

**DEPARTMENT OF STATISTICS**  
**UNIVERSITY OF SOUTH CAROLINA**  
**COLUMBIA**

**ANNUAL REPORT OF ACTIVITIES**

**January - December 2002**

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## PREFACE

Since 1974 the Statistics Program has provided the University administration an annual report summarizing its activities. The department is currently in its eighteenth academic year of operation, having been formed in July 1985, from the program that had developed within the Mathematics and Statistics Department during 1971-1985. In this Annual Report of Activities for 2002, the department is pleased to provide highlights of its faculty, staff, students, curriculum changes, course offerings, graduates, scholarly and professional accomplishments, and service activities.

This has been a very exciting and successful year! Some of the significant events of 2002 are:

- The Department increased to 14.5 faculty with the hiring of Instructor/Assistant to the Chair Georgie Baker and Assistant Professors Nancy Glenn and Kerrie Nelson.
- In addition to two office areas on the first floor, the department occupies the entire second floor of LeConte except for one small classroom. The department is outgrowing quarters due to its growing graduate program and the additional faculty.
- Classroom 201A has been enhanced with a computer projection system using monies provided by the college. This completes the enhancement of the three classrooms (201A and 210A&B) controlled by the department.
- Statistics course enrollments are continuing to increase at a steady rate, and are on target to exceed all previous totals again in the Spring 2003 semester.
- More core courses for the Certificate of Graduate Study in Applied Statistics, the M.S. degree and the Master of Industrial Statistics degree are being offered via Distance Education.
- Research activities are at full throttle and external funding is continuing at an all-time high level.
- The faculty members are increasingly being recognized nationally and internationally, which is evidenced by their funded research projects, invitations to present talks, and selection for professional awards--two have been elected in recent years to membership in the International Statistical Institute, five are Fellows of the American Statistical Association, one is a Fellow of the Institute of Mathematical Statistics, and other awards for recognition at the local and national levels are being obtained. This year
  - Edsel Peña was elected Fellow of American Statistical Association
  - Joe Padgett received the Mungo Graduate Teaching Award
  - John Grego received Outstanding Services Award (SCAMP Executive Committee) and the Conservationist of the Year, 2001 (awarded December 2002 by SC Chapter of the Sierra Club)
  - John Spurrier received the 2002 Governor's Professor of the Year Award

## FACULTY AND STAFF (Effective Fall 2002)

### Professors:

Donald G. Edwards (Ph.D. 1981, Ohio State University)

James D. Lynch, (Ph.D. 1974, Florida State University), Chair, Director of RQS Center

William J. Padgett, (Ph.D. 1971, Virginia Polytechnic Institute and State University), Carolina Professor

Edsel A. Peña, (Ph.D. 1986, Florida State University), Director of Graduate Studies

Walter W. Piegorsch, (Ph.D. 1984, Cornell University)

John D. Spurrier, (Ph.D. 1974, University of Missouri), Assistant Chair, Director of Undergraduate Studies

**Associate Professors:**

John M. Grego (Ph.D. 1989, Pennsylvania State University), Director of Statistical Laboratory  
Lori A. Thombs (Ph.D. 1985, Southern Methodist University)  
Peter Waddell (Ph.D. 1996, Massey University, New Zealand, joint appointment with Biology)  
R. Webster West (Ph.D. 1994, Rice University)

**Assistant Professors:**

Nancy Glenn (Ph.D. 2002, Rice University)  
Brian Habing (Ph.D. 1998, University of Illinois at Urbana-Champaign)  
Kerrie Nelson (Ph.D. 2002, University of Washington-Seattle)

**Instructors:**

Tammiee S. Dickenson (M.S. 1996, M.Math. 1995, University of South Carolina)  
Georgiana Baker (M.S. 1996, University of South Carolina), Assistant to the Chair

**Emeritus Professor:**

Stephen D. Durham, (Ph.D. 1969, University of California, Davis)

**Adjunct Faculty:**

J. Wanzer Drane (Professor, Epidemiology and Biostatistics)  
Huynh Huynh (Professor, Educational Psychology)

**Statistical Laboratory:**

Michele D. Nichols, Manager (M.S. 2000, University of South Carolina)

**Computing Staff:**

Minna Moore, Systems Administrator (with Mathematics)  
Hai Dong, Computer System Graduate Assistant

**Office Staff:**

Debra Williams, Business and Office Manager  
Anita Wood, Administrative Specialist/Student Services Coordinator  
Ariel Turner, Student Assistant

**Visiting Faculty:**

Chang Kang had a one-year sabbatical as a visiting scholar from Hangyang University (Korea), Department of Industrial Engineering, that ended in January 2001. Dr. Kang received his Ph.D. in Statistics at the University of Minnesota.  
Obaid Al-Saidy was a Visiting Assistant Professor in the Spring Semester. He received his Ph.D. in the Spring 2001 from the University of South Carolina.  
Young-Sool Park began a one-year sabbatical as a visiting scholar from Kwandong University (Korea), Department of Statistics.

**STUDENTS**  
**Graduate Students for Spring Semester, 2002**

Ahmed Al-Hadrami	Sylvia Hill	David Stamps
Ken Araujo	Jeffery Hughes	Dorota Staniewska
Beth Beard	Kirby Jackson	Geoff Stewart
Parul Bhargava	Petko Kostadinov	Russell Stocker
Jennifer Boyd	Deiana Kozareva	Dengfang Tang
Brooke Buckley	Roumen Kozarev	Tim Teitloff
Steve Colohan	Carl Miller	Mark Tilley
Sam Croker	Cerissa Newdigate	Meredith Tomlinson
Stephen Deas	Daniela Nitcheva	Valarie Valentine
Bob D'Zio	Wei Pan	Francisco Vera
Sharon Dziuba	Scott Padgett	Jamie Winterton
Gabriel Estrada	Maureen Petkewich	Maggie Wang
Chris Finney	Angela Pierson	Hua Wen
Dawn Garrison	Heather Ridings	Yuping Wu
Dong Hai	Wendy Roth	Phil Yates
Jun Han	Susan Simmons	
David Hare	LaShaune Smith	

**Graduate Students for Fall Semester, 2002**

Keith Anderson	Sylvia Hill	David Stamps
Ken Araujo	Kirby Jackson	Geoff Stewart
Melanie Autin	Barth Kelly	Russell Stocker
Beth Beard	Roumen Kozarev	DengFang Tang
Parul Bhargava	William Laursen	Tim Teitloff
Brooke Buckley	Cerissa Newdigate	Mark Tilley
Christopher Colvin	Jun Ni	Meredith Tomlinson
Sam Crocker	Daniela Nitcheva	Francisco Vera
Bob D'Zio	Marcy O'Berry	Jue Wang
Jose Gabriel Estrada	Scott Padgett	Maggie Wang
Chris Finney	Robert Parody	Hua Wen
Balarama Gundapanini	Maureen Petkewich	Legare Westfall
Dong Hai	Andrea Phillips	Yuping Wu
Jun Han	Angela Pierson	Litong Zhang
Jeremy Hanna	Jonathan Quiton	Phil Yates
David Hare	Wendy Roth	

**Graduate Student Awards 2002**

Outstanding Graduate Teaching Award:	Phil Yates, Meredith Tomlinson, Jamie Winterton
Outstanding Graduate Research Award:	Dotty Staniewska
Outstanding Scholar Award:	Francisco Vera, Susan Simmons, Daniela Nitcheva
Outstanding Graduate Citizen Award:	Brooke Buckley
Padgett Graduate Fellowship:	Andrea Phillips
USC Graduate School Fellowship:	Melanie Autin
College of Science and Mathematics Fellowship:	Robert Parody
SRCOS/ASA R.L. Anderson Student Paper Award:	Susan Simmons
SC ASA Outstanding Student Presentation:	Meredith Tomlinson

## Undergraduate Students and Awards 2002

COSM Senior Year Scholarship:	Holly Battenhouse
Steven D. Durham Award for Outstanding Performance as a Statistics Major:	Holly Battenhouse
Mu Sigma Rho Award:	Larry Long

### GRADUATES

#### **Doctor of Philosophy:**

Carl Miller	Varying Coefficient Models for Periodic Water Quality Data (Grego)
Wei Pan	One-Sided Confidence Bands for Low-Dose Risk Estimation with Nonquantal Data (Piegorsch)
Susan Simmons	Data Mining for Mutagenic Potency Estimation in Hierarchical Linear Models (Piegorsch)

#### **Master of Science:**

Ahmed Al-Hadrami	Multiple Comparisons with the Best in S-Plus (Edwards)
Sharon Dziuba	A Comparison of Alternatives to Hotelling's $T^2$ Test (Habing)
Dawn Garrison	Adaptive Goodness-of-Fit Test with Discrete Right-Censored Data (Peña)
Petko Kostandinov	Inventory Control Model (Grego)
Heather Ridings	K Sample Distribution-Free Tests of Location (Spurrier)
Dotty Staniewska	Smoothing Methods in Item Response Theory (Habing)
Jamie Winterton	Generalized Additive Models for Harmonic Regression Analysis (Edwards)
Beth Beard	A Comparison of Distance Measures for the Analysis of Multi-dimensional Test Data (Habing)

#### **Master of Industrial Statistics:**

Stephen Colohan	A Multiple Regression Analysis of Process Variable Effects on Key Quality Measures in the Manufacture of Gradnola Bars (Edwards)
Steven Deas, III	Exposure to Antibiotics and the Resulting Responses in Enterobacter spp. And Pseudomonas aeruginosa Bacteremia (Edwards)
LaShaune Smith	Analyzing the Fundamental Variation Drivers in Batch Processes: Between Versus within Batch Variation (Lynch)

#### **Bachelor of Science:**

Larry Long	unknown
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Jeff Philips  
Zack Ford

Blue Cross and Blue Shield of South Carolina  
unknown

## FACULTY/STAFF HONORS AND AWARDS

John Grego	Outstanding Services Award (SCAMP Executive Committee)
John Grego	Conservationist of the Year, 2001 (awarded December 2002 by SC Chapter of the Sierra Club)
William J. Padgett	Michael J. Mungo Graduate Teaching Award, May 2002.
Edsel Peña	Elected Fellow of ASA, August 2002.
John Spurrier	2002 Governor's Professor of the Year Award

## COURSES AND CURRICULUM

All courses continued to have good enrollments during the year (INCREASED ENROLLMENTS??). The courses, enrollments, and instructors were:

### Spring Semester 2002:

Course	Enrollment	Instructors
STAT 110	435	Smith, Yates, Al-Saidy, Dickenson, Beard, Nichols, Ridings, West
STAT 201	401	Hare, Finch, Wang, Winterton, Dickenson, Garrison, Bhargava, Nitcheva, Buckley, Dzuiba, Miller
SCCC 312A	23	Spurrier
STAT 506	11	Grego
STAT 509	163	Lynch, Al-Saidy, West, Baker
STAT/MATH 511	21	Sumner
STAT 512	23	Piegorsch
STAT 515	46	Peña
STAT 516	22	Habing
STAT 519	19	Piegorsch
STAT 520	10	Thombs
STAT 701	9	Peña
STAT 703	4	Padgett
STAT J703	5	Padgett
STAT 705	15	Edwards
STAT 713	15	Thombs
STAT 724	5	Spurrier
STAT 761	13	Padgett
STAT 778/EDRM 828	11	Habing
STAT 791	8	Grego
STAT 795	6	Peña

**Summer Session I 2002:**

Course	Enrollment	Instructors
STAT 110	43	Dickenson
STAT 201	39	Buckley
STAT 512	5	Al-Saidy
STAT 516	3	Yates

**Summer Session II 2002:**

Course	Enrollment	Instructors
STAT 110	43	Dickenson
STAT 201	39	Buckley
STAT 512	5	Al-Saidy
STAT 516	3	Yates

**Fall Semester 2002:**

Course	Enrollment	Instructors
STAT 110	498	Parody, Yates, Dickenson, West, Nichols, Thombs, Glenn, Haines, Tomlinson
STAT 201	408	Newdigate, Finch, Autin, Phillips, Bhargava, Roth, Quiton, Stucker, Wang, Roth Buckley, Hare, Petkewich, Dickenson
SCCC 312A	23	Habing
STAT 509	162	Lynch, Baker, Sims
STAT/MATH 511	40	Thombs
STAT 513	12	Piegorsch
STAT 515	55	Habing, Waddell
STAT 517	18	Edwards
STAT 518	13	Spurrier
STAT 525	5	Baker
STAT 590	4	Spurrier
STAT 700	19	Nelson
STAT 704	17	Edwards
STAT J704	5	Edwards
STAT 706	8	Grego
STAT 710	14	Peña
STAT 712	15	Padgett
STAT 714	11	Piegorsch
STAT 790	10	Grego
STAT 795	17	Piegorsch
STAT 809	3	Peña, Spurrier

**New Courses/Programs:**

A new undergraduate course, STAT 582 (=CSCE 582) - Bayesian Networks and Decision Graphs, was taught in the Fall 2002. Two new graduate courses, STAT 721 Stochastic Processes and STAT 777 (=BIOL 777) Statistical Phylogenetics and Molecular Evolution, were approved and will be offered in the coming year.

## SCHOLARLY ACTIVITIES

### Publications

#### Books/Other In Print.

- Dickenson, T.S. Wrote questions for a supplement to the textbook: Pelosi and Sandifer, John Wiley & Sons, Inc, Doing Statistics, 2nd Edition, Summer, 2002
- El-Shaarawi, A.H. and Piegorsch, W.W., eds. Encyclopedia of Environmetrics, Vols. 1 to 4. Chichester: John Wiley & Sons (2002).
- Piegorsch, W.W. Beta-binomial distribution. Encyclopedia of Environmetrics, A.H. El-Shaarawi and W.W. Piegorsch, eds. Chichester: John Wiley & Sons, 1, 173-175 (2002).
- Piegorsch, W.W. Binary data. Encyclopedia of Environmetrics, A.H. El-Shaarawi and W.W. Piegorsch, eds. Chichester: John Wiley & Sons, 1, 175-177 (2002).
- Piegorsch, W.W. Clean Water Act, U.S. Encyclopedia of Environmetrics, A.H. El-Shaarawi and W.W. Piegorsch, eds. Chichester: John Wiley & Sons, 1, 350-352 (2002).
- Piegorsch, W.W. Dispersion parameter. Encyclopedia of Environmetrics, A.H. El-Shaarawi and W.W. Piegorsch, eds. Chichester: John Wiley & Sons, 1, 540-544 (2002).
- Piegorsch, W.W. Distribution function. Encyclopedia of Environmetrics, A.H. El-Shaarawi and W.W. Piegorsch, eds. Chichester: John Wiley & Sons, 1, 552-553 (2002).
- West, R.W. and Piegorsch, W.W. Extra risk. Encyclopedia of Environmetrics, A.H. El-Shaarawi and W.W. Piegorsch, eds. Chichester: John Wiley & Sons, 2, 731-732 (2002).
- Piegorsch, W.W. Geometric mean. Encyclopedia of Environmetrics, A.H. El-Shaarawi and W.W. Piegorsch, eds. Chichester: John Wiley & Sons, 2, 898-899 (2002).
- Piegorsch, W.W. Joint action models. Encyclopedia of Environmetrics, A.H. El-Shaarawi and W.W. Piegorsch, eds. Chichester: John Wiley & Sons, 2, 1098-1102 (2002).
- Piegorsch, W.W. Maximum likelihood estimation. Encyclopedia of Environmetrics, A.H. El-Shaarawi and W.W. Piegorsch, eds. Chichester: John Wiley & Sons, 3, 1234-1235 (2002).
- Piegorsch, W.W. Multinomial distribution. Encyclopedia of Environmetrics, A.H. El-Shaarawi and W.W. Piegorsch, eds. Chichester: John Wiley & Sons, 3, 1311-1312 (2002).
- Piegorsch, W.W. Mutagenesis, environmental. Encyclopedia of Environmetrics, A.H. El-Shaarawi and W.W. Piegorsch, eds. Chichester: John Wiley & Sons, 3, 1347-1350 (2002).
- Piegorsch, W.W. Proportional hazards model. Encyclopedia of Environmetrics, A.H. El-Shaarawi and W.W. Piegorsch, eds. Chichester: John Wiley & Sons, 3, 1639-1641 (2002).
- Piegorsch, W.W. Quantal response data. Encyclopedia of Environmetrics, A.H. El-Shaarawi and W.W. Piegorsch, eds. Chichester: John Wiley & Sons, 3, 1647-1649 (2002).

- Piegorsch, W.W. Random effects. Encyclopedia of Environmetrics, A.H. El-Shaarawi and W.W. Piegorsch, eds. Chichester: John Wiley & Sons, 3, 1672-1674 (2002).
- Piegorsch, W.W. Sensitivity and specificity. Encyclopedia of Environmetrics, A.H. El-Shaarawi and W.W. Piegorsch, eds. Chichester: John Wiley & Sons, 4, 1982-1983 (2002).
- Piegorsch, W.W. z-Statistics. Encyclopedia of Environmetrics, A.H. El-Shaarawi and W.W. Piegorsch, eds. Chichester: John Wiley & Sons, 4, 2391-2392 (2002).
- Piegorsch, W.W. and Edwards, Don (2002). "What shall we teach in environmental statistics?" with 9 comments and rejoinder. Environmental and Ecological Statistics 9, 125-150.
- Dame, R., D. Bushek, D. Allen, E. Koepfler, A. Lewitus and D. Edwards. (2002). "Ecosystem response to bivalve density reduction: management implications." Aquatic Ecology, 36:51-65.

### **Books/Other In Press.**

- Sneh Gulati and William J. Padgett, Parametric and Nonparametric Inference from Record-Breaking Data, Springer-Verlag, Lecture Notes in Statistics Series.
- J. D. Lynch and W. J. Padgett, "Reliability Models Motivated by Failure of Brittle Fibers and Composites," in Mathematical Reliability: An Expository Perspective, N. Singpurwalla, T. Mazzuchi and R. Soyer, Eds., Kluwer Academic Publishers.
- W. J. Padgett, "Application of the Weibull Distribution to Material Strength," in The Weibull Distribution: Theory, Methods and Applications, N. Balakrishnan and A. P. Basu, Eds.
- W. J. Owen and W. J. Padgett, "Accelerated Test Models with the Birnbaum-Saunders Distribution," in Reliability Handbook, H. Pham, Ed., Springer.
- A. Onar and W. J. Padgett, "Cumulative Damage Approaches Leading to Inverse Gaussian Accelerated Test Models," in Handbook of Statistics: Survival Analysis, N. Balakrishnan and C. R. Rao, Eds., Elsevier Science Publishers.

### **Papers In Print.**

- W. J. Padgett and M. A. Tomlinson, "A Cumulative Damage Model for Strength of Materials When Initial Damage Is a Gamma Process," Journal of Statistical Theory and Applications, Vol. 1, pp. 1-14, 2002.
- Peña, E. and Hollander, M. (2002). Models for Recurrent Events in Reliability and Survival Analysis. To appear in Mathematical Reliability: An expository Perspective, edited by T. Mazzuchi, N. Singpurwalla and R. Soyer.
- Edsel Peña, Book review of Statistical Methods for the Reliability of Repairable Systems by Steven Rigdon and Asit Basu. Journal of the American Statistical Association, 97, 652-653.
- Piegorsch, W.W. and Edwards, D. What shall we teach in environmental statistics? (with discussion). Environmental and Ecological Statistics 9, 125-150 (2002).
- John D. Spurrier, An Improved Lower Bound for Lehmann's Lambda, Communications in Statistics-Theory and Methods, 31, 193-199, 2002.

John D. Spurrier, Exact Multiple Comparisons of Three or More Regression Lines: Pairwise Comparisons and Comparisons with a Control, *Biometrical Journal*, 44, 801-812, 2002.

Y. Lin, P.J. Waddell and D. Penny (2002). Pika and vole mitochondrial genomes increase support for both rodent monophyly and glires. *Gene* 294;119.

### **Papers in Press.**

E. Earra, Z. Grego, J.M. Grego et al, "Surgery for Idiopathic Full-Thickness Macular Holes: 2-Year Results of a Prospective Randomised Clinical Trial Comparing Natural History, Vitrectomy and Vitrectomy Plus Autologous Serum", *Ophthalmology*.

Habing, B., & Roussos, L.A. On the need for negative local item dependence. *Psychometrika*.

Habing, B., & Donoghue, J.R.. Local dependence assessment for exams with polytomous items and incomplete item-examinee layouts. *Journal of Educational and Behavioral Statistics*.

W. J. Padgett and Meredith A. Tomlinson, "Lower Confidence Bounds for Percentiles of Weibull and Birnbaum-Saunders Distributions," *Journal of Statistical Computation and Simulation*, Vol. , 2002.

Arzu Onar and W.J. Padgett, "A Penalized Local D-Optimality Approach to Design for Accelerated Test Models," *Journal of Statistical Planning and Inference*.

Peña, Edsel. Classes of Fixed Order and Adaptive Smooth Goodness-of-Fit Tests with Discrete Right-Censored Data. To appear in the Proceedings of the Mathematical Methods in reliability 2002 Conference.

Peña, Edsel. Goodness-of-Fit Tests with Right-Censored Discrete Data (joint with Dawn Garrison). Abstracts Book of the Mathematical Methods in Reliability Conference, June 2002.

Tu, W. and Piegorsch, W.W. Empirical Bayes analysis for a hierarchical Poisson generalized linear model. *Journal of Statistical Planning and Inference* 11, 235-248 (2003).

Simmons, S.J., Piegorsch, W.W., Nitcheva, D., and Zeiger, E. Combining environmental information via hierarchical modeling: An example using mutagenic potencies. *Environmetrics*.

Pan, W., Piegorsch, W.W., and West, R.W. Exact one-sided simultaneous confidence bands via Uusipaikka's method. *Annals of the Institute of Statistical Mathematics*.

Li, X., Sweigart, J., Teng, J., Donohue, J. and Thombs, L. Linear Discriminant Function Based Multivariate Decision Trees," accepted for publication in *IEEE Trans. On Systems. Man and Cybernetics, Part B*.

P.J. Waddell, H. Kishino, and R. Ota. Very Fast Algorithms for Evaluating the Stability of ML and Bayesian Phylogenetic Trees from Sequence Data. *Genome Informatics* 13.

Pan, W., Piegorsch, W.W. and West, R.W. "Exact one sided confidence bands via Uusipaikka'a method," *Annals of the Institute of Mathematical Statistics*

Lengvarsky, Z. and West, R.W. "Influence contours in linear regression," *Computational Statistics*.

## **Papers Submitted.**

- Street, W. Scott IV, Don Edwards, Robert J. Feller, Bruce C. Coull, and Stephen E. Stancyk (revised and resubmitted). "Mixed-Model Splines for Environmental Time Series"
- Walters, Beth and Edwards, Don (re-revised and re-resubmitted). "Multiple Comparisons for Two-Factor Designs with Non-Negligible Interaction."
- John M. Grego and James Lynch, "A Result on the Difference of Chi-Square Random Variables"
- Gleaton, J. U. and Lynch, J. D. (2001) "On the distribution of the Breaking Strain of a Bundle of Brittle Elastic Fibers"
- J.G. Surlles and W.J. Padgett, "Some Properties of a Scaled Burr Type X Distribution."
- W.J. Padgett and Meredith A. Tomlinson, "Inference from Accelerated Degradation and Failure Data Based on Gaussian Process Models."
- Peña, E. "Global Validation of Linear Model Assumptions."
- Peña, E. (2002). "Intensity-Based Smooth Goodness of Fit Tests for Discrete Distributions with Censored Data."
- Dukic, V. and Peña, E. (2002). "Estimation after Model Selection in a Gaussian Model."
- Agustin, Z. and Peña, E. (2002). "A Basis Approach to Goodness-of-Fit Testing in Recurrent Event Models."
- Al-Saidy, O.M., Piegorsch, W.W., and West, R.W. "Confidence bands for low-dose risk estimation with quantal response data."
- Piegorsch, W.W., West, R.W., Pan, W., and Kodell, R.L. "Low-dose risk estimation via simultaneous statistical inferences."
- John D. Spurrier, "Multiple Comparisons with the Best Control in a One-Way Layout."
- John D. Spurrier, "On the Null Distribution of the Kruskal-Wallis Statistic."
- B.E. Ainsworth, FACSM, K.A. Kirtland, C.L. Addy, L.A. Thombs, D.E. Porter, L.J. Neff, C.D. Kimsey. "Environmental Supports for Physical Activity: Awareness and Use of Community Walking Trails." Prevention Research Center, Arnold School of Public Health, University of South Carolina, Columbia, SC.
- J.S. Rest, J.C. Ast, C.C. Austin, Jennifer M. Hay, E.A. Tibbetts, P.J. Waddell, and D.P. Mindell. "Molecular systematics of Reptilia and the tuatara mitochondrial genome."
- X. Feng, D. Buell, J. Rose, and P.J. Waddell. "Parallelization and scalability analyses of Bayesian phylogenetics inference."
- Minottee, M.M., West, R.W. and Solka J. "The data image: A tool for high dimensional exploratory data analysis."

West, R.W. and Kodell, R.L. "Changepoint alternatives to the NOAEL."

Al-Saidy, O.M., Piegorsch, W.W. and West, R.W. "Confidence bands for low dose risk estimation with quantal response data."

West, R.W. Wu, Y. and Heydt, D. "New developments in WebStat 3.0."

## **PAPERS PRESENTED AT MEETINGS**

### **Invited.**

John Grego. Congaree Swamp Science Symposium I, January, 2002. "The Art and Science of Floodplain Mapping."

Brian Habing, H. Finch, J. Roberts, and R. Nandakumar. Presented at the Annual Meeting of the American Educational Research Association, April 1, 2002, New Orleans, LA. "A Q3 Statistic for Unfolding Item Response Theory Models."

W.J. Padgett. Invited panel participant in the NSF Workshop on "Statistics: Challenges & Opportunities for the 21st Century," Arling, VA, May 6-8, 2002 (written report forthcoming).

W.J. Padgett. Fourth Biennial IISA Conference on Statistics, Probability and Related Areas, DeKalb, Illinois, June 13-16, 2002, "A Cumulative Damage Approach to Modeling Materials or System Failure."

E. Peña, Meeting at DeKalb, IL, IISA, "Goodness-of-Fit Testing with Discrete Right-Censored Data."

E. Peña, Norway, MMR2002, "Goodness-of-Fit Testing with Discrete Right-Censored Data."

E. Peña, University of Michigan, SRC, "A General Class of Models for Recurrent Events."

W. Piegorsch. Joint Statistical Meetings, New York, NY, August 2002. "Low-dose risk assessment in an era of technological change."

John Spurrier. Fourth Biennial International Conference on Statistics, Probability and Related Areas, DeKalb, IL. "Exact Multiple Comparisons of Three or More Regression Lines: Pairwise Comparisons and Comparisons with a Control."

John Spurrier. Beyond the Formula VI, Rochester, NY. "Lessons Learned in 10 Years of Hands-On Learning at the University of South Carolina."

John Spurrier. Beyond the Formula VI, Rochester, NY. "A Hands-On Experiment Comparing the Tastes of Two Competing Products."

John Spurrier. Beyond the Formula VI, Rochester, NY. "More Hands-On Experiments Used at the University of South Carolina."

P.J. Waddell. Evolution of New Pathogens Symposium, Society of Molecular Biology and Evolution Meetings, 2002, Sorrento, Italy June 15, 2002 (given on behalf of Austin Hughes). "Population structure of some human pathogens."

Vicki Funk. VI International Congress of Systematic and Evolutionary Biology - Biodiversity in the Information Age, Patras, Greece, September 16, 2002 (given on behalf of Peter Waddell), "The New Sequence Based trees of Placental Mammals and Issues of Statistically Testing Them."

**Contributed.**

Don Edwards. Joint Statistical Meetings, New York, NY, August 2002. "The Integrated Michaelis-Menten Function."

John Grego. Joint Statistical Meetings, New York, NY, August 2002. "Calibration of a Flood Hydraulics Model."

Brian Habing, A.G. Froelich. Presented at the Annual Meeting of the Psychometric Society, June 22, 2002, Chapel Hill, NC. "A Study of Methods for Selecting the AT Subtest in the DIMTEST Procedure."

Kerrie Nelson. International Biometrics Conference, Germany, July 2002. "Generalized Linear Mixed Models: Development and Comparison of Different Estimation Methods."

E. Peña, ENAR, Washington, DC, "A General Class of Models for Recurrent Events."

E. Peña, Joint Statistical Meetings, New York, NY, August 2002, Adaptive Goodness-of-Fit Tests with Incomplete Data."

P.J. Wadell, R. Ota, and H. Kishino. Mammalian Phylogeny Symposium, Society of Molecular Biology and Evolution Meetings, June 16, 2002, Sorrento, Italy. "Testing sequence based phylogenies of placental mammals."

R.W. West. Joint Statistical Meetings, New York, NY, August 2002. "Integrating Java applets into Statistics courses."

**CONFERENCES AND MEETINGS ATTENDED**

G. Baker. Governor's Quality Awards, October 7, 2002.

T. Dickenson. South Carolina Educators for the Practical Use of Research Conference in Columbia, SC Feb 28 - March 1, 2002.

D. Edwards. SC Chapter of the American Statistical Association, April 2002.

J. Grego. NSF/LSAMP Project Directors Meeting, Washington, DC March 2002.

B. Habing. Annual Meeting of the SC Chapter of the American Statistical Associate, April 2002, Columbia, SC

B. Habing, Annual Meeting of the American Statistical Associate, August 2002, New York. NY.

W.J. Padgett. Annual Meeting of the SC Chapter of the American Statistical Associate, April 2002, Columbia, SC

- W. J. Padgett. NSF Workshop on “Statistics: Challenges & Opportunities for the 21st Century,” NSF, Arlington, VA, May 6-8, 2002.
- W.J. Padgett. Fourth Biennial IISA Conference on Statistics, Probability and Related Areas, Northern Illinois University, DeKalb, IL, June 13-16, 2002.
- W. Piegorsch. Reading Nanoscience Workshop, University of South Carolina Science Studies Group, August, 2002.
- J. Spurrier. Fourth Biennial International Conference on Statistics, Probability and Related Areas, DeKalb.
- J. Spurrier. Beyond the Formula VI, Rochester, NY.
- J. Spurrier, Annual Meeting of the South Carolina Chapter of the American Statistical Association.
- L. Thombs, SRCOS/ASA 2002 Summer Research Conference, “Statistics in Science.” Natchez, MS, June 2-5, 2002.
- L. Thombs. Joint Statistical Meetings, New York, August 2002.
- R.W. West. Joint Statistical Meetings, New York, August 2002.

#### **CONFERENCES/SESSIONS ORGANIZED/CHAired**

- D. Edwards. Chaired session at the Joint Meetings, NY 2002.
- J. Lynch. Organizing Committee for International Conference on Reliability and Survival Analysis, 2003.
- J. Lynch. Organized Reliability Seminar and supervised Francisco Vera who presented lectures.
- W.J. Padgett. Co-Chair for Program Committee and Local Organizing Committee for the International Conference on Reliability and Survival Analysis to be held at USC in May 2003.
- W.J. Padgett. Chaired Invited Session on “Reliability and Survival Analysis” at 4th Biennial IISA Conference on Statistics, Probability and Related Areas, Northern Illinois University. DeKalb, IL, June 13-16, 2002.
- E. Peña. Co-organizer of ICRSA 2003.
- E. Peña. Member of the MMR2004 Organizing Committee.
- J. Spurrier. Chair of SPAIG Subcommittee on Academic Advisory Boards.
- J. Spurrier. Session Chair, Nonparametric Statistics, Fourth Biennial International Conference on Statistics, Probability and Related Areas, DeKalb, IL.

#### **OUTSIDE RESEARCH SEMINARS AND COLLOQUIA PRESENTED**

- Don Edwards. College of Charleston Feb 2002 “Quantifying Cyclicity in Water Quality Indicators at NERRS Sites”
- Don Edwards. USC Program in Marine Science, Feb 2002 (same title).
- Don Edwards. Palmetto GBA November 2002: the Box-Cox Transformations
- John Grego. Consulting Seminar with Professor Ray Torres and Karyn Novakowski (Geology), “Random River Basin Networks,” Fall 2002.
- Kerrie Nelson. “Comparison of Iterative Bias Correction with Other Estimation Methods in Generalized Linear Mixed Models” School of Public Health, University of South Carolina December 2002.
- E. Peña, “A Class of Hazard-Based Goodness-of-Fit Tests with Censored Data,” Cornell University, Statistics.
- E. Peña, “Estimation after Model Selection in a Gaussian Model,” Florida International University, Mathematics and Statistics.
- E. Peña, “Nonparametric Estimation with Recurrent Event Data,” Biostatistics, USC.
- E. Peña, “Estimation after Model Selection: A Case Study of a Gaussian Model,” Statistics, USC.
- W. Piegorsch. Invited Panelist: “Scientific predictions of social and technical change.” University of South Carolina Science Studies Group, February 2002.
- J. Spurrier. "Exact Multiple Comparisons of Three or More Regression Lines: Pairwise Comparisons and Comparisons with a Control," Georgia Southern University.
- J. Spurrier. "Exact Multiple Comparisons of Three or More Regression Lines: Pairwise Comparisons and Comparisons with a Control," USC-Columbia, Department of Statistics.
- P.J. Waddell, “Statistical Approaches to Whole Genetic Pathways from Microarray and Proteomics Data,” Univ of Waikato, Hamilton, New Zealand, Feb 2002.
- P.J. Waddell, “Resolving the Tree of Placental Mammals: Refining Priors with Amino Acid Data and the Promise of Statistical SINE-Frequency Analysis.” Massey University, Palmerston North, New Zealand, March 2002.
- P.J. Waddell, “Resolving the tree of placental mammals: the superiority of a statistical SINE approach and the non-robustness of Bayesian approaches.” Whitianga-02, The Annual New Zealand Phylogenetics Meeting, New Zealand, February 2002.
- P.J. Waddell. “The new view of early placental mammal evolution, the original of primates, and the next steps in genomic analysis.” University of Montenegro, Montenegro June 2002.
- P.J. Waddell, “What it will take to resolve the placental phylogenetics tree?” Laboratory of Genomic Diversity, National Cancer Institute, Frederick, Maryland, June 2002.
- P.J. Waddell, “Statistical issues in phylogenetics and resolving the inter-ordinal relationships of placental mammals.” Dept of Statistics Seminar Series, USC, September 2002.

R.W. West. "Changepoint alternatives to the NOAEL," (April 5, 2002) USC Dept of Statistics.

R.W. West. "An Introduction to WebStat 3.0," (October 24, 2002) USC Dept of Statistics.

### **TALKS FOR GENERAL AUDIENCES**

Don Edwards. September 2002 GSA Brown Bag luncheon discussion leader on Comprehensive Exams.

J. Spurrier. "Learning What Different Groups Consider to Be Important in Teaching," USC class EDHE 738 and USC, Aiken.

J. Spurrier. "Careers in Statistics," Irmo High School, 2 presentations.

J. Spurrier. "Statisticians Rule," USC COSM Frontiers Night

### **STATISTICS DEPARTMENT COLLOQUIUM SERIES**

January 14. Dr. Eric Chicken, Dept of Statistics, Purdue University, "Density Estimation Using Block Thresholding."

January 18. Kerrie Nelson, Dept of Statistics, University of Washington, "Estimation in Generalized Linear Mixed Models: Comparison of Maximum Likelihood with Iterative Bias Correction."

January 25, Dr. Robert Delongchamp, National Center for Toxicological Research, "Statistical issues in normalizing gene expression data from cDNA arrays."

February 1, Dr. Zhengjun Zhang, Dept of Statistics, Univ North Carolina, Chapel Hill, "Multivariate Extremes, Max-Stable Process Estimation and Dynamic Financial Modeling."

February 8. Dr. Robert Taylor, Dept of Statistics, Univ of Georgia, Athens, "Consistency and Validity of Dependent Bootstrap Estimators."

March 1. Dr. Ram Tiwari, National Cancer Institute/National Institutes of Health, Bethesda, MD. "NIH Funding Mechanism and Funding Opportunities in Statistics."

March 22. Dr. Roger Berger, Dept. of Statistics, NC State University, Raleigh, NC, "The Exact Size of the Chi Squared Test for Comparing Two Binomial Proportions."

March 29. Dr. Elizabeth Slate, Dept of Biometry and Epidemiology, Medical University of SC, Charleston. SC. "Detecting Changes in Trend Data."

April 5. Dr. Webster West. Dept of Statistics, USC, Columbia, "Changepoint Alternatives to the NOAEL."

April 12. Dr. Fred Hulting. General Mills Corporation, Minneapolis, Minnesota. "Statistics in New Product Development."

August 22. Dr. James Lynch, Moderator, Dept of Statistics, University of South Carolina, "Getting to Know Each Other."

- September 12. Dr. Andrew B. Lawson, University of South Carolina, Dept of Epidemiology and Biostatistics, “Spatial Mixture Relative Risk Models Applied to Disease Mapping.”
- September 19. Peter Waddell, Univ of South Carolina, Dept of Biology and Dept of Statistics, “Statistical Issues in Phylogenetics and Resolving the Inter-Ordinal Relationships of Placental Mammals.”
- October 3. Edsel Peña, Univ of South Carolina, Dept of Statistics. “Estimation after Model Selection: A Case Study of a Gaussian Model.”
- October 17. Melanie Siewart and Jeri Boysia, Blue Cross/Blue Shield, “Career Opportunities for Actuaries.”
- October 24. R. Webster West. Univ of South Carolina, Dept of Statistics, “An Introduction to WebStat 3.0.”
- October 31. Mabelle Wilson, Savannah River Ecology Laboratory Support Vector, “Classification of Hyper-Spectral Data on Plants Exposed to Metal Toxicity.”
- November 7. Jaxk Reeves, Univ of Georgia, Dept of Statistics, “Sporeulation Data Revisited.”
- November 14. James O. Berger. Institute of Statistics and Decision Sciences, Duke University. “Statistical Validation of Computer Models.”
- November 21. John Spurrier, Univ of South Carolina, Dept of Statistics, “Multiple Comparison of Regression Lines: Pairwise Comparisons and Comparisons with a Control.”

## GRANTS AND CONTRACTS IN EFFECT

The outside research/contract funding in effect during 2002 is listed below. The details of STATLAB funding are listed in its separate annual report.

PI	DATES IN EFFECT	AGENCY	AMOUNT
Don Edwards	8/01-6/02	Dept of Natural Resources	\$34,500
Don Edwards	7/02-6/03	SC Oversight Committee	\$21,249
Holmes Finch	1/02-5/02	Ft. Jackson, US Army, DOD	\$6,018
Holmes Finch	8/01-5/02	USCRF/South Carolina Bar Association	\$3,116
John Grego	5/02-8/02	Ft. Jackson, US Army, DOD	\$3,918
John Grego	8/02-12/02	Ft. Jackson, US Army, DOD	\$8,468
John Grego	4/02-9/02	NS&G/SC Dept Public Safety	\$66,831
John Grego	4/01-6/04	SCRI/Robert Bosch Corp	\$1,246
John Grego	9/02-6/03	USCRF/South Carolina Bar	\$3,878
John Grego	7/01-6/02	USCRF/Benedict College/NSF	\$1,269
John Grego	01/02-12/02	IIT/USC COMD	\$7,500
John Grego	5/02-6/02	US Army Recruiting Command	\$5,915
John Grego	1/02-12/02	USCRF/SCAMP	\$23,200
J. Grego/J. Lynch	2/99-1/02	SC Air National Guard, Dept of Defense	\$5,000
Brian Habing	5/01-4/04	NSF	\$119,954
W.J. Padgett/E. Peña	9/02-8/03	USCRF/Army Research Office	\$10,000
W.J.Padgett/J. Lynch	8/99-7/02	NSF	\$219,449
Edsel Peña	8/01-7/04	NSF	\$165,000
Edsel Peña /W.J.Padgett	7/02-7/03	USCRF/NSF	\$15,000
Edsel Peña	1/02-5/03	Arcadia Analytics	\$8,201
Edsel Peña	8/02-5/03	Arcadia Analytics	\$10,251
Edsel Peña	8/02-5/03	Ediningfinder, Inc	\$12,060
Edsel Peña*	10/02-9/07*	USCRF/NCRR/NIH*	*\$82,497
W. Piegorsch/W. West	9/00-8/03	Ntnl Inst Health/Ntnl Cancer Inst	\$325,125
W. West	6/02-5/05	USCRF/NSF	\$123,001

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**Total Outside Funding in Effect for 2002 = \$1,282,646**

**\*First Year Funding**

## EDITORIAL ACTIVITIES

D. Edwards, Associate Editor, *Interstat*.

J. Grego, Associate Editor, *Journal of Statistical Computation and Simulation*.

B. Habing, Statistical Methodology Editor, *Journal of The First-Year Experience and Students in Transition*.

W.J. Padgett, Associate Editor, *Journal of Nonparametric Statistics*.

W.J. Padgett, Associate Editor, *Lifetime Data Analysis*.

W.J. Padgett, Associate Editor, *Journal of Statistical Theory and Applications*.

W.J. Padgett, Editorial Advisory Board for *Journal of Statistical Computation and Simulation*.

E. Peña, JASA Editorial Board, Associate Editor.

W. Piegorsch, Associate Editor, *Environmentrics*.

W. Piegorsch, Associate Editor, *Environmental and Ecological Statistics*.

W. Piegorsch, Associate Editor, *Journal of the American Statist. Assoc.-Theory & Methods Section*.

W. Piegorsch, Associate Editor, *Biometrics*.

W. Piegorsch, Member Editorial Board, *Mutation Research*.

W. Piegorsch, Member Editorial Board, *Environmental and Molecular Mutagenesis*.

J. Spurrier, Associate Editor of *Nonparametric Statistics*.

R.W. West, Associate Editor, *Journal of Statistical Software*.

R.W. West, Associate Editor, *Communications in Statistics*.

## REVIEWING AND REFEREEING

D. Edwards, reviewed 4 manuscripts, 1 Biometrical Journal, 2 for InterStat, 1 for the American Naturalist, and reviewed 11 proposals for Centers of Economic Excellence.

J. Grego, reviewed 24 manuscripts for Journal of Statistical Computation and Simulation, Journal of Quality Technology, Technometrics, and others.

B. Habing reviewed 13 manuscripts and reviewed proposals for NSF (MMS Program).

J. Lynch reviewed 4 manuscripts, 2 for the Journal of Applied Probability, Statistical Planning and Inference, Methodology and Computing in Applied Probability.

- W.J. Padgett reviewed one manuscript for Journal of Statistical Planning and Inference, 1 for Statistics, 1 for Biometrical Journal, 1 for Computers and Mathematics, one for Communications in Statistics, Theory and Methods, 1 for Annuals of Institute of Statistical Mathematics. Also reviewed proposals for NSF and ARO.
- K. Nelson reviewed 1 article for the Journal of Agricultural and Environmental Statistics.
- E. Peña reviewed manuscripts for JSPI, Stat & Prob Letters, and others, and served on an NSF Review Panel for the DMS Directorate.
- W. Piegorsch reviewed six manuscripts.
- J. Spurrier reviewed 3 manuscripts, Mathematical Geology, IMS Lecture Notes-Monograph Series, and Journal of Statistical Planning and Inference. Also reviewed proposals for Netherlands Organization of Scientific Research.
- L. Thombs reviewed 4 manuscripts, Communications in Statistics, Journal of Time Series Analysis, Mathematical Geology, and Journal of Statistical Planning and Inference. Also reviewed a book for Springer-Verlag, “Random Number Generation and Monte Carlo Methods, Second Edition”, by James E. Gentle.
- P. Waddell reviewed 3 manuscripts, Bioinformatics, Journal of the American Statistical Association, Journal of Molecular Phylogenetics and Evolution.
- R.W. West reviewed 8 articles, American Statistician, Journal of Statistical Software, Food and Chemical Toxicology.

#### **OTHER SERVICES TO THE PROFESSION AND STATISTICAL SOCIETIES**

Georgiana Baker	Active Member, American Society for Quality
Don Edwards	Science Fair Awards Judge; Graduate Student Day Presentations Judge; Organized a Team for the MS Walk
John Grego	Region II Science Fair Judge 4/02; Presentation to Riverland Park Neighborhood Association 2/02, 4/02; Career Day at Meadowfield Elementary School 3/02; Board Member and Research Chair, Friends of Congaree Swamp
Brian Habing	Faculty and Staff Moving Crew Volunteer, 8/02
James Lynch	Co-Director of Education for Columbia Section of American Society for Quality Through 06/02
Joe Padgett	Region II Science and Engineering Fair, Head Judge for Statistics Awards and Metrics Awards, 03/02
Edsel Peña	Science Fair Judge, Spring, 02
Walter Piegorsch	Reviewer, Promotion Portfolio, US Food and Drug Administration; Reviewer, Promotion Portfolio, Department of Statistics, Iowa State University
John Spurrier	Science Fair Presenter; Interview with <i>The State</i> newspaper regarding S.C. Education Lottery; Numerous media interviews in connection with Governor's Professor of the Year Award

**DEPARTMENTAL AND OTHER COMMITTEE SERVICES  
(Effective Fall 2002)**

**Departmental.**

Assistant Chair/Assistant to the Chair	Spurrier, Baker
Undergraduate Director	Spurrier
Graduate Director	Peña
Statistical Laboratory	Grego (Director), Nichols (Manager)
Reliability and Quality Sciences Center	Lynch (Director)
Chairman Advisory Committee	Lynch ( <i>ex officio</i> ), Peña (Grad Director), Grego (Statistical Lab Director), Spurrier (Undergraduate Director), Edwards, Padgett
Undergraduate Advisory Committee	Spurrier (Chair), Glenn, Habing, Piegorsch, Waddell
Graduate Advisory Committee	Peña (Chair), Edwards, Nelson, West
Faculty Search Committee	Edwards (Chair), Habing, Padgett
Colloquium Coordinator	Piegorsch, Lynch ( <i>ex officio</i> )
Library Representative	Peña
Promotion and Tenure Chair	Spurrier
Statistics Club Advisor	Thombs
Mu Sigma Rho Advisor	Edwards
STAT 110 Course Coordinator	Baker
STAT 201 Course Coordinator	Dickenson
STAT 509 Course Coordinator	Lynch, Baker (Involved in Course Development)
Distance Education Committee	Edwards (Chair), Glenn, Grego, West
Computer Committee	West (Chair), Habing, Nelson (Webmaster), M. Moore ( <i>ex officio</i> )
StatLab Advisory Committee	Grego (Chair), Edwards, Lynch ( <i>ex officio</i> ), Spurrier, Nichols ( <i>ex officio</i> )
Self Study Annual Assessment Committee	Lynch (Chair), Spurrier, Peña, Baker, Nichols
Nominations and Awards Committee	Thombs (Chair), Peña (almost exclusively graduate awards), Padgett, Edwards
Space Utilization Committee	Spurrier (Chair), Baker, Lynch
Peer Review of Teaching Committee	Spurrier (Faculty, Chair), Peña (TAs)
Post-Tenure Review Chair	Edwards
VIGRE Committee	Pena, Lynch, Spurrier

**College of Science and Mathematics.**

Computer Committee Representative	West
Standards and Petitions Committee	Habing
COSM Undeclared Majors Advisor	Piegorsch
COSM Space Committee	Spurrier
Centers of Excellence Proposal Review Committee	Edwards
Institute for Biological Research and Technology	Waddell

**University.**

Faculty Senate	Thombs
Amoco Award Committee	Spurrier, Thombs
SC Honors College Policy Committee	Thombs
School of the Environment Education Committee	Edwards
Faculty Advisory Board for SCAMP	Edwards
SCAMP Executive Committee	Grego
Salary Equity Committee	Spurrier
Epidemiology/Biostatistics Chair Search Comm.	Padgett
Russell & Ed. Found. Research Awards Comm.	Padgett, Piegorsch (Chair)
University Assessment Advisory Committee	Habing
Tenure Review Board	Spurrier
Strategic Directions and Initiatives Committee	Padgett
Bioterrorism Work Group	Piegorsch

## STUDENT ORGANIZATIONS

### USC Statistics Club.

Statistics Club activities for 2002-2003 included

1. Plant Tour, Thursday, March 28, 2002. We toured PBR Columbia, a subsidiary of the Pacifica Group, an Australian company. They make brake calipers and one of their biggest customers is Bosch Corp.
2. Stat Club Picnic was held on reading day, Thursday, May 2, 2002. About 40 people participated in the cookout on the green space outside LeConte College.
3. Fall 2002 Speaker: Melanie Siewart, Blue Cross/Blue Shield of SC, spoke in October
4. Fall 2002 Speaker: Jennifer Lasecki, PBGA in Columbia, SC, spoke in December.
5. Stat Club Hike, January 20, 2003. About 18 people trekked through the Congaree Swamp National Monument for four hours. We covered a less-traveled area called the Kingsnake Trail.
6. Math and Stat Career Night, Tuesday, January 21, 2003. Former USC student Duane Heidt spoke about his own career path and his most recent job endeavor as co-owner of Tegra Analytics.

Advisor: Dr. Lori Thombs  
Officers: Robert Parody, President  
Bonnie Coggins, Vice President  
Justin Guy, Secretary  
Russ Stocker, Treasurer

### USC Chapter of Mu Sigma Rho.

Advisor:	Dr. Edsel Pena, Spring	Dr. Don Edwards, Fall
Officers:	Spring Semester	Carl Miller, President David Hare, Vice-President Meredith Tomlinson, Secretary Russ Stocker, Treasurer
	Fall Semester	Meredith Tomlinson, President Brooke Buckley, Vice-President David Hare, Secretary Russ Stocker, Treasurer

## CONSULTING

Most of the formal statistical consulting with faculty, staff, students, local agencies and industry was performed through the Statistical Laboratory. A separate report on these activities is prepared each year by the Stat Lab Director and Manager. The Stat Lab participated in funded projects totaling over \$170,000 this year. Some faculty members of the department have also done statistical consulting work for individuals in other departments within the University, including biology, chemistry, finance, geology, marine science, mechanical engineering, and the Baruch Institute. Outside consulting by faculty included Palmetto GBA Corporation, Cybergnostics Inc., US Public Health Service, USDA, SC Department of Natural Resources, and the National Center for Toxicological Research (Arkansas).

## **CENTER FOR RELIABILITY AND QUALITY SCIENCES**

The formation of the “Center for Reliability and Quality Sciences” (RQS Center) was formally approved by the S.C. Commission on Higher Education in May, 1990, providing a focus for the activities that had been ongoing in that area for several years. The Center is totally self-supporting with Dr. James Lynch as the director. The RQS Center is involved in offering short courses on statistical quality control issues and design of experiments, as well as offering consultations with business, government, and industry personnel. Short courses are available for offering, both on the USC-Columbia campus and on site at any requesting business, industrial concern, or government agency. Don Edwards, John Grego and Jim Lynch developed an internet based design of experiments course which is being Beta tested in STAT 506 and will be marketed through NetGen (<http://www.netgenusc.com>).

## **FACILITIES**

The department continued to upgrade its computer equipment over the past year. Computers and projection equipment were added to one classroom (LeConte 201A) using college funds and a teaching laboratory for elementary statistics (LeConte 200) was upgraded with Pentium IV PCs using lab fees. The two classrooms accommodate our larger volume courses.

The department now occupies the entire second floor of LeConte College except for one small classroom, in addition to two office areas on the first floor. All the classrooms controlled by the department support multimedia presentations. This provides approximately 13,000 square feet of space for offices, classrooms, conference room, teaching laboratories, the Statistical Laboratory, and the RQS Center.

## **CONCLUSION**

The Department continuously strives for excellence in its teaching, research, service and other professional activities, as well as growth in its programs. As this annual report shows, the curriculum continues to be fine-tuned and adjusted as national needs and directions in statistics change, and course enrollments are steadily increasing each year. The evening and distance course offerings are continually being expanded to meet demand both within and outside the University. This is particularly the case with respect to the Master of Industrial Statistics degree program and the Certificate of Graduate Study in Applied Statistics program, since students are typically enrolled in those programs on a part-time basis and often at a distance. Departmental activities in all areas are at virtually an all-time high, and indications are that they will continue at least at this level.

**James D. Lynch**  
**Chairman**  
**January, 2003**