surrogate Measures
- Reviewer for 4 journals: Journal of Transportation Research Record, Accident Analysis and Prevention, Journal of Transportation Engineering, and Transportmetrica

**Ina Hoeschele**

- Steering and admissions committees for GBCB PhD program
- LISA consulting (2 clients, VetMed and an engineering company, CHA, in the CRC)
- Associate Editor (AE) for Genetics, AE for Frontiers in Systems Biology
- NIH Special Emphasis Proposal Review Panels (Review Group 2012/05 ZDK1 GRB-J (M4))

**Golde Holtzman**

- Chairperson of the departmental Corporate Partners Committee (2001-2013)
- Member, Faculty Reconciliation Committee (Ken Eriksson, chair), 2010-2013
- Member, COS Cluster Committee (Tim Long, chair), 2012-2013
- Member, COS Diversity Committee (Ann McNabb, chair), 2010-2012
Elected member, Department of Statistics Personnel Committee, 2010-2012;
- Appointed member, Department of Statistics search committee for assistant professor in Neuroscience Cluster (Geoff Vining, chair), 2011-12 (resulting in hiring of Xiaowei Wu and Hongxiao Zhu)
- Mentor for Scotland Leman, assistant professor, Department of Statistics, 2007-2012
- Member, Department of Statistics Consulting/Collaboration (LISA) Committee
- Member, Academic Advisory Committee (AAC), Virginia Department of Environmental Quality, Stephen Schoenholtz, chair, 2007-2013

Yili Hong

- Developed collaborative relationship with DuPont
- Seminar Committee chair, spring 2012, fall 2012
- CPC student seminar organizer, fall 2012
- Qualifying Exam Committee member, spring 2012, fall 2012
- College Cluster Strategy Committee member
- Appointed as an AE of Technometrics, 2013-2016 (term)
- External Examiner for Ph.D. Thesis in McMaster University

Leanna House

- College/University ○ Aug. 2012-Present, Member of Virginia Tech, College of Science Curriculum Committee ○ June 2012-Present, Junior lead of committee to develop a computational science undergraduate degree for Virginia Tech, College of Science ○ Spring 2012 – Served on search committee to hire 4 positions for the integrated programs ○ Spring 2013 – Served on search committee to hire 2 positions for the integrated Science Program ○ Spring 2012 and Spring 2013 – Served on review panels to select Roundtable scholarship
- Professional ○ Reviewed papers in Environmetrics and Journal of Statistics Education ○ Requested to attend a meeting of board members from the Visual Analytics for Command, Control, and Interoperability Environments (VACCINE) US DHS Center for Excellence. This center is hosted at Purdue University, but the meeting was in Atlanta, Georgia. The point of the meeting to discuss ways by which to create education and outreach opportunities for college students, industry employees, and those at Minority Serving Institutions (MSI) to learn visual analytics. I presented my work in analytics education and we discussed ways by which their and my goals may overlap. As of now, I sitting-in on discussions to provide a MSI “faculty training camp.”
In our proposal to ICTAS-ICAT, we will target middle school children to teach problem solving with data. We plan to develop an interactive software that will, literally, track the students as if they are data points.

**Dong-Yun Kim**

- Qualifying examination committee (2007-present), Department of Statistics, Virginia Tech
- Serve as a core faculty for IGEP Remote Sensing (2012-present)
- Serve as a co-mentor for Bradley Sipe (a medical student at the Virginia Tech-Carilion School of Medicine) for his project titled “Evaluation of the Patient-Centered Medical Home in Southwestern Virginia: An Assessment of Chronic Disease Management and Patient Outcomes.”

**Inyoung Kim**

- Qualifying exam committee member
- Search committee member
- Master oral exam committee member for 3 statistics graduate students
- Ph. D committee member for Sook Ha(Electrical and Computer Engineering Dept), Sarah Wang, Sunha Kim(Education Dept), Rongman Cai (Dept. of Plant Pathology, Physiology & Weed Science ), and Abhrabil Maiti (Electrical and Computer Department)
- Program committee Bioinformatics 2012 (“International conference on Bioinformatics Models, Methods and Algorithms”)
- Associate Editor (2012-present) for Communications for Statistical Applications and Methods
- Referees for Journal of Econometrics (1 times), Statistics in Biosciences (1), Statistical Applications in Genetics, Mathematical Methods for Statistics (1), and Molecular Biology (2) and the Korean Journal of Applied Statistics (2)

**Marlow Lemons**

- College of Science Diversity Committee- Representative for the Department of Statistics
- University Library Committee- Representative for the College of Science (Spring 2012), Chair of the University Library Committee (Fall 2012)
- University Undergraduate Honor Court- Faculty panel member
- University Undergraduate Honor Court Review Committee- Faculty panel member
- Saturday Science Fair Prep Program- Founded in Fall 2012 as an outreach program for high school students underrepresented in science and mathematics fields. Program gives high school students in the region the opportunity to network with faculty members, graduate students, and undergraduates on research.

**Scotland Leman**

- 104 LISA Collaboration and Consulting Hours (Spring 53+Fall 51)
- Computational Sciences program developer (2012) - In the process of helping with the organization of an undergraduate computational sciences program within the College of Science. The goal is to integrate various computational methodologies (computational
statistics, applied mathematics, computational algorithms, modeling) in order to design a cohesive computational program which focuses on scientific applications and computational strategies for investigating such problems.

• Discover Analytics Center (DAC) member (2011-2012) Currently I serve as the statistical coordinator within the DAC, which is a joint analytical venture between the Departments of Statistics, Computer Science, Mathematics, and the Institute for Critical Technology and Applied Sciences. The DAC serves the greater Virginia Tech community in providing analytical services on a wide range of applications.

• Additionally, I have recently begun collaborations with several industrial analytics firms in order to provide a pipeline for industrial scale collaboration. Projects include: Designing and teaching short courses on Advanced Analytics to corporate partners, developing fellowships for graduate students, creating industrial scale competitions utilizing datasets provided by corporate partners, and developing an internship program for students.


• Associate Editor: *Decision Analytics* (2012-Current) – *Decision Analytics* is a peerreviewed open access journal published under the brand SpringerOpen.

**Jie Li**

• Organized one department seminar related to hiring

**JP Morgan**

• Personnel Committee, Department of Statistics
• Search Committee, Department of Statistics
• Graduate Committee, Department of Statistics
• Policy & Procedures Committee, Department of Statistics
• Committee to Revamp 3005/3006, Department of Statistics
• Mentor to Junior Faculty: Dong-Yun Kim, Xinwei Deng
• Associate Editor, *The American Statistician*. Handled nine (9) papers submitted during 2012.

• Associate Editor, *Journal of Statistical Planning and Inference*. Handled one (1) remaining paper in term (now expired).


• External reviewer for one NSA proposal.

• External reviewer for one promotion case (University of Maryland).

• Advisory Committee and Program Committee, ICDOE, Memphis, May 10-13, 2011.

• Chair, Srivastava Memorial Session, ICDOE, Memphis, May 10, 2011.

• Session Organizer, Design for Linear Models, ICDOE, Memphis, May 11, 2011. Jane Robertson

• Lead collaborator, Laboratory for Interdisciplinary Statistical Analysis (LISA), (March 8, 2013 - Present)

• Course/Program Development, Summer Academy, (January 10, 2013 - Present)

• Course/Program Development, First Year Experience Course, (September 10, 2012 - Present)

• Committee Member, Statistics Undergraduate Committee, (August 10, 2012 - Present)

• Committee Member, Women in Statistics, (August 10, 2012 - Present)

• Committee Member, IDEA Studio, (October 10, 2013 - Present)

• Committee Member, University Council, (August 10, 2012 - Present)

• Committee Member, Dialogue on Race. I work with members of the community to try to understand the issues related to the limited presence of African Americans in the New River Valley. By understanding these issues, we hope to help increase the presence of African Americans in our community. (January 19, 2013 - Present). Anne Ryan

• Worked as a faculty collaborator for LISA (Laboratory for Interdisciplinary Statistical Analysis. During 2012, I worked on a total of 7 projects for 240.75 hours. One of the projects included collaboration with Martha Anderson, a Professor at the Jefferson College of Health Sciences and Pamela Vandevord, an Associate Professor at the School for Biomedical Engineering and Sciences at Virginia Tech.

• Executive organizer for 16 LISA Short Courses

LISA provided three series of evening short courses to help graduate students use statistics in their research. The focus of the two-hour courses was on teaching practical statistical techniques for analyzing or collecting data. More details can be found at www.lisa.stat.vt.edu.

• Developed online tutorials for the Science of Test Project, which is a project funded by the Air Force grant 405092.

• In 2012, I wrote recommendation letters for 4 undergraduate students for scholarships and admittance into graduate school.
I served as a recommender for three graduate students. One student was applying to a PhD program, one student was applying for an internship and the last graduate student was applying for a full-time job.

- Member of the Restructuring Committee for Stat 3005-3006 in the statistics department.
- Member of the First Year Experience Course Committee in the statistics department.
- Referee for *International Journal of Production Economics*
- Referee for *Communications in Statistics – Theory and Methods* Eric Smith

- Associate editor – *Environmental Management* George Terrell

- Member of the Statistics Department Hiring Committee during the spring, which reviewed many applications, and interviewed 6 candidates, thereby facilitating the hiring of two new faculty
- Was a (very) active member of the Statistics Department Undergraduate Committee
- Member of the Statistics Department Policies Committee
- Acted as Associate Editor for the *Journal of Computational and Graphical Statistics*, for which I handled one paper
- Acted as referee for one paper for the *Journal Computational Statistics and Data Analysis*

Geoff Vining

- College of Science Promotion and Tenure Committee (2012-2014)
- Department Corporate Partners Committee
- Member Representing the Divisions, ASQ Board of Directors
- Vice-Chair ASQ Division Affairs Council
- Liaison from the ASQ Board of Directors to the ASQ Publications Management Board
- Member, Quality Engineering Advisory Board
- Member, Editorial Search Committee for ASQ’s Six Sigma Forum Magazine
- Co-Founder and Co-Organizer, First Annual Stu Hunter Conference on Applied Statistics

Eric Vance

- IGEP Review Panel helping to decide which proposals will become new IGEPs.
- IGEP Workshop III panelist giving guidance to future IGEP proposals.
- IGEP Workshop IV panelist giving guidance to future IGEP proposals.
- GSA Graduate Research Symposium Judge
- Member of University Council, too often the lone “Nay” vote on new policies to restrict the rights and activities of faculty.
- Commission on Faculty Affairs
  Faculty Senate
- Met with all seven 2012 faculty candidates during dinner
- Met with all prospective statistics graduate students who visited Virginia Tech in 2012.
- Department of Statistics Renovation Committee
- Hosted many of the guest speakers for lunch
• OIRED Africa Regional Strategy Committee
• Social Network Analysis research
• Nominated to run for Chair of the ASA Section on Statistical Consulting
• Appointed by the ASA President to the Committee on Applied Statisticians
• ASA Council of Sections representative for the Section on Statistical Consulting
• Reviewer for Technometrics
• Reviewer for Statistical Methods in Ecology
• AAAS On-call Scientists
• Statistics Without Borders
• Sigma Xi
• Faculty advisor for StatCom, a student-run group that provides pro-bono statistical collaboration for local non-profits and non-Virginia Tech researchers working on problems of interest to the local community. Bill Woodall

• Departmental Personnel Committee (Chair in Fall Semester)
• Departmental Graduate Committee
• Departmental Teaching Evaluation Committee (Fall Semester)
• Presentation of “Risk-Adjusted Comparisons and Monitoring in Healthcare” at the student INFORMS meeting in the Grado Department of Industrial and Systems Engineering on September 26, 2012.
• Member of the Editorial Review Boards of the *Journal of Quality Technology, Quality and Reliability Engineering International*, and *Quality Engineering*
• Member of the American Society of Quality Deming Medal Committee.
• Member of Advisory Board of Quality, Statistics, and Reliability Section of INFORMS
• Board of Directors for American Society for Quality Roanoke/Radford Section 1107: Student Liaison
• Outside Reviewer: Promotions to Professor at Georgia Tech, Northwestern University, and Naval Postgraduate School; promotion to Associate Professor at Arizona State
University; and evaluation of Chaired Professor and Professor candidates, City University of Hong Kong.

**Xiaowei Wu**

- Member of the Department of Statistics bioinformatics committee
- Member of the College of Science Students of Science Magazine editorial board

**Hongxiao Zhu**

- Served as a member of the departmental colloquium committee. Helped organizing the departmental colloquium
- Served as the referee for the following journals: *Journal of Computational and Graphical Statistics* and *Statistica Sinica*
**Honors and awards**

**Fellows of the American Statistical Association**

*Active Faculty*

Eric Smith  
Geoff Vining  
Bill Woodall

*Emeritus Faculty*

Jesse Arnold  
I.J. Good  
Klaus Hinkelmann  
Dick Krutchkoff  
Ray Myers  
Marion Reynolds

*Fellows of the American Society for Quality*

Geoff Vining  
Bill Woodall

**Elected Members, International Statistics Institute**

Pang Du  
Marion Reynolds  
Eric Smith  
Geoff Vining  
Bill Woodall

**Other awards**

1. **W. Woodall** was the Honoree at the Quality and Productivity Research Conference to be held in Long Beach, CA in June 2012.

2. **W. Woodall** received the Box Medal from the European Network of Business and Industrial Statistics.

3. **W. Woodall** was honored in the Favorite Faculty Selection by the Office of Residence Life.

4. **W. Woodall** was selected as the Statistics Club Professor of the Year.

5. **E. Vance** was inducted into Sigma Xi, the national science honor society, on April 5, 2012.

6. **E. Vance** received the title of Honorary Member of the Iota Delta Rho Interdisciplinary Research Honor Society April 10, 2012.
7. **M. Lemons** was a 2012 Sporn Award Finalist.
8. **M. Lemons** was a 2012 XCaliber Award Finalist.
9. **M. Lemons** received the 2012 Favorite Faculty Award.
10. **X. Deng** was the recipient of the Mentoring Project Award, Virginia Tech, 2012.
11. **X. Deng** was nominated for 3M Non-Tenured Faculty Award.
12. **Y. Hong** received the NISS/ASA Best y-BIS Paper Award, The International Society for Business and Industrial Statistics, 06/2012

Diversity activities (7 faculty reporting)

- Bill Woodall has been collaborating with a female Ph.D. student in Industrial Engineering, Anna Schuh, during this past year and has co-authored papers with five other women.
- Eric Vance attended the President’s Award reception for nominating Tonya Pruitt for the President’s Staff Excellence Award and the Governor’s STAR award, March 15, 2012.
- Eric Vance attended the “Statistics Without Borders and Global Citizen Year Project,” webinar on May 9, 2012.
- George Terrell carried out a small pilot study to measure the consequences of diversity driven policies in K-12 education.
- Golde Holtzman is a member of the COS Diversity Committee (Ann McNabb, chair), 2010-2012.
- Golde Holtzman's office is a VT LGBT/A Safezone, which is announced on my academic home page, https://courseware.vt.edu/users/holtzman/index.html.
- Golde Holtzman is a member of the NAACP.
- Jane Robertson attended an Advancing Diversity at VT Workshop because she is interested in increasing and celebrating diversity at Virginia Tech and within the
Blacksburg community. She attended the workshop to learn more about the community, its struggles with diversity, and how she could contribute to advancing diversity.

• Jane Robertson recorded a spot for the It Only Gets Better video, a video message aimed at increasing awareness, acceptance, and celebration of LGBTQ students, faculty, staff, and members of the community.

• Leanna House took on a prevalent role with the undergraduate program.
  o This year, our undergraduate coordinator opted to leave Virginia Tech. Thus, we needed someone to learn her duties and devise a plan to replace her. With the support of Eric Smith, it was decided to distribute her duties to multiple faculty. By distributing, we reduce the workload of any one faculty member, but also need someone (in addition to Eric Smith) to oversee the process. That someone was me and, I think, I did a good job.
    ▪ The committee members know their roles well and work together when an issue comes up.
    ▪ In their roles, the committee members use skills that come naturally to them.
    ▪ The students have access to multiple, informed statistics professors and staff members who can meet their needs. These needs are diverse!
    ▪ The undergraduate committee has a strategy to improve the program. We set immediate goals that include developing ways to get good feedback from the students when they graduate, revamping classes, and developing new classes. We also set long term goals, including increasing enrollment, restructuring and modernizing our entire curriculum, and developing tracks.
    ▪ The committee meets twice a month.

• Leanna House helped prepare a proposal to ICAT-ICTAS to develop an analytics workshop for middle school children. This would require the development of software that tracks students and make them the data points! The success of the proposal is still pending, however, the group made the right connections to develop and execute such a workshop. Thus, if the proposal is denied – they will seek other funding.

• Leanna House organized breakfasts or lunches for women in statistics at VT.
  o The group discusses specific issues that women in the department face or may face and provide information on scholarships and/or research/career resources available to women. Men are not excluded and welcome to attend, if they want. For this FAR, however, the group met once.

• Marlow Lemons is a member of the College of Science Diversity Committee- Recruiting undergraduate and graduates students to Virginia Tech to pursue undergraduate studies in our department by visiting predominantly minority universities.

• Marlow Lemons hosted the Second Annual Suitland Children’s Chess Invitational-Founder and Tournament Director, offered in conjunction with the Statistics Club and the U.S. Census Bureau to increase the awareness and interest of chess in an urban, low-income community.
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<thead>
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<td>Mentoring</td>
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<td>China</td>
<td>Tianjin</td>
<td>Sponsored a faculty member from Tianjin University</td>
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<td>Mentoring</td>
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<td>Sri Lanka</td>
<td>Anura Dhapura</td>
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<td>Conference organization</td>
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<td>Organized session 12th annual conference of the European network for business and industrial statistic</td>
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<td>Funded Research by F. Guo</td>
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<td>Shanghai</td>
<td>Shanghai Naturalistic Driving Study”, Tongji University, Shanghai China</td>
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<tr>
<td>B. Woodall</td>
<td>Europe</td>
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<td>Awarded Box Medal from European Network of Business and Industrial Statistics</td>
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<td>Presentation by J. Morgan</td>
<td>Europe</td>
<td>Poland</td>
<td>Bedlewo Invited lecture Weighting, model transformation an design optimality. LinStat 2012</td>
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<td>Funded research, E. Vance</td>
<td>Africa</td>
<td>Mozambique</td>
<td>Impact Evaluation for the Millennium Challenge Corporation-Supported Rural Water Investment in Mozambique</td>
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<td>Data collection evaluation, E. Vance, M. Seiss</td>
<td>Africa</td>
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<td>Part of the summer was spent in Mozambique evaluating the data collection process associated with a study on water usage.</td>
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