



## Greetings from the Department Head, Dr. Geoffrey Vining



Welcome to the inaugural electronic version of our newsletter! I greatly appreciate all the hard work Christine Anderson-Cook and Allison Bird have put into this project. We hope that you find the new format useful. We are hoping that this format will be a timely and convenient way for you to better stay in touch with the activities and developments of the department. As well we hope the newsletter will become a forum to connect with former classmates and fellow alumni and friends of the department. We are hoping that the newsletter in this format will be sent to you twice a year, in the spring and the fall, as well as an annual report in the summer time with more technical details of the department's activities.

### Of Significance...

[New Faculty & Staff](#)

[News & Special Honors](#)

[Upcoming Events](#)

[Corporate Partners](#)

[Special Feature](#)

**Spring Research Conference  
on Statistics in Industry  
and Technology  
June 18-20, 2001**



The department is highly involved in several major efforts this year. We have just started our Corporate Partners Program. MINITAB has already joined, and we are actively pursuing several other companies even as I write this column. We hope to have eight to ten partners by the beginning of the fall term. Our corporate partners serve as the department's advisory board. Each partner gives the department \$5,000 each year, which we use for graduate recruitment and for improvements to our computing system. Each fall, the department invites two representatives from each company to our Corporate Partners Conference. One representative serves on the advisory board. The other representative meets with our students and faculty. We also envision student and faculty presentations during this conference. The purpose of this program is to nurture good, long-term relationships between the partners and the department. We have more details about this program on our web page. Golde Holtzman is leading our efforts. Please feel free to drop him an email with any possible leads.

In October 2000, the department gave its first set of short courses in Washington DC. The purpose of this program is to share the department's expertise in applied statistics. Bob Schulman serves as the director of our short course program. We plan to offer the next set of short courses in May 2002 in Washington. If you might be interested, or if you know people who might benefit from these courses, keep your eye on our web page for details as they evolve.

From June 18-20 the department is hosting the SPES-IMS Spring Research Conference at the Hotel Roanoke. Christine Anderson-Cook is serving as the local arrangements chair. One of our alumni, Max Morris, is serving as the program chair. June in Roanoke is a great time to visit. We would love to see you then.

As I write this column, the department is heavily involved in recruiting. Marvin Lentner retired on January 1, 2000. I had hoped to announce our new hires, but the process has taken longer than I had hoped. Please check our web page for developments.

Overall, things are going well for the department. One of the great challenges we face is the budget. The university as a whole is learning that it cannot depend on Virginia's General Assembly in Richmond. The net consequence, however, is that the university is now looking at reallocating its funds. Clearly, reallocation could have serious consequences for our department since we are in the middle of a series of retirements. We, as a department, are aware of the situation and are planning for how to make the most of what is available. Challenges can lead to opportunities. I can assure you that we are doing our best to prepare for the future. Of course, we are always interested in the insights, comments, and suggestions of our alumni and friends. Please feel free to drop me an email or give me a call.

Geoff

## New Faculty & Staff

In the last year we have had a number of new additions to our department. We have been very fortunate that we have been able to hire two new full professors who will greatly enhance the strength of research and profile of the department, and complement the current faculty.



[William Woodall](#) joined us in August of 2000 from the University of Alabama. His areas of research include statistical quality control and improvement, all aspects of control charting, and the study of fuzzy logic from a statistical point of view. He is a Fellow of both the American Statistical Association and the American Society for Quality, and he is currently editor of the Journal of Quality Technology. He has won numerous awards for his research and teaching including being selected by Quality Progress of ASQ as one of 21 "Voices of Quality" for 21st Century, Thomas D. Moore Endowed Undergraduate Teaching Award (1998), Best Paper Award for IIE Transactions on Quality and Reliability for paper with J. D. Barrett (1997), Jack Youden Prize for best expository paper in Technometrics with M. Laviolette, J. W. Seaman, Jr., and J. D. Barrett (1995), and the Ellis Ott Foundation Award for best Technometrics paper in quality control paper with C. W. Champ (1987).

[John Morgan](#) also joined us in August 2000 from Old Dominion University. His areas of research include experimental design, combinatorics and discrete optimization. He has published numerous papers in the top statistical journals. He currently holds a National Science Foundation grant, "Topics in simple and complex block design," (1996-2000) and previously was awarded another NSF grant in 1992-1995 for a project entitled, "Nested row-column design," 1992-1995. He has taught courses in Experimental Design, Linear Models, Applied Multivariate, Regression, Categorical Data Analysis, Mathematical Statistics, and Engineering Statistics.



In addition, we hired [Michael Box](#), as our Computer Systems Administrator in 1999 to help with the upgrading and maintenance of our state-of-the-art Unix computer lab, which is used for both undergraduate and graduate teaching and research. Mike Box received his bachelor's degree in Computer Science at Virginia Tech in 1976. After completing his degree, he started his career in the corporate world as a Systems Programmer at Armstrong World Industries, SCM, and SAS Institute, before coming to Virginia Tech in 1989. Most of his career as a systems programmer was devoted to IBM's mainframe operating system, Virtual Machine (VM). It was during this time that Mike learned and used the system management methodologies applied to large computing environments that he applies to our computing environment. In 1995, when Virginia Tech began to switch from centralized computing to distributed computing, Mike was selected as the system administrator for the first computers on which the Banner system was implemented. This began Mike's experience with the Unix operating system. It's been a rewarding and enjoyable year for Mike enhancing our computing environment. He

spends his free time as a Boy Scout leader, as a Young Life volunteer, and with his two best friends in the world: his wife, Sherri, and his son, Matthew.

We have also had some change among the staff positions, as [Michele Marini](#), the Assistant Head of the Consulting Center is now also the Undergraduate Statistics Coordinator, helping both the statistics majors and minors to succeed in our undergraduate program. Dianna Santolla was replaced by [Allison Bird](#) as the secretary for the Statistical Consulting Center, while Dinah Easterly's position was filled by [Becky Allen](#), formerly from the Virginia Tech Marketing department.



Becky Allen



Michele Marini

## Retirements

One of the reasons for much of the recent hiring, has been a number of retirements from the department. We have been fortunate that many of the retirees have remained active teaching some specialty courses. Retirements in recent years have included: I.J. Good (1994), Raymond H. Myers (1995), Richard Krutchkoff (1996), Walter Pirie (1998), Jerry Mann (1998), Klaus Hinkelmann (1999) and Marvin Lentner (2000).



Professor [Marvin Lentner](#) retired from full-time status in the Department of Statistics at Virginia Tech on December 31, 2000. Professor Lentner received B.S. and M.S. degrees in statistics from Iowa State University. He obtained a PhD degree in statistics from Kansas State University in 1967. Dr. Lentner has had a distinguished career. He joined our department in 1975 and served as the Agriculture Experiment Station statistician until 1992. For the period 1992-1995 Professor Lentner served the department as graduate administrator and in 1993 was asked by the faculty to serve as Interim Department Head. Finally, in 1995 Dr. Lentner was invited to serve as the regular department head. After a very successful tenure as department head, he again became a full-time faculty member in 1999.

Dr. Lentner served the department and the profession with distinction. In addition to outstanding departmental service, Professor Lentner is widely known for writing excellent textbooks and research articles. His experimental design book, *Experimental Design and Analysis*, has been used as a text by dozens of universities and as a reference book by numerous researchers. The department is pleased that Dr. Lentner will continue teaching part-time in the department. We all wish Marvin and his wife Helen a wonderful retirement.

## New Graduates

The year 1999-2000 saw 7 Ph.D. degrees, 19 Masters of Sciences degrees and 6 Bachelor of Science degrees awarded by the department.

The Ph.D. degrees were granted to David Burt (Advised by Clint Coakley), Patrick Darken (Golde Holtzman), Steven Kathman (George Terrell), Hefang Lin (Raymond H. Myers and Keying Ye), B. Alden Starnes (Jeffrey B. Birch), Gregory Steeno (Clint Coakley), and Robert B. Noble (Eric P. Smith and Keying Ye). For a complete list of recent dissertation titles, go to [Dissertations](#) on our [Graduate Webpage](#).

The Master of Sciences graduates for 1999-2000 are Farzana Amin, Bronson Bullock, Celia Eicheldinger, Keun Pyo Kim, Ellen Rachel Lockhart, Pamela Norris, Ayca Ozol, Michael Powers, Edgardo Ramirez, Dawn Scott Robinson, Brian Scott, Wilson Shealy, Shun Hua Shen, Kathryn Tucker, Yangping Wang, Xiao Yang, and Lijia Zeng. Ken Keane graduated from an accelerated combined Bachelor and Master of Sciences program in 2000 with both degrees.

The Bachelor of Science graduates for 1999-2000 with a major in statistics are Carolyn Bright, Meghan Dowling, Paula Johnson, J. Brooke Marshall, Melissa Walborn and Clint Worley. Meghan, Paula and Brooke have continued their studies in the department as they are pursuing Master of Science degrees.

## Upcoming Events

Mark June 18-20, 2001 on your calendars, as these will be the dates that the department will host the Spring Research Conference at the Hotel Roanoke in Roanoke. The sponsors of the conference are the American Statistical Association Section on Physical and Engineering Sciences, the Institute of Mathematical Statistics and Virginia Tech. The conference has been held annually as a forum for statisticians from academia and industry to exchange current research ideas and case studies. If you would like to get more information about the conference, or would like to register, please see the [conference website](#).

This year at the Joint Statistical Meetings to be held August 5-9, 2001 in Atlanta, Georgia, the department of statistics will be organizing a dinner for all alumni and former members of the Virginia Tech department. We invite you to look for more information in the conference programs, and details will be sent out by e-mail closer to the conference dates.

## News and Special Honors

In the last year, there have been a number of special achievements in the department that we wish to recognize.

Dr. Christine M. Anderson-Cook was promoted to Associate Professor and has received Tenure.

Dr. Jeffrey B. Birch was promoted to Full Professor.

Dr. Raymond H. Myers was awarded the Brumbaugh Award for the best paper on the industrial applications of quality control to appear in an American Society for Quality Journal in 1999. This is the third time that someone from the department has won the award, and the second time that Ray has won it.

Marion R. Reynolds, Jr. was named a Fellow of the American Statistical Association as well as an Elected Member of the International Statistical Institute.

Eric P. Smith has recently been elected chair-elect for the Section of Statistics and the Environment of the American Statistical Association.

G. Geoff Vining, Marion R. Reynolds Jr., William Woodall and Christine Anderson-Cook were all participants at the Third World Congress of Non-Linear Analysts in Catania, Italy in July 2000. Woodall organized an invited design of experiments session. Vining presented an invited paper entitled "Mixture Experiments with Process Variables under Restricted Randomization". Reynolds organized a sequential analysis and biological statistics session and presented an invited paper called "Individual Control Charts for Monitoring the Mean and Variance of Processes Subject to Step Changes and Drifts". Anderson-Cook presented an invited paper called "An Alternate Model for Experimental Cylindrical Data".

G. Geoff Vining also presented invited talk at the Spring Research Conference on Statistics in Quality Industry and Technology meeting called "Modeling the Process Mean and Variance within a Split Plot Structure" and a plenary talk entitled "An Editor's View of Future Trends in Industrial Statistics Research: A Personal Perspective" in Seattle, Washington in June 2000.

Oliver Schabenberger organized an invited paper session at the Joint Statistical Meetings of the American Statistical Association in Indianapolis in August, 2000. The session was entitled, "Diversity of Spatial Statistics in Agriculture: Design, Process, Model".

George Terrell gave an invited talk entitled "The Wilson-Hilferty Transform s Locally Saddlepoint" at the Interface meeting in New Orleans in April 2000, as well as an invited talk called "Bumps and Symmetry" at the Joint Statistical Meetings in Indianapolis in August 2000.

Each year, the department honors graduate students whose contributions to different aspects of the department have been exemplary. In 2000, Xiao Yang was awarded the Boyd Harshbarger Award

for excellence on the Masters/Ph.D. qualifying exams. Sundar Dorai-Raj and Megan Waterman shared the Jesse Arnold Award for excellence as a graduate teaching assistant. Robert B. Noble was awarded the Klaus Hinkelmann for outstanding contribution to the statistical consulting center.

## Departmental Colloquium Series

In the fall semester, Oliver Schabenberger coordinated an exciting departmental colloquium series. A combination of departmental faculty and students, as well as visiting speakers gave us insights into a number of diverse statistical areas.

Date	Speaker	Affiliation	Title
08/31/00	Christine Anderson-Cook	Virginia Tech	An Alternate Model for Cylindrical Data
09/14/00	Phil Radtke	Virginia Tech	Bayesian Melding for Calibration of Process-Based Computer Models
09/21/00	Sundardas Dorai-Raj	Virginia Tech	Active Learning JAVA Applets for Demonstrating Key Statistical Concepts To Introductory Statistics Classes
09/28/00	William Bell	Census Bureau	Small Area Estimation
10/05/00	Randy Wynne	Virginia Tech	The Remote Sensing/GIS/Statistics Interface
10/13/00	Bimal Sinha	University of Maryland, Baltimore County	Meta-Analysis: Combining Independent Tests
10/19/00	Mary Christman	University of Maryland	Spatial Modeling of Biodiversity
10/26/00	Dr. Klaus Hinkelmann	Virginia Tech	Statistics as a Science, Art and Power - A Personal Account
11/02/00	Sam Wilcock	Virginia Tech	A Less Restrictive Nonparametric Procedure For The k-Sample Problem
11/09/00	Bob Noble	Virginia Tech	Some Multivariate Applications of Bayesian Model Averaging

In addition to this weekly series, we have also started a new more informal Graduate Seminar series. The goal of this series is to help promote the exchange of research ideas among the faculty and graduate students, as well as provide a forum where students can hone their presentation skills. The spring semester is already underway with scheduled talks by visiting statisticians including: Bhramar Mukherjee (Purdue University), Victor De Oliveira (Universidad Simon Bolivar, Venezuela), Fei Zou (University of Wisconsin at Madison), Omer Ozturk (Ohio State University - Marion), Samantha Bates (University of Washington), Hongqua Xu (University of Michigan). For an up-to-date listing of the Spring semester colloquia see our [webpage](#).

## Short Courses

The Department of Statistics held a program of Seminars on Statistics during the week of October 2-6, 2000 in Washington, D.C. Five seminars, each 2 and 1/2 days long, were conducted in the areas of Applied Statistics, Modern Linear and Nonlinear Regression, Bayesian Methods, Advanced Regression, and Response Surface Methodology. Although we probably will not offer seminars during 2001, we hope to make this program an annual event in the future. We are tentatively planning our next program for May 13-17, 2002, again in the Washington, D.C. area. In addition to the topics presented this past fall, we may also offer Design of Experiments, Multivariate Methods, Sample Survey, Data Mining, and Spatial Statistics. For additional information please contact Dr. Robert Schulman ( [schulman@vt.edu](mailto:schulman@vt.edu) , 540-231-4597).

## Corporate Partners

As part of the Vision of the Virginia Tech Department of Statistics to become the best applied statistics department in the nation, we have started a new program to encourage feedback and active participation with a number of industrial affiliates. The Corporate Partners program is a cooperative outreach venture to solidify the mutually beneficial informal ties that have been built over the past 50 years by the Virginia Tech Department of Statistics with industry and government. An Advisory Board comprised of the Corporate Partners will provide curriculum refinement to tune our program to the rapidly changing needs of users of statistics, and research ideas and opportunities for collaboration. The Advisory Board meets annually at the Partners' Symposium.

### The benefits to the Partners include the following:

- Annual Symposium and Advisory Board meeting for information exchange and graduate recruiting.
- Increased communication to keep partners abreast of student development, departmental research, publications, and planning.
- Opportunities to recruit interns and graduates (BS, MS, and PhD).
- Easy access to departmental dissertations and technical reports.
- Easy access via faculty referral to leading edge research.

### The benefits to the Departmental include the following:

- Feedback about curriculum refinement to tune our program to the rapidly changing needs of users of statistics.
- Research ideas and opportunities for collaboration.
- Internships and career opportunities for undergraduate and graduate students.
- Funding for graduate student scholarships and awards.
- Funding to support the departmental computing system.

If you are interested in getting more details about this program or wish to become a Corporate Partner, please contact Golde Holtzman, [holtzman@vt.edu](mailto:holtzman@vt.edu).

## Bioinformatics Program

Another new initiative that the department has become involved in is the Bioinformatics Program. The Bioinformatics Initiative at Virginia Tech has led to the foundation of the Virginia Bioinformatics Institute (VBI). This new research center will foster collaboration between academia and industry and will focus on increasing our knowledge of plant and animal genomics and on developing tools for interpreting genomics information.

The field of bioinformatics is concerned with the development of computational tools for interpreting genomic and other types of biological data. Our department has become involved in this project because the field of statistics can make major contributions to the development of bioinformatics tools through its expertise in experimental design, mixed model and variance components methodology, Bayesian Inference, Markov chain Monte Carlo algorithms, spatial analysis, exploratory data analysis and data mining.

Dr. Ina Hoeschele, an adjunct professor in the department, maintains a research and graduate/postdoctoral training program in statistical genetics. As part of the Bioinformatics efforts at Virginia Tech, Drs. Ina Hoeschele and Keying Ye participate in a project jointly with biologists and computer scientists at VT aimed at providing bioinformatics tools for knowledge discovery from genome-wide microarray transcription data.

## Departmental Consulting Center

For more than 40 years, researchers at Virginia Tech have benefited from consultation and collaboration with the faculty and graduate students of the Department of Statistics through the Statistical Consulting Center. The Director is Eric P. Smith and the Assistant Director is Michele Marini. The mission of the center is to support university and state research, while providing hands-on training for all of our graduate students and gaining access to statistical research topics that arise from practical applications. In a typical year, we provide more than 3,000 consultant-hours of service to some 65 university departments and state agencies. The subject matter ranges from agriculture, biotechnology, and veterinary medicine to engineering, environmental science, psychology, and political science.

## Grant News

[Golde Holtzman](#) was awarded a US Environmental Protection Agency and Virginia Department of Environmental Quality grant in 1998-1999 entitled "Analysis and Interpretation of Water Quality Data to Enhance Clean Water Act Implementation" with Carl Zipper (Virginia Tech Crop and Soil Sciences) and Lawrence Shabman and Tamim Younos (Virginia Water Research Resource Center).

[Eric P. Smith](#) and [Keying Ye](#) were awarded an US Environmental Protection Agency and National Science Foundation grant from 1999-2002 for work entitled "Assessing multiple stressors over large geographic areas."

[Eric P. Smith](#) currently holds a US Environmental Protection Agency grant for 1999-2001 for "Empirical models for diagnosing causes of stress using biological assessment data."

[Christine Anderson-Cook](#) is a collaborator with M.M. Alley and R. Khosla for United States Department of Agriculture grant entitled, "Developing Environmentally Sustainable and Economically Viable Cropping systems: Crop Yields, Soil Moisture, Residue Management and Nitrate Leaching" for the period 1999-2002.

[Bill Woodall](#) was awarded a grant through the NSF Division of Design, Manufacture, and Industrial Innovation for the period 2000-2001. It is entitled, "Multivariate Methods for On-Line and Off-Line Quality Control." It is collaborative research with Professor Kwok Tsui at Georgia Tech.

## Special Feature

One of the interesting statistical education projects that has been recently in the works in our department is a website called "[Statistical Java](#)". Sponsored by grants awarded to Christine Anderson-Cook and Tim Robinson from the Virginia Tech Center for Innovation in Learning, the project developed a series of interactive Java applets to demonstrate a variety of statistical concepts for introductory statistics classes and practitioners. The programmer for the site is Sundar Dorai-Raj, who currently is one of our Ph.D. graduate students. The site has had more than 3800 visitors since August 2000, and is widely being used by several of our undergraduate service teaching courses as well as by other statistical departments around the world. It is listed on several prominent statistical resource pages, and has been used by several companies as a teaching resource for their in-house training.

The site covers topics such as the Central Limit Theorem, Probability distributions, Hypothesis testing, Confidence interval, Correlation, Control charts, Regression and Experimental design. Each topic has multiple applets, which demonstrate sub-concepts within the area.

## Alumni News

Marice Dorsey (M.S. 2000) is currently working as an instructor at Radford University in the Department of Mathematics.

Jennifer (Huffman) Van Mullekom (Ph.D. 1998) was married and is currently working at Lubrizol in Cleveland, Ohio.

Robert Noble (Ph.D. 2000) has just completed his degree and has just started a job at Dupont in New Jersey.

Pamela Norris (M.S. 1999) returned to Australia where she is currently working on her Ph.D. in Statistics at the University of Melbourne.

Timothy J. Robinson (Ph.D. 1996) started an Assistant Professor position in the Department of Statistics at the University of Wyoming. Tim and his wife, Dawn Marii Robinson (M.S. 2000) are pleased to announce the arrival of their first child, Elijah on January 17, 2001.

B. Alden Starnes (Ph. D. 1999) returned to an Associate Professor position in the Department of Mathematics at Bluefield College in West Virginia. He had been on leave from the College while he was completing his Ph.D.

A note to our readers: We would like to expand this section with more information about our alumni. If you have some news that you would like to share in our next newsletter, please contact us at <http://www.stat.vt.edu/alumni/alumsurvey.html>.

[Newsletter Top](#) | [Department of Statistics Homepage](#)