Statistical Laboratory

established 1933

Annual Report

July 1, 2001 to June 30, 2002

IOWA STATE UNIVERSITY
OF SCIENCE AND TECHNOLOGY

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AGEP: DIVERSITY

One of the major strategic plans at Iowa State University, as well as the other two Iowa state universities, involves diversity in student recruitment, retention, faculty hires and overall awareness for the university community. With that in mind, Dean Isaacson joined Phil Kutzko (University of Iowa) to create a program that would bring minorities to the three state institutions. Two National Science Foundation (NSF) proposals were submitted and funding for a five-year grant was received to begin the Iowa AGEP (Alliance for Graduate Education and the Professoriate).

The NSF Iowa Regents' AGEP is a program funded jointly by NSF and the three Iowa Regents' universities. The goal of this program is to significantly increase the number of Ph.D.'s awarded to underrepresented U.S. minority students in engineering and the mathematical, physical and life sciences.

Iowa AGEP provides opportunities for graduate study at the three Board of Regents' universities as well as the chance to participate in summer programs at Iowa State and the University of Iowa.

GRADUATE STUDIES IN IOWA

The Iowa AGEP program provides a wide variety of financial support for graduate studies. In addition to Research Assistantships, Teaching Assistantships and University Fellowships, five Iowa AGEP Teaching Fellowships are given each year at Iowa State and the University of Iowa and two of the Teaching Fellowships are awarded each year to students at University of Northern Iowa. These fellowships include competitive stipends, tuition fellowships and support for travel, books and equipment.

IOWA SUMMER RESEARCH EXPERIENCE

The Summer Research Experience Program is open to minority undergraduate students who are U.S. citizens or permanent residents and who have completed their sophomore year in college prior to the summer in which they are applying. Right now we are encouraging underrepresented U.S. minority students (such as African American, Latino, and Native American) to apply. Students accepted into the program will participate at Iowa State University (ISU) or the University of Iowa (UI) depending on the student's research preference and availability.

This program is a comprehensive eight-week program designed to provide critical preparation needed before students pursue graduate school in engineering and the mathematical, physical and life sciences. The Summer Research Experience will provide:

- Information about a variety of research areas and career paths.
- A cultural and academic introduction to life and work at a large university.
- Opportunities to meet distinguished minority scholars.
- Summer Research Symposium to present students' work.
- The opportunity to get to know Iowa's universities and communities.

VIGRE: Year 2 – The Impact Continues

In the 2000-2001 Annual Report we announced the receipt of the 5-year $2.2 million NSF VIGRE (Vertical Integration of Research and Education) Grant. This grant continues to have a major impact on both our graduate and undergraduate programs. We are now pleased to discuss the successes that have come from this grant.

The working groups proposed in the grant have become an integral part of the program. Each week about seven groups of faculty and graduate students meet to discuss research topics in their area of interest. The groups often include faculty from other departments, so our goal of promoting interdisciplinary research is enhanced by the working groups. Both faculty and advanced graduate students present material in these groups. The group structure allows for thoughtful and extended discussions on the research topic. Some topics are covered over several weeks so discussion is never halted due to the clock. Graduate students use these working groups to learn about research topics and possible major professors.

During the first year, the grant supported six Ph.D. students with two of these being co-majors. The co-majors came from Plant Pathology and Animal Ecology so they also contributed to our interdisciplinary mission. Our first postdoc had a Ph.D. in Animal Science and he worked very effectively with the Bioinformatics Working Group. He now holds a joint position in biostatistics and animal science at a major research university.

In an effort to shorten the time required to earn a Ph.D., the faculty decided to change the curriculum. The new Ph.D. core courses [601 (4 cr.), 642 (4 cr.), and 643 (4 cr.)] are now covered in one year. The new versions of Stat 642 and 643 cover most of the material we previously covered in Math 514, Stat 642, and Stat 643. Measure theory concepts from Math 514 have been incorporated into the new version of Stat 642. Stat 601 is a new course in statistical methods. Stat 611 was retained as part of the Ph.D. core courses but will not be included in the Ph.D. written exam. Students can take the Ph.D. written exam in the summer after the second year. It is hoped that this curriculum change along with opportunities provided by the working groups will help students start their dissertation research earlier.

The VIGRE Grant has not only helped the students receiving NSF support, it has helped all undergraduate and graduate students. We plan to continue this success story in future Annual Reports and Newsletters.

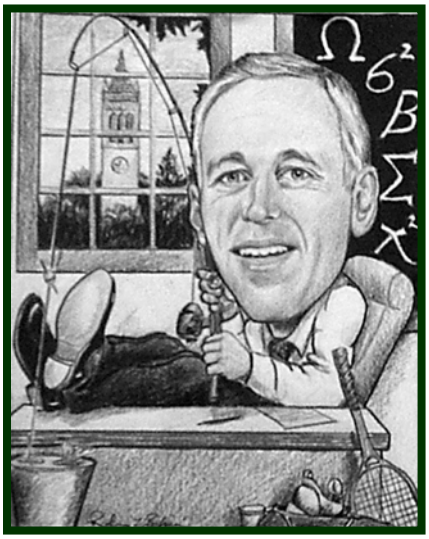
FUTURE OF THE VIGRE PROGRAM

Another major benefit of the VIGRE Grant will be the introduction of a Summer Research Experience for undergraduates. We will recruit eight undergraduates for the summer of 2002 and they will do research during the eight-week program period. These students will have two faculty mentors, one in statistics and one in a subject matter in science. Hence, their research will involve statistics and another discipline so they will see statistics in action. Each student will make an oral presentation and write a paper related to their research. As part of the Vertical Integration, graduate students, postdocs and faculty will work with these students. We hope that they all will be encouraged to pursue a Ph.D. in statistics or a related field.

DEAN ISAACSON RETIRES AS DEPARTMENT HEAD 1984-2002

On May 1, 2002, a reception was held at the Memorial Union Campanile Room for Dean Isaacson to honor him and his 18 years of service as head of the Department of Statistics and director of the Statistical Laboratory. The reception room was packed with friends, family, students and colleagues. Scheduled speakers were: Dean Rabideau (LAS), Dan Nettleton, Bill Meeker, Jeanette La Grange, Edith Landin, Brooke Fridley and Ellis Ott. A book of appreciation letters, memories and pictures of his reception was presented to Dean at the end of June.

On July 1, 1984, Isaacson (photo right) became the acting director and acting head. He was the fifth person since 1933 to assume the position of director of the Statistical Laboratory. He followed George W. Snedecor, Raymond J. Jessen, T.A. Bancroft and Herbert A. David. (The Department of Statistics was not formed until 1947 so Dr. Snedecor did not hold the position of head of the department.) Dean is believed to be currently the longest serving academic department chair on campus.



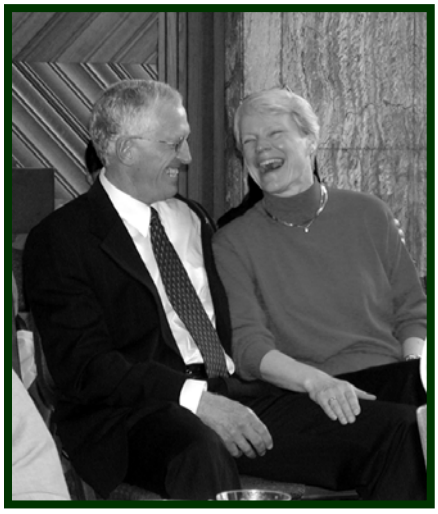
Caricature drawing presented to Dean at his retirement reception

During the 18 years of Isaacson's tenure, many positive accomplishments have taken place in the department. The success and growth of the department's Masters program through Distance Education is high on Isaacson's list. He's also proud of the quality of the faculty members hired and maintained on staff during his tenure. And most recently, the National Science Foundation VIGRE grant which promotes interdisciplinary activity between the Department of Statistics and many other departments on campus, impacts the lives of undergraduates, graduates, post docs and faculty members alike.

Dean plans to continue being an active force within the department. During the interim, he will continue to assist with some administrative duties. Dean also plans to continue teaching, advising, and staying in touch with the hundreds of students who earned their degrees during his tenure as head and who streamed through his office during his years as the department head.

A special thanks to the Reception Committee: (from left to right) Edith Landin, Jeanette La Grange and Marlene Tjernangel

ISAACSON'S RECEPTION, MAY 1, 2002 (CONTINUED)



Master of Ceremonies, Alicia Carriquiry (top left) and one of many speakers, Bill Meeker (top right) share departmental and personal stories that have been remembered over Dean's past 18 years as head of the department. (Above, Dean and wife, Martha are good sports and enjoy some of the shared stories.)

Dean and Martha Isaacson visiting with H.A. David (previous head of the department).

The yummy buffet line!

(Left to right) Erin Bonitz, Jill VanWettering, and Reid Landes

Grandsons eagerly wait in line to shake hands!

Wayne Fuller Retirement 1959-2001

In September 2001 Distinguished Professor Wayne A. Fuller (photo right) retired. Fuller received his Ph.D. from Iowa State University in 1959 in Ag. Economics. Since his graduation he has been on the faculty of Iowa State University. During the past summer a conference was held to celebrate his 70th birthday.

Distance Education Graduates Two More

Chris Scott and **Jeff Slezak** are the first two Mayo Clinic statisticians to receive their master's degrees through Iowa State University's distance education program in statistics (8/2001). The distance education program began in 1994 when General Motors requested it for some of its employees. In 1997 Mayo Clinic signed a letter of agreement. Chris and Jeff were two of the initial class of nine from Mayo who entered the Master's program at ISU.

A Note from STAT-ers President – Tammy Brown

STAT-ers has had a great year. There were interesting seminars given by various companies and faculty, a Halloween party that was quite frightful, two international dinners that were delicious, money raised from the Relay for Life, and the Spring Breakfast that was early (as usual).

We added a new committee to STAT-ers for the upcoming year: Family Activities Committee. This committee is supposed to plan more family related activities. There seem to be more and more students in the Statistics Department who have children and we would like to get them involved in STAT-ers. The best way to do this is to plan family-oriented activities. We will try to have kids movie night, picnics at the park, go-karting, sledding and other types of activities like this. Hopefully more than just people with children will attend these events.

Hal Stern Named Endowed Chair in Biological Statistics

Hal Stern has been named the first Laurence H. Baker Endowed Chair in Biological Statistics. Stern is a professor of statistics and interim director of the Laurence H. Baker Center for Bioinformatics and Biological Statistics.

"Stern was selected for his outstanding research record in developing statistical methodology and collaborating with scientists from other disciplines," said Dean Isaacson, professor and head of statistics.

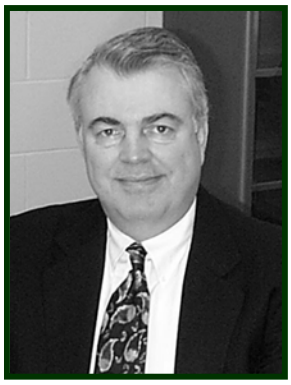
The Laurence H. Baker Endowed Chair was established in 1999 as part of a $10 million endowment to the Department of Statistics and the Plant Sciences Institute. The endowment from Norma Baker, Los Angeles, honors her late husband, Laurence H. Baker, who was a 1954 graduate of Iowa State and a long-time employee of Pioneer Hi-Bred International.

The chair will lead collaborative research in the biological or agricultural sciences, including bioinformatics, said Isaacson. "For example, Stern is collaborating with faculty in the animal breeding and genetics group on selection experiments and with faculty in zoology and genetics about evolution and natural selection."

Stern earned his doctoral degree in 1987 from Stanford University, Stanford, CA. He was on the faculty of Harvard University, Cambridge, MA, from 1987 until 1994 when he joined Iowa State's statistics faculty. Stern was named interim director of the Laurence H. Baker Center for Bioinformatics and Biological Statistics in 2000. He is a Fellow of the American Statistical Association and co-author of the book, "Bayesian Data Analysis."

IRISS – A NEW INSTITUTE

Iowa State University has created a new institute that will collect and analyze data about people, households, businesses, the environment and other institutions. Kirk Wolter (photo right), professor of statistics at Iowa State University, will be the institute's director. Wolter is a 1974 Ph.D. graduate of Iowa State University



Kirk Wolter, IRISS founding Director

The **Interdisciplinary Research Institute for Survey Science** (IRISS) will bring together the statistical work of three existing ISU centers to conduct research and outreach activities. IRISS will include the Institute for Social and Behavioral Research (ISBR), Research Institute for Studies in Education (RISE) and the Center for Survey Statistics and Methodology (CSSM), formerly the Survey Section of the Statistical Laboratory. The institute was approved by the Board of Regents, State of Iowa, in May 2002.

"Twenty-first century America finds itself in the age of information. Governments, businesses, non-profit organizations, and individuals have a tremendous appetite for data and use data to make critical decisions everyday," said James Bloedel, vice provost for research and advanced studies. "Through this new institute, Iowa State University is positioned to be a major player on the national, and even international, stage in the collection, analysis, and use of information for research and decision-making."

"Because of synergies and scale, IRISS will be stronger than the sum of its parts and that strength will translate into a prominent position in the market for survey research," said Kirk Wolter, professor of statistics and founding director of IRISS. "With the environment ISU provides, the resources we have available to us, we can and should be able to successfully bid against any other organization."

The new institute will conduct research in such areas as agriculture and rural population trends. It will also conduct research, training, and state and federal program evaluation. The institute will compete for contracts and grants offered by a variety of organizations, including federal, state, and local governments, foundations, and commercial enterprises.

IRISS will collect and analyze data about people, households, businesses, the environment, and other entities through its contracts. It will conduct empirical research, methodological research, training, and state and federal program evaluation of interest to the general public and to Iowa State University. Work will be carried out largely through the design, execution, analysis, and delivery of large-scale sample surveys and observational studies. Those affiliated with the institute will also analyze other databases either previously developed at Iowa State University or developed outside of Iowa State.

"By combining the efforts of RISE, ISBR, and the CSSM, these three university units are now capable of providing more services to their clients and bidding on larger projects collectively than they could do on their own," states Wolter. Currently IRISS and its units have successfully bid on over $100M worth of grants.

Wolter joined the staff in March 2001. Before returning to ISU, Wolter was Senior Vice President, Statistics and Methodology, at the National Opinion Research Center in Chicago before arriving at Iowa State University.

As a university-wide institute, IRISS will be part of the office of the vice provost for research and advanced studies. IRISS will work closely with the Colleges of Agriculture, Education, Family and Consumer Sciences, and Liberal Arts and Sciences.

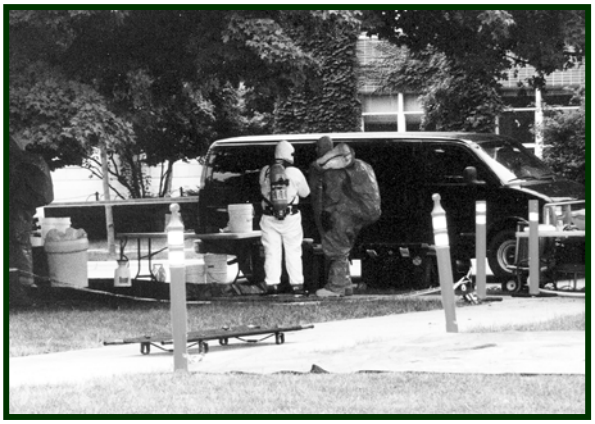
ON THE LIGHTER SIDE

Grad student and TA Kari Jovaag diligently works to stay ahead of her teaching assignments for Stat 401.

Student office clerk Sarah Steinberg and friend pet Gigi at the department's picnic. Gigi is retired professor Leroy Wolins' poodle.

Philip Dixon and son, (Michael), cheer on Brooke Fridley during the volleyball game at the department's annual picnic.

Retired professor Leroy Wolins stays warm as he enjoys the Statistics Fall Breakfast.



Faculty, staff and students watched and were sometimes dragged into a Haz-Mat exercise held outside Snedecor Hall during the summer.

Refereed Publications 2001-2002

Adams, D. C. and C. K. Beachy. (2001) Historical explanations of phenotypic variation in the plethodontid salamander gyrinophilus porphyriticus. *Herpetologica*, **57**, 353-364.

Alford, R. A, **P. M. Dixon** and J. H. K. Pechmann. (2001) Global amphibian population declines. *Nature*, **412**, 499-500.

Balakrishnan, N. and **H. A. David**. (2001) A note on the variance of a lightly trimmed mean when multiple outliers are present in the sample. *Statistics and Probability Letters*, **55**, 339-343.

Bonett, D. G. (2002) Sample size requirements for estimating intraclass correlations with desired precision. *Statistics in Medicine*, **21**, 1331-1335.

Bonett, D. G., J. A. Woodward and R. Randall. (2002) Estimating p-values for Mardia's measures of multivariate skewness and kurtosis. *Computational Statistics*, **17**, 117-122.

Bonett, D. G. and E. Seier. (2002) A test of normality with high uniform power. *Computational Statistics and Data Analysis*, **40**, 435-445.

Carriquiry, A. L. and **M. Daniels**. (2001) Adjusting for measurement error of a dietary risk factor in age-related maculopathy. ISBA 2000 Proceedings: Bayesian Methods with Applications to Science, Policy, and Official Statistics. Italy: *European Communities Press*, 51-61.

Carson, J. A., **D. Nettleton** and J. M. Reecy. (2002) Differential gene expression in the rat soleus muscle during early work overload-induced hypertrophy. *The FASEB Journal*, **16**, 207-209.

Carson, J. A., **D. Nettleton**, and J. M. Reecy. (2001) Differential gene expression in the rat soleus muscle during early work overload-induced hypertrophy. *The FASEB Journal*, Express Article 10.1096/fj.01-0544fje.

Chang, C-C., K. Y. Yoon, J. J. Zimmerman, K. M. Harmon, **P. M. Dixon**, C. M. T. Dvorak and M. P. Murtaugh. (2002) Evolution of porcine reproductive and respiratory syndrome virus during sequential passages in pigs. *Journal of Virology*, **76**, 4750-4763.

Chinkuyu, A. J., Kanwar, R. S., Lorimor, J. C., Xin, H. and **T. B. Bailey**. (2002) Effects of laying hen manure application rate on water quality. Transactions of the *ASAE (American Society of Agricultural Engineers)*, **45**(2), 299-308.

Ding, J., D. Berleant, **D. Nettleton** and E. Wurtele. (2002) Mining medline: Abstracts, sentences, or phrases? *Pacific Symposium on Biocomputing*, **7**, 326-337.

Dixon, P. M. (2002) Bootstrap resampling. *Encyclopedia of Environmetrics*, **1**, 212-220.

Dixon, P. M. (2002) Nearest-neighbor contingency table analysis of spatial segregation when there are more than two types of points. *Ecoscience*, **9**, 142-151.

Dixon, P. M. (2002) Nearest neighbor methods. *Encyclopedia of Environmetrics*, **3**, 1370-1383.

Dixon, P. M. (2002) Population ecology. *Encyclopedia of Environmetrics*, **3**, 1615-1622.

Dixon, P. M. (2002) Review of Hof, J. and Bevers, M. 1998. Spatial optimization for managed ecosystems. *Journal of Vegetation Science*, **13**, 141.

Dixon, P. M. (2002) Ripley's K function. *Encyclopedia of Environmetrics*, **3**, 1796-1803.

Daniels, M. J. and **A. L. Carriquiry**. (2002) Computing the posterior distribution of individual level usual intakes with application to disease models. *Research in Official Statistics*, **1**, 67-81.

Dorman K. S., A. H. Kaplan and J. S. Sinsheimer. (2002) Bootstrap confidence levels for HIV-1 recombination. *Journal of Molecular Evolution*, **54**(2), 200-209.

Doebling, B. N., M. F. Jones, R. F. Woolson, D. B. Hall, W. R. Clarke, T. Snyders-Crumley, D. H. Barrett, K. H. Falter, J. C. Torner, L. F. Burmeister, J. A. Merchant, **S. M. Nusser**, **D. G. Anderson** and D. A. Schwartz. (2002) Methodologic issues in a population-based health survey of Gulf War veterans. *Journal of Clinical Epidemiology*, **55**(5), 477-487.

Doganaksoy, N., H. J. Hahn and **W. Q. Meeker**. (2002) Reliability analysis by failure mode. *Quality Progress*, **35**, 47-52.

Escobar, L. A. and **W. Q. Meeker**. (2001) A note on the asymptotic equivalence of the Fisher information matrices for type I and type II censored data from location -- scale families. *Communications in Statistics*, **30**, 2211-2225.

Fernandez, S. A., R. Fernando and **A. L. Carriquiry**. (2001) An algorithm to sample marker genotypes in a pedigree with loops. *Case Studies in Bayesian Statistics*, Vol. V, Gatsonis, C. et al. (eds.). Lecture Notes in Statistics, *Springer-Verlag*, 309-328.

Fernandez, S. A., R, L. Fernando, and **A. L. Carriquiry**. (2001) An algorithm to sample unobservable genotypes in complex pedigrees. ISBA 2000 Proceedings: Bayesian Methods with Applications to Science, Policy, and Official Statistics. Italy: *European Communities Press*, 125-135.

Fernandez, S. A., R. L. Fernando, B. Guldbrandsten, L. R. Totir and **A. L. Carriquiry**. (2001) Sampling genotypes in large pedigrees with loops. *Genetics, Selection, Evolution*, **33**, 337-367.

Frame, B. R., H. Shou, R. K. Chikwamba, Z. Zhang, C. Xiang, T. M. Fonger, S. E. K. Pegg, B. Li, **D. Nettleton**, D. Pei and K. Wang. (2002) Grobacterium tumefaciens-mediated transformation of maize embryos using a standard binary vector system. *Plant Physiology*, **129**, 13-22.

Fuller, W. A. and J. N. K. Rao. (2001) A regression composite estimator with application to the Canadian Labour Force Survey. *Survey Methodology*, **27**, 49-56.

Fuller, W. A. (2002) Regression estimation for survey samples. *Survey Methodology*, **28**, 5-23.

Fuller, W. A. and M. Park. (2002) Generalized regression estimators. *Encyclopedia of Environmetrics*, **2**, 883-886.

Hofmann, H. (2001) Generalized odds ratios for visual modeling. *Journal of Computational and Graphical Statistics*, **10**(4), 628-640.

Hofmann, H. and A. Wilhelm. (2001) Visual comparison of association rules. *Computational Statistics*, **16**(3), 399-415.

Hofmann, H., A. Unwin and A. Wilhelm. (2001) Data mining and statistics - introduction. *Computational Statistics*, **16**(3), 317-321.

Hraba, Joseph, **F. O. Lorenz**, Enhau Ma and Zdenka Pechacova. (2001) Age and distress in the Czech Republic. *Research on Aging*, **23**, 552-585.

Hraba, J., **F. O. Lorenz**, R. Mullick, S. Lee and J. Vercenik. (2001) Trends in Czech attitudes toward the market and democracy. *Journal of Political and Military Sociology*, **29**, 200-220.

Hraba, J., **F. O. Lorenz** and T. Radloff. (2002) Czechs experiencing crime: Rural-urban differences in the perceived risk of crime, fear of crime, and victimization. *International Journal of Contemporary Sociology*, **39**, 69-90.

Hraba, J., R. Mullick, **F. O. Lorenz** and J. Vercenik. (2002) Education and support for the Czech reforms. *Sociology of Education*, **75**, 147-168.

Hwang, J. T. G. and **D. Nettleton**. (2002) Investigating the probability of sign inconsistency in the regression coefficients of markers flanking QTL. *Genetics*, **160**, 1697-1705.

Iversen, Philip and **M. Marasinghe**. (2002) Dynamic graphical tools for teaching experimental design and analysis concepts. *The American Statistician*, **55**(4), 345-351.

Jaeger, R. G., E. D. Prosen and **D. C. Adams**. (2002) Character displacement and aggression in two species of terrestrial salamanders. *Copeia*, 391-401.

Jeng, S. L. and **W. Q. Meeker**. (2001) Parametric simultaneous confidence bands for cumulative distributions from censored data. *Technometrics*, **43**, 450-461.

Kim, K. S., S. E. Taylor, M. L. Gleason and **K. J. Koehler**. (2002) Optimal weather variables for estimation of lear wetness duration using an empirical method. *Korean Journal of Agricultural and Forest Meteorology*, **4**(1), 23-28.

Kim, K. S., S. E. Taylor, M. L. Gleason and **K. J. Koehler**. (2002) Model to enhance site-specific estimation of leaf wetness duration. *Plant Disease*, **86**(2), 179-185.

Lahiri, S. N. (2001) Effects of block lengths on the validity of block resampling methods. *Probability Theory and Related Fields*, **121**, 73-97.

Lahiri, S. N. (2002) On the jackknife after bootstrap method for dependent data and its consistency properties. *Econometric Theory*, **18**, 79-98.

Leandro, L. F. S., M. L. Gleason, S. N. Wegulo, **P. M. Dixon** and F. W. Nutter, Jr. (2001) Germination and sporulation of colletotrichum acutatum on symptomless strawberry leaves. *Phytopathology*, **91**, 659-664.

Lorenz, F. O., Joseph Hraba and Zdenka Pechacova. (2001) Effects of spouse support and hostility on trajectories of Czech couples' marital satisfaction and instability. *Journal of Marriage and the Family*, **63**, 1068-1982.

Meral, I., Hembrough, F. B., **Bailey, T. B**. and W. Hsu. (2002) Functional changes in isolated guinea-pig papillary muscle induced by monensin and digoxin. *Journal of Veterinary Medicine, A, Physiology, Pathology, Clinical Medicine*, **49**(1), 51-56.

Meyer, C. L., P. J. Berger, **K. J. Koehler**, J. R. Thompson and C. G. Sattler. (2001) Phenotypic trends in incidence of stillbirth for holsteins in the United States. *Journal of Dairy Science*, **84**, 515-523.

Naylor, G. J. P. and **D. C. Adams**. (2001) Are the fossil data really at odds with the molecular data? Morphological evidence for cetartiodactyla phylogeny reexamined. *Systematic Biology*, **50**, 444-453.

Nettleton, D. and T. Banerjee. (2001) Testing the equality of distributions of random vectors with categorical components. *Computational Statistics and Data Analysis*, **37**, 195-208.

Nordman, D. and **W. Q. Meeker**. (2002) Weibull prediction intervals for a future number of failures. *Technometrics*, **44**, 15-23.

Nowatzki, T. M., Tollefson, J. J. and T. B. **Bailey**. (2002) Effects of row spacing and plant density on corn rootworm (Coleoptera: Chrysomelidae) emergence and damage potential to corn. *Journal of Economic Entomo*logy, **95**(3), 570-577.

Opsomer, J. D., **Y. Wang** and **Y. Yang**. (2001) Nonparametric regression with correlated errors. *Statistical Science*, **16**, 134-153.

Perry, J. N. and **P. M. Dixon**. (2002) A new method to measure spatial association for ecological count data. *Ecoscience*, **9**, 133-141.

Pollak, E. (2002) Eigenvalue effective population numbers for populations that vary cyclically in size. *Mathematical Biosciences*, **177 & 178**, 11-24.

Price, R. M. and **D. G. Bonett**. (2002) Distribution-free confidence intervals for difference and ratio of medians. *Journal of Computational Statistics and Simulation*, **72**, 119-124.

Rains, E. M., N. J. A. Sloane and **J. Stufken**. (2002) The lattice of N-run orthogonal arrays. *Journal of Statistical Planning and Inference*, **102**, 477-500.

Roy, A. and **W. A. Fuller**. (2001) Estimation for autoregressive time series with a root near one. *Journal of Business and Economic Statistics*, **19**, 482-493.

Rüber, L. and **D. C. Adams**. (2001) Evolutionary convergence of body shape and trophic morphology in cichlids from Lake Tanganyika. *Journal of Evolutionary Biology*, **14**, 325-332.

Sinharay, S., **H. S. Stern** and D. Russell. (2001) The use of multiple imputation for the analysis of missing data. *Psychological Methods*, **6**, 317-329.

Stern, H. S. (2001) Bayesian statistics. *International Encyclopedia of the Social and Behavioral Sciences*, **2**, 1052-1056.

Stephenson, W. R. (2001) Statistics at a distance. *Journal of Statistics Education*, **9**(3).

Stufken, J. and **Wright, J. H.** (2001) Polygonal designs with blocks of size k • 10. *Metrika*, **54**, 179-184.

Tian, X., Knapp, A. D., Moore, K. J., Brummer, E. C. and T. B. **Bailey.** (2002). Cupule removal and caryopsis scarification improves germination of eastern gamagrass seed. *Crop Science*, **42**(1), 185-189.

Unwin A., **H. Hofmann** and A. Wilhelm. (2002) Direct manipulation graphics for data mining. *International Journal of Image and Graphics*, **2**(1), 49-65.

Wickrama, K. A. S. and **F. O. Lorenz**. (2002) Women's status, fertility decline and women's health in developing countries: Direct and indirect influences of social status on health. *Rural Sociology*, **67**, 255-277.

Wright, K. and **W. J. Kennedy**. (2002) Self-validated computations for the probabilities of the central bivariate Chi-square distribution and a bivariate F distribution. *Journal of Statistical Computation and Simulation*, **72**(1), 65-73.

Wu, H. and **W. Q. Meeker**. (2002) Early detection of reliability problems using information from warranty data bases. *Technometrics*, **44**, 120-133.

Yuhong Yang. (2001) Nonparametric regression with dependent errors. *Bernoulli*, **7**(4), 633-655.

Yuhong Yang and D. Zhu. (2002) Randomized allocation with nonparametric estimation for a multi-armed bandit problem with covariates. *Annals of Statistics*, **30**, 100-121.

Books 2001-2002

Schultze, C. L., E. R. Berndt, A. Deaton, E. Diewert, C. D. Goldin, Z. Griliches, C. Jencks, A. Madansky, V. D. Ooms, R. A. Pollak, R. L. Schmalensee, N. Schwarz, **K. Wolter**, C. Mackie, C. F. Citro, and M. Siri, eds. (2002) At what price? Conceptualizing and measuring cost-of-living and price indexes. (Washington, DC: National Academy Press).

Book Chapters 2001-2002

Betson, D., P. Buescher, **A. L. Carriquiry**, J. Currie, J. DaVanzo, J. F. Geweke, D. Greenberg, R. P. Inman, J. Lepkowski, J. K. Scholtz, C. W. Suitor. (2001) Estimating eligibility and participation for the WIC program: Phase I report, **86**. (Washington, DC: National Academy Press).

David, H. A. (2001) Order statistics. *International Encyclopedia of the Social and Behavioral Sciences*, **10.** N. J. Smelser and P. B. Baltes, eds., 897-901.

Dixon, P. M. (2001) Just how much better is a time-to-event analysis? Chapter 5 in Risk Assessment with time-to-event models. M. Crane, ed., (Boca Raton, FL: CRC Press), 69-87.

Gatsonis, C., R. Kass, B. Carlin, **A. L. Carriquiry**, A. Gelman, I. Verdinelli, and M. West, eds. Bayesian Case Studies in Statistics, Volume V. (2002) Lecture Notes in Statistics, (New York: Springer-Verlag), 162.

Hedayat, A. S. and **Stufken, J.** (2001) Compound orthogonal arrays and dispersion effects. *Recent Advances in Experimental Designs and Related Topics*. S. Altan and J. Singh, eds., (Hunting, NY: Nova Science Publishers), 119-132.

Hofmann, H. and A.Wilhelm. (2002) Exploring association rules by interactive graphics. *Classification, Automation, and New Media*. W. Gaul, G. Ritter, eds., (Berlin: Springer-Verlag), 181-188.

Meeker, W. Q., **L. A. Escobar**, and V. Chan. (2002) Using accelerated tests to predict service life in highly-variable environments. *Service Life Prediction Methodology and Metrologies*, *Chapter 19*. J. W. Martin and D. R. Bauer, eds., (Washington: American Chemical Society)

Roberts, C. (2001) Content Analysis. *International encyclopedia of the social and behavioral sciences*, **4**. Neil J. Smelser and Paul B. Baltes, eds., (Oxford, UK: Elsevier), 2697-2702.

Roberts, C. (2001) Quantitative Text Analysis. *Reader's Guide to the Social Sciences*, **2**. Jonathan Michie, ed., (London: Fitzroy), 1367-1368.

Wilhelm, A. and H. **Hofmann** . (2001) Graphics for categorical data and their applications in data mining. *Modelli Complessi e Metodi Computazionali Intensivi per la Stima e la Previsione*. C. Provasi, ed., 51-56.

Non-Refereed Publications 2001-2002

Anderson, L. L., **J. M. Larson**, **D. G. Anderson** and **S. M. Nusser**. (2001) Overview of Blaise at the Iowa State University Statistical Laboratory. *Proceedings of the 7th International Blaise User's Conference*, (Washington, DC), http://www.blaiseusers.org/ibucpdfs/2001/L_Anderson—IBUC_paper.pdf.

Hedayat, A.S. and **J. Stufken**. (2002) Optimal and efficient crossover designs for a model with self and mixed carryover effects. *The American Statistical Association Proceedings of the 2001 Joint Statistical Meetings*. (Alexandria, VA: American Statistical Association).

Koehler, K. J. (2001) Statistical inference: Free response questions on the AP Statistics Exam. *The American Statistical Association 2000 Proceedings on the Section on Statistical Education, the Section on Teaching Statistics in the Health Sciences, and Section on Statistical Consulting.* (Alexandria, VA: American Statistical Association), 204-209.

Koehler, K. J. and **W. R. Stephenson**. (2001) Statistical education outreach = unlimited learning. *Proceedings of the 53rd Session of the International Statistical Institute*, Book 2, 239-242.

Miller, L., S. Qu, H. Ming, **S. M. Nusser**, H. C. Butler and P. Zhao. (2002) Infrastructure designs for using geospatial data in mobile computing environments. *Proceedings of dg.o 2002 National Conference on Digital Government Research*, (Los Angeles, CA), 411-414.

Nusser, S. M. and J. Fox. (2001). Using geospatial information to locate sample units in the field. *Proceedings of the Federal Committee on Statistical Methods 2001 Research Conference*, (Washington, DC) http://www.fcsm.gov/01_papers/Nusser.pdf.

Nusser, S. M., L. L. Miller, M. F. Goodchild and K. Clarke. (2002) A user-centered framework for next-generation field data collection. *Proceedings of dg.o 2002 National Conference on Digital Government Research*, (Los Angeles, CA), 8.

Opsomer, J. D., **C. Botts** and **J. Y. Kim**. (2001) Small area estimation in a watershed erosion assessment. *Proceedings of the Section on Survey Research Methods*, (Alexandria, VA: American Statistical Association).

Opsomer, J. D., G. G. Moisen and **J. Y. Kim**. (2001) Model-assisted estimation of forest resources with generalized additive models. *Proceedings of the Section on Survey Research Methods*, (Alexandria, VA: American Statistical Association).

Opsomer, J. D., G. G. Moisen, G. Kauermann, **J. Y. Kim**. (2001) Model-assisted estimation of forest resources with generalized additive models. *Proceedings of the 16th International Workshop on Statistical Modelling*, B. Klein and L. Korsholm, eds., (Odense, Denmark), 313-320.

Opsomer, J. D. (2002) Nonparametric regression model. *Encyclopedia of Environmetrics*, A. H. El-Shaarawi and W. W. Piegorsch, eds., (Chichester, England: Wiley & Sons), **3**, 1411-1425.

Pollak, E. (2001) Genetic covariance. *Encyclopedia of Genetics*. S. Brenner and J. H. Miller, eds., (London, England: Academic Press), 826-827.

Pollak, E. (2001) Quantitative inheritance. *Encyclopedia of Genetics*. S. Brenner and J. H. Miller, eds., (London, England: Academic Press), 1595-1596.

Pollak, E. (2001) Quantitative trait. *Encyclopedia of Genetics*. S. Brenner and J. H. Miller, eds., (London, England: Academic Press), 1597.

Pollak, E. (2001) Selection differential. *Encyclopedia of Genetics*. S. Brenner and J. H. Miller, eds., (London, England: Academic Press), 1791-1792.

Sinharay, S. and **H. S. Stern**. (2001) Bayes factors for variance component testing in generalized linear mixed models. Bayesian methods with applications to science, policy and official statistics (ISBA 2000 Proceedings), 507-516.

Unwin A., **H. Hofmann** and K. Bernt. (2001) Multiple association rules control. *In Proceedings. of the 5th European Conference on Principles and Practice of Knowledge Discovery in Databases*, 472-483.

Comments, Letters, Book Reviews, Software, etc. 2001-2002

Lahiri, S. N. (2002) Discussion of the paper, "Sieve bootstrap for categorical time series." by P. Bühlmann. *Journal of the American Statistical Association*, **97**, 460-462.

Dissertations 2001-2002

Azevedo, Kari Ann. Ph.D. *Using factor score estimates in latent variable analysis*. Major Professor: Yasuo Amemiya

Chan, Victor. Ph.D. *Degradation-based reliability in outdoor environments*. Major Professor: William Meeker

Fernandez, Soledad Adriana. Ph.D. *An algorithm to sample genotypes in complex pedigrees*. Major Professor: Alicia L. Carriquiry

Liu, Xiao-Hu. Ph.D. *Kernel smoothing for spatially correlated data*. Major Professors: Jean Opsomer and Ken Koehler

Ryan, Kenneth Joseph. Ph.D. *Engineering applications of Bayesian statistical methods*. Major Professor: Steven Vardeman

Sinharay, Sandip. Ph.D. *Bayes factors for variance competent testing in generalized linear mixed models*. Major Professor: Hal Stern

EDITORSHIPS 2001-02

Yasuo Amemiya - associate editor, *Statistics and Probability Letters*

Krishna Athreya - associate editor, *Indian Academy of Sciences Journals*

Krishna Athreya - associate editor, *Journal of Theoretical Probability*

Krishna Athreya - associate editor, *Resonance*: *Journal of Science Education*

Krishna Athreya - associate editor, *Sankhya*: *Indian Journal of Statistics*

Douglas G. Bonett - editorial advisory board, *Journal of Applied Business Research*

Douglas G. Bonett - editorial advisory board, *Review of Business Information Systems*

Alicia Carriquiry - associate editor, *Proyecciones - Revista Boliviana de Matematicas*

Alicia Carriquiry - editor, *Statistical Science*

Dianne Cook - editorial board, *Journal of Statistical Software*

Mike Daniels - corresponding editor, *IMS Bulletin*

Philip Dixon - associate editor, Quantitative Methods, *Conservation Biology*

Philip Dixon - editorial board, *Journal of Vegetation Science*

William Duckworth - associate editor, *Education for Amstat Online*

Wayne Fuller - associate editor, *Survey Methodology*

Heike Hofmann - associate editor, *Computational Statistics*

Heike Hofmann - associate editor, *Journal of Computational and Graphical Statistics*

Mark Kaiser - associate editor, *Journal of the American Statistical Association*

Kenneth Koehler - associate editor, *Plant Ecology*

Soumendra Lahiri - associate editor, *Statistics and Probability Letters*

Frederick O. Lorenz - associate editor, *Rural Sociology*

Frederick O. Lorenz - associate editor, *TESOL Quarterly* (Teaching English to Students of Other Languages)

Mervyn Marasinghe - associate editor, *Journal of Computational and Graphical Statistics*

Max Morris - associate editor, *Technometrics*

Max Morris - editorial statistical consultant, *Radiation Research*

Edward Pollak - editorial board, *Mathematical Biosciences*

Jean Opsomer - associate editor, *Journal of Computational and Graphical Statistics*

M. C. Shelley II - co-editor, *Policy Studies Journal*

Peter Sherman - editorial Board, *Mechanical Systems and Signal Processing*

Peter Sherman - guest editor for special issue, *Mechanical Systems and Signal Processing*

Hal Stern - editor, *Chance Magazine*

W. Robert Stephenson - editorial board member, *Journal of Statistics Education*

John Stufken - associate editor, *Communications in Statistics*

John Stufken - associate editor, *Journal of Statistical Planning and Inference*

Stephen Vardeman - associate editor, *The American Statistician*

AWARDS & RECOGNITIONS 2001-02

PROMOTIONS AND APPOINTMENTS:

Volker Brendel - promoted to professor with tenure

Alicia Carriquiry - promoted to professor

Jean Opsomer - promoted to associate professor with tenure

Yuhong Yang - promoted to associate professor with tenure

UNIVERSITY TITLES:

Frederick Lorenz - to University Professor

UNIVERSITY AWARDS:

Donna Brogen (former student) - received a Distinguished Achievement Citation from the Alumni Association

Michael Daniels - received a Provost "star" award

John Stufken - appointed as Program Director for Statistics in the Division of Mathematical Sciences of the Mathematical and Physical Sciences Directorate at the National Science Foundation for a second year (August 2001-August 2002)

Steve Vardeman - received the Regents Award for Faculty Excellence (2001)

Yuhong Yang - awarded the LAS Award for Early Excellence in Research/Artistic Creativity

ASSOCIATION AWARDS:

Yasuo Amemiya - named Fellow of the American Statistical Association

Tzee-Ming Huang - co-winner of the 2000 Savage Award, award co-sponsored by the ISBA, the NBER-NSF Seminar in Bayesian Inference in Econometrics and Statistics, and the ASA Section on Bayesian Statistical Science

Soumendra N. Lahiri - named Fellow of the Institute of Mathematical Statistics

William Q. Meeker - paper published by Meeker and his former student **F. G. Pascual** was selected for the American Statistical Association's Award for Outstanding Statistical Application

W. Robert Stephenson - recipient of the 2001 Mu Sigma Rho Teaching Award

John Stufken - named Fellow of the American Statistical Association

OTHER:

Philip Dixon - paper published by Chang., C-C., Yoon, K-J., Zimmerman, J. J., Harmon, K. M., Dixon, P. M., Dvorak, C. M. T. and Murtaugh, M. P. (2002) Evolution of porcine reproductive and respiratory syndrome virus during sequential passages in pigs. *Journal of Virology*, **76**, 4750-4763. Selected as best basic paper in Veterinary Medicine by Phi Zeta, the national honor society for veterinary medicine.

Hal Stern - named 2001-2002 Teacher of the Year by the Iowa State University Stat-ers

AT &T

Meeker, William Q., Jr., PI. Private instruction and consulting on the technical material in and related to Professor Meeker's book, Statistical Intervals. For the period of 08/30/00 - 09/09/10: $2,400.

DEPARTMENT OF AGRICULTURE

Carpenter, Susan L., PI. (Veterinary Microbiology & Preventive Medicine)
Co-PIs: Chris K. Tuggle (Animal Science), M. Nilsen-Hamilton (Biochemistry, Biophysics & Molecular Biology), **Hal S. Stern.** *Graduate training in computational biology for animal agriculture.* For the period of 09/15/01 - 09/30/05: *$1,671,236*.

Lay, Donald C., Jr. (USDA-ARS) PI.
Co-PIs: **Michael J. Daniels** and Joan Cunnick (Microbiology). Effects of prenatal stress on the health and well-being of swine. For the period of 09/01/00 - 08/31/02: $205,000.

Nettleton, Daniel, PI. *Improved statistical methods for detecting QTL and estimating their effects*. For the period of 06/15/98 - 06/30/02: $75,000.

DEPARTMENT OF AGRICULTURE, AGRICULTURAL RESEARCH SERVICE

Cunnick, Joan E., PI. (Microbiology).
Co-PI: **Michael J. Daniels.** *Effects of prenatal stress on the health and well-being of swine.* For the period of 09/25/01 - 08/31/03: $34,251.

DEPARTMENT OF AGRICULTURE, ECONOMIC RESEARCH SERVICE

Jensen, H. H., PI. (Economics),
Co-PI: **Sarah M. Nusser.** *Improving measurement of food security and hunger*. For the period of 08/26/98 - 09/30/01: $200,000.

Jensen, H. H., PI. (Economics)
Co-PIs: **Sarah M. Nusser**, C. N. Fletcher (Human Development & Family Studies). *What is happening to food stamp program exiters? An examination of their employment and other experiences using administrative and survey data.* For the period of 09/24/98 - 09/30/01: $100,000.

DEPARTMENT OF AGRICULTURE, FOREST SERVICE

Opsomer, Jean D., PI. *Nonparametric model-assisted survey estimation for forest resources.* For the period of 09/20/01 - 11/01/04: $99,995.

DEPARTMENT OF AGRICULTURE, NATURAL RESOURCES CONSERVATION SERVICE

Nusser, Sarah M., PI.
Co-PI: **Wayne A. Fuller**. *Soils databases and statistical methods for soil surveys*. For the period of 10/01/00 - 09/30/01: $593,000.

Nusser, Sarah M., PI.
Co-PIs: **Wayne A. Fuller**, **Jean D. Opsomer**, **Tapabrata Maiti**. *Survey methods and statistical research support for the National Resources Inventory*. For the period of 10/01/00 - 12/31/02: $3,100,000.

DEPARTMENT OF AGRICULTURE, NATIONAL AGRICULTURAL STATISTICS SERVICE

Fuller, Wayne A., PI. *Survey design and estimation*. For the period of 10/01/00 - 09/30/04: $219,500.

DEPARTMENT OF COMMERCE, BUREAU OF CENSUS

Nusser, Sarah M., PI. *Integrating and characterizing digital location data for computer-assisted survey information collection*. For the period of 08/15/00 - 08/15/01: $26,350.

DEPARTMENT OF EDUCATION

Shelley, Mack C., PI. *Collaborate with Department of Education personnel on the development of an AEA cost efficiency study*. For the period of 03/15/01 - 05/31/01: $3,920.

DEPARTMENT OF HEALTH & HUMAN SERVICES

Stern, Hal, PI. *Small area estimates of U.S. infant mortality using Bayesian statistical methods*. For the period of 09/30/00 - 09/27/01: $37,691.

DEPARTMENT OF LABOR, BUREAU OF LABOR STATISTICS

Opsomer, Jean D., PI. *Semiparametric small area estimation for the current employment statistics survey*. For the period of 08/03/01 - 09/30/01. $*24,993*.

EMORY UNIVERSITY SCHOOL OF MEDICINE

Nusser, Sarah M., PI.
Co-PI: **Dianne G. Anderson** (Statistical Laboratory). *The genetics of atherothrombotic stroke study*. For the period of 03/25/02 - 04/30/02. $*8,249*.

FEDERAL AVIATION ADMINISTRATION

Brasche, Lisa H., PI. (Center for Nondestructive Evaluation - CNDE)).
Co-PIs: R. Bruce Thompson (Materials Science and Engineering), Frank J. Margetan (CNDE), Ronald A. Roberts (Aerospace Engineering - AE), Timothy A. Gray (AE), **William Q. Meeker, Jr**., Norio Nakagawa (CNDE) and Chien P. Chiou (CNDE). *Phase II - Engine titanium consortium*. For the period of 09/30/98 - 09/30/03: *$3,800,000*.

GENERAL MOTORS CORPORATION

Isaacson, Dean L., PI.
Co-PI: Lois A. Hunt (Extension to Families). *Master's in statistics for GM employees*. For the period of 12/07/01 - 09/09/10: *$1,300*.

Wu, Huiaqing, PI.
Co-PIs: **Max D. Morris**, **Stephen B. Vardeman**. *Statistical analysis of vehicle communication system design and EMC integration rules*. For the period of 03/09/01 - 12/31/01: $55,881.

IOWA DEPARTMENT OF NATURAL RESOURCES

Nusser, Sarah M., PI. *Iowa Department of Natural Resources oil filter survey report*. For the period of 03/06/02 – 06/30/02: *$5,400*.

JOHN DEERE & COMPANY

Dickerson, Julie, PI. (Electrical & Computer Engineering),
Co-PIs: **Dianne H. Cook**, Carolina Cruz-Neira (Electrical & Computer Engineering), Hung-Ah Pham (Mechanical Engineering). *Phase 1: Visualization of high dimensional control surfaces*. For the period of 08/25/00 - 08/25/01: $131,316.

JOHN DEERE FOUNDATION

Vardeman, Stephen B., PI. (Industrial & Manufacturing) *Quality/Reliability research and education*. For the period of 08/11/98 - 09/09/10: *$15,000*.

JOHN DEERE TECHNOLOGY CENTER, MOLINE

Bernard, James E., PI. (Mechanical Engineering - ME)
Co-PIs: Kenneth M. Bryden (ME), **Dianne H. Cook**, Carolina Cruz-Neira (Industrial & Manufacturing Systems Engineering), Julie A. Dickerson (Electrical & Computer Engineering), Atul Kelkar (ME), Greg R. Luecke (ME), Judy M. Vance (ME). *Synthetic environments as enabling technology for product development – Phase 3*. For the period of 11/01/01 - 10/31/02: *$102,000*.

Bernard, James E., PI. (ME)
Co-PIs: Kenneth M. Bryden (ME), **Dianne H. Cook**, Carolina Cruz-Neira (Industrial & Manufacturing), Julie A. Dickerson (Electrical & Computer Engineering), Atul Kelkar (ME), Greg R. Luecke (ME), Judy M. Vance (ME). *Synthetic environments as enabling technology for product development – Phase 3*. For the period of 12/11/01 - 12/10/04: *$1,524,172*.

MATHEMATICA POLICY RESEARCH, INC.

Carriquiry, Alicia L., PI. *Assessing the diet of high risk subgroup using the dietary reference intakes*. For the period of 10/01/01 - 09/30/03: *$98,893*.

MAYO CLINIC AND FOUNDATION

Nusser, Sarah M., PI.
Co-PI: **Dianne G. Anderson** (Statistical Laboratory). *Epidemiology and genetics of Parkinson's Disease*. For the period of 06/01/01 - 05/31/02. *$40,508*.

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

Thompson, R. Bruce, PI. (Materials Science & Engineering – MSE)
Co-PIs: David Cann (MSE), David C. Jiles (MSE), Norio Nakagawa (Center for Nondestructive Evaluation - CNDE), Feyzi Inanc (CNDE), Karl A. Gschneidner (MSE), Timothy A. Gray (Aerospace Engineering & Engineering Mechanics– AE & EM), Vladimir Tsukruk (MSE), Vitalij K. Pecharsky (MSE), **William Q. Meeker, Jr.**, Mufit Akinc (MSE), Joseph N. Gray (ME), Joseph Shinar (Physics &Astronomy), David K. Hsu (AE & EM), Dale E. Chimenti (AE & EM), Ronald A. Roberts (AE & EM), Lester W. Schmerr, Jr. (AE & EM), John Bowler (Electrical & Computer Engineering), Steve W. Martin (MSE). *Advanced NDE for future aerospace systems*. For the period of 06/01/02 - 05/31/03: *$2,000,000*.

NATIONAL CANCER INSTITUTE

Carriquiry, Alicia L., PI. *Improving the software for intake distribution estimation*. For the period of 09/30/01 - 09/29/02: *$24,608*.

NATIONAL INSTITUTES OF HEALTH

Daniels, Michael J., PI. *Covariance estimation for longitudinal cancer data*. For the period of 02/01/02 - 01/31/03: *$65,025*.

NATIONAL INSTITUTE ON DRUG ABUSE

Spoth, Richard L., PI. (Institute for Social & Behavioral Research--ISBR),
Co-PIs: Cleve R. Redmond (ISBR), **Dean L. Isaacson**. *Rural family and community drug abuse prevention project*. For the period of 08/01/01 - 07/31/02: *$408,931*.

NATIONAL INSTITUTE OF MENTAL HEALTH

Birt, Diane Feickert, PI. (Food Science & Human Nutrition).
Co-PI: **Kenneth J. Koehler**. *Energy restriction, cell signaling, and cancer prevention*. For the period of 05/01/01 - 04/30/02: $246,982.

NATIONAL SCIENCE FOUNDATION

Nusser, Sarah M., PI.
Co-PIs: **Yasuo Amemiya**, **Alicia L. Carriquiry**. *At the interface of time series, measurement errors, and survey sampling: A conference in celebration of Wayne A. Fuller's 70th birthday*. For the period of 04/01/01 - 03/31/02: $12,000.

Nusser, Sarah M., PI.
Co-PI: L. L. Miller (Computer Science). *Collecting and using geospatial data in the field: An extensible framework and testbed*. For the period of 10/01/00 - 09/30/02: $999,500.

Cook, Dianne, PI.
Co-PIs: V. G. Honavar, L. L. Miller (Computer Science). *Interactive dynamic visual overviews of large multi-dimensional data*. For the period of 10/15/99 - 09/30/02: $350,000.

Lahiri, Soumendra, PI. *Resampling methods for temporal and spatial processes*. For the period of 08/01/01 - 07/31/02: $45,794.

Carriquiry, Alicia, PI. *VIII Latin American congress on probability and mathematical statistics: Mathematical sciences at the interface*. For the period of 01/01/01 - 06/30/02: $31,070.

Kaiser, Mark, PI.
Co-PIs: **Michael J. Daniels** and **Soumendra Lahiri**. *Conditionally specified statistical models*. For the period of 09/1/98 - 08/31/01: $299,998.

Kaiser, Mark, PI.
Co-PI: **Dean L. Isaacson**. *VIGRE project*. For the period of 04/15/01 - 03/31/04: $1,293,228.

Yang, Yuhong, PI. *Adaptive regression for dependent data by combining different procedures*. For the period of 06/01/01 - 05/31/03: $100,000.

OREGON STATE UNIVERSITY

Opsomer, Jean D., PI. *Nonparametric model-assisted survey estimation for aquatic resources*. For the period of 10/15/01 - 10/14/05: $17,740.

PIONEER HI-BRED INTERNATIONAL, INC.

Isaacson, Dean L., PI. *Research consulting agreement*. For the period of 9/1/01 - 12/31/01: *$7,100*.

PRATT AND WHITNEY

Brasche, Lisa H., PI (Center for Nondestructive Evaluation - CNDE).
Co-PIs: R. Bruce Thompson (Materials Science & Engineering), **William Q. Meeker, Jr.**, David K. Hsu (Aerospace Engineering & Engineering Mechanics- AE/EM), Timothy A. Gray (CNDE), Daniel Barnard (Ames Laboratory), Julie A. Dickerson (Electrical & Computer Engineering), Robert J. Weber, (Electrical & Computer Engineering). *Support for the development and integration of inspection technology for damage detection in on-wing engine configurations*. For the period of 05/09/01 - 03/01/03: *$475,000*.

SCHONESLAND CORPORATION

Wu, Huaiqing, PI. *Training grant*. For the period of 08/16/01 - 05/15/02: *$7,700*.

SHELL OIL COMPANY FOUNDATION

Isaacson, Dean L., PI. *Departmental grant support*. For the period of 07/01/01 - 06/30/02: *$10,000*

UNIVERSITY OF FLORIDA

Maiti, Tapabrata, PI. *Bayesian neural networks for prostate cancer study*. For the period of 09/01/01 - 08/31/02: *$43,759*.

UNIVERSITY OF MAINE

Nusser, Sarah M., PI.
Co-HR: **Hal Stern**; Co-PF: Leslie L. Miller (Computer Science). *Enabling the creation and use of geogrids for next generation geospatial information*. For the period of 09/01/01 - 08/31/02: *$150,000*.

UNIVERSITY OF MARYLAND

Nusser, Sarah M., PI. *Behavior infection & genetics in early on-set stroke*. For the period of 09/30/00 - 09/29/01: *$14,250*.

UNIVERSITY OF NEBRASKA MEDICAL CENTER, EPPLEY INSTITUTE FOR RESEARCH

Nusser, Sarah M., PI. *A case controlled study of diet and acetyltransferase in non-hodgkins*. For the period of 04/01/02 - 12/31/02: *$14,403*.

WESTAT, INC.

Fuller, Wayne A., PI. *Variance estimation for imputed data set*. For the period of 02/28/01 - 02/27/02: *$64,217*.

3M

Rollins, Derrick K., PI. *Non-linear multivariate ARMAX modeling of critical dynamic 3M processes using plant data*. For the period of 10/01/01 - 09/30/02. $40,000.

GRADUATES 2001-02

B.S. GRADUATES

Anthony J. Kassekert ..... Co-majors: Political Sciences and Economics
Yan Fan
Tiana Ying-Hsuan Pan .....Co-major: Economics
Adam Summers

M.S. GRADUATES

Julio Cesar Alonso-Cifuentes
Mallika Bachan
Carsten Botts
Lisa A. Brustman ..... Distance Education Student (3M)
Jinyoung Byun
Gabriel Camano-Garcia
Michael Gary Case
Wei-wen Vivian Chang
Jingjing Chen
Xiaojin Chen
Zhuo Chen
Erik M. Colver
Ming Cui
Wei Ding
Cristiano Ferraz
Kyoji Furukawa
Younghun Han
Julie Ruth Hanson
Cory Heilmann
Tanya Lynn Hoskins
Yanhui Hu
Wei Huang
Gary Jeppson ..... Distance Education Student (3M)
Chunfa Jie
Vinod Kumar ..... Distance Education Student (3M)
Kuei-Hsiu Lin
Wei Liu
Matthew John Maurer
DeQing Pei
Matthew Whitney Puumala
Matthew Robert Schmidt

M.S. GRADUATES (continued)

Christopher Grant Scott ..... Distance Education Student (Mayo)
Jeffrey Michael Slezak ..... Distance Education Student (Mayo)
Sarah Timm
Hui Wang
Xinpeng Wang
Ruilan Wei
Stephen Douglas Weigand
Chunyuan Wu
Han Wu
Li Xie
Dong Yan
Hui Zhang
Jun Zhang
Yuhua Zhang
Jing Zheng
Hui Zou

Ph.D. GRADUATES

Kari Ann Azevedo
Victor Chan
Soledad A. Fernandez
Xiao-Hu Liu
Kenneth Joseph Ryan
Sandip Sinharay

SCHOLARSHIPS 2001-02

GRADUATES

Bancroft Award
Julio Alonso

Dan Mowrey Consulting Award
Justin Recknor

Departmental Awards for Scholastic Achievement/Leadership
Nathan Foster
Jason Sinnwell
Cory Heilmann
Tanzy Love

Emil Jebe Award
Tanzy Love
Reid Landes
Luke Willis

George Washington Carver
Evette Lang
Dennis Taylor

George W. Snedecor Graduate Statistics Award
Curtis Miller
Yongming Qu

Glaxo-Smith-Kline Industrial Scholarship
Reid Landes

Holly & Beth Fryer Scholarship

Carsten Botts
Damiao Noberega da Silva

Kempthorne Award
Jason Legg

Lilly Scholar
Jennifer Czuprynski

Miller Fellows
Courtney Kies
Carsten Botts

Pace Awards
Erin Bonitz
Courtney Kies
Reid Landes
Melanie Maxson
Luke Willis

Rebecca J. Klemm Fellowship
Evette Lang
Dennis Taylor

Research Excellence Award
Daniel Nordman
Jun-Yuan Wang
Jens Eickhoff

Sampson Legacy Fund for Excellence in Statistics
Erin Bonitz

Shell Scholars
Tamara Brown
Luke Willis
Erin Bonitz

Teaching Excellence
Rhonda DeCook
Sandra Hulting
Sarah Timm

Team-Stat Scholarship
Sarah Timm

Vera David Award
Rhonda DeCook
Jianying Zuo

VIGRE
Rhonda DeCook
Paul Esker
Brooke Fridley
Jason Legg
Samantha Montgomery
Dale Tessin

Vince Sposito Award
Monica Reising

Vince Sposito Computing Excellence Award
Jason Sinnwell

UNDERGRADUATES

Eli Lilly
Elizabeth Koehler
Megan Brown

George W. Snedecor Award
Tsu-Ting Lin

National Merit
Justin McIllece

Procter and Gamble Scholar
Elizabeth Brei

Schillmoeller Family Scholar
Arthur Alfred

Scott Kongable Award
Adam Summers

CURRENT FACULTY 2001-02

NEW FACULTY

Heike Hofmann, Assistant Professor, joined the department in January 2002. Heike received a degree in mathematics and earned her doctorate in statistics in 2000 at the University of Augsburg, Germany. Heike's areas of research include data visualization, statistical computing, multivariate statistics, exploratory data analysis and interactive statistical graphics.

Heike Hofmann

Tzee-Ming Huang, Assistant Professor, joined the department in August 2001. She received her Ph.D. degree in statistics at Carnegie Melon University. Tzee-Ming's interests are primarily in Bayesian non-parametric inference. Huang replaces Shashikala Sukhatme who retired in December 2000.

Tzee-Ming Huang

Tapabrata (Taps) Maiti, Assistant Professor, was hired in January 2002 and works with the Survey Section. Taps earned his Ph.D. in 1996 from the Indian Statistical Institute, Calcutta, India. Most recently he has been an assistant professor at the Department of Mathematics and Statistics at the University of Nebraska-Lincoln. Maiti's research interests include: sample survey, small area estimation, Bayes and empirical Bayes modeling, generalized linear models, longitudinal data analysis, Bayesian neural networks and MCMC methods.

Taps Maiti

Kirk Wolter, Professor and Director of IRISS, joined the faculty this spring (2002). Wolter is a 1974 Ph.D. graduate of Iowa State University in statistics. Along with his teaching responsibilities, Wolter will be the director of the Interdisciplinary Research Institute for Survey Science (IRISS), a new center just approved by the Iowa Board of Regents. Through IRISS, Iowa State University is positioned to be a major player on the national and international stage in the collection, analyses, and use of information for research and decision-making. Wolter was Senior Vice President, Statistics and Methodology, at the National Opinion Research Center in Chicago before arriving at Iowa State University.

Kirk Wolter

Walter Ollor, Instructor for the department and also working for CARD (Center for Agricultural Research and Development). He received his B.S. in economics from the University of Ife, Nigeria and his Ph.D. in economics from Iowa State University. His interests, as they pertain to statistics, are in the fields of econometric models of developing countries, quantitative economic policy with applications to socioeconomic development stabilization and planning, quantitative methods, models and data systems.

VISITING FACULTY

Jongchul Oh, Visiting Professor from Seoul National University, Seoul, Korea is working with Yuhong Yang. His interests are in the areas of nonparametric density estimation, Bayesian theory and experimental design. Oh received his Ph.D. from KAIST, Daejon, Korea.

Seongmo Yoo, Visiting Professor from Korea University, is working with H.T. David. His interests are in social statistics, quality statistics, spatial statistics and multivariate statistics. Yoo received his Ph.D. from Iowa State University in 1993.

Walter Ollor

FACULTY

Dean Adams, Assistant Professor *(courtesy appointment through the Department of Zoology and Genetics)*

Yasuo Amemiya, Professor

Krishna Athreya, Distinguished Professor, *joint appointment with the Department of Mathematics (on leave)*

Theodore B. Bailey, Professor

Jahnabimala Bhattacharya, Lecturer

Doug Bonett, Professor, *joint appointment with the Department of Psychology*

Volker Brendel, Professor, *(courtesy appointment through the Department of Zoology and Genetics)*

Alicia L. Carriquiry, Professor

Dianne Cook, Associate Professor

Michael Daniels, Associate Professor

Philip M. Dixon, Professor

Karin Dorman, Assistant Professor, *joint appointment with the Department of Zoology and Genetics*

William M. Duckworth II, Assistant Professor

Richard Evans, Assistant Professor *(courtesy appointment through the College of Veterinary Medicine)*

Amy G. Froelich, Assistant Professor

Tzee Ming Huang, Assistant Professor

Dean L. Isaacson, Director and Head; Professor

Mark S. Kaiser, Associate Professor

William J. Kennedy, Jr., Professor

Kenneth J. Koehler, University Professor

Soumendra N. Lahiri, Professor

Frederick O. Lorenz, University Professor, *joint appointment with the Department of Sociology*

Mervyn G. Marasinghe, Associate Professor

William Q. Meeker, Jr., Distinguished Professor

Max Morris, Professor, *joint appointment with the Department of Industrial and Manufacturing Systems Engineering*

Dan Nettleton, Associate Professor

Sarah M. Nusser, Associate Professor

Jongchul Oh, Visiting Professor

Jean D. Opsomer, Associate Professor

Carl W. Roberts, Associate Professor, *joint appointment with the Department of Sociology*

Derrick Rollins, Associate Professor, *joint appointment with the Department of Chemical Engineering*

Dan Sargent, Assistant Professor, *Mayo Clinic Collaborator*

Mack C. Shelley II, Professor, *joint appointment with the Department of Educational Leadership and Policy Studies*

Peter Sherman, Associate Professor, *joint appointment with the Department of Aerospace Engineering & Engineering Mechanics*

Jeff Sloan, Assistant Professor, *Mayo Clinic Collaborator*

W. Robert Stephenson, University Professor

Hal S. Stern, Professor

FACULTY (continued)

John Stufken, Professor (*on leave*)

Terry M. Therneau, Professor, *Mayo Clinic Collaborator*

Stephen B. Vardeman, Professor, *joint appointment with the Department of Industrial and Manufacturing Systems Engineering*

Huaiqing Wu, Assistant Professor

Yuhong Yang, Associate Professor

SeongMo Yoo, Visiting Professor

RESIGNATIONS

Yannis Bilias, Assistant Professor *to University of Cyprus*

Michael Daniels, Associate Professor *to University of Florida*

Hal S. Stern, Professor *to University of California, Irvine*

Hal Stern has announced that he will be leaving to accept a position as chair of the new Department of Statistics at the University of California, Irvine. Stern has been with ISU's Department of Statistics since 1994.

RETIREMENTS

Wayne A. Fuller, Distinguished Professor, *(faculty status in Department of Economics), retired Sept. 2001*

EMERITUS

C. Philip Cox, Professor Emeritus

David F. Cox, Emeritus University Professor

Herbert A. David, Emeritus Distinguished Professor

Herbert T. David, Emeritus University Professor

Richard Groeneveld, Emeritus University Professor

David A. Harville, Professor Emeritus

Roy D. Hickman, Professor Emeritus

Paul Hinz, Emeritus University Professor

Donald K. Hotchkiss, Professor Emeritus

Edward Pollak, Professor Emeritus

Robert F. Strahan, Professor Emeritus

Shashikala Sukhatme, Emeritus Associate Professor

LeRoy Wolins, Professor Emeritus

Darlene Wicks
(1939 – 2001)

Darlene Wicks, clerk typist & secretary for the Department of Statistics for 22 years, passed away unexpectedly of a heart attack on Sunday, November 4, 2001, at Trinity Medical Center in Rock Island, Illinois. Darlene, 62, had served as the departmental secretary for the Stat Computing Section since November 1979.

Dean Isaacson, professor and then Head of the Statistics Department, remembered Darlene as "a great giver of herself."

"She was one of the best technical typists I've ever worked with," said Ken Koehler, Professor of Statistics, who had known Darlene since she began work at Iowa State in 1979, "but I'll remember her mostly because she was a wonderful person."

"Darlene got along with everyone who worked with her," said Edith Landin, administration specialist in statistics. "Everyone loved her. She was a great team player. If someone needed help, she was always ready to lend a hand. She also had a fun side, and enjoyed life to the fullest. You could always count on a smile from Dar, a good joke, or an uplifting story. She loved to cook, and she enjoyed trading recipes with her friends. Darlene had a quote on her desk which read, 'Yesterday is History, Tomorrow is a Mystery, But Today is a gift. That's why they call it 'the Present'. This pretty much described her always upbeat attitude."

Darlene Ann Wicks was born February 26, 1939, to parents Elmer and Agnes (Burke) Stuve in Des Moines, Iowa. Darlene graduated from DM Tech High School in 1957 and worked for Northwestern Bell Telephone Company in Des Moines. She married Sterling Wicks July 20, 1968, at Zion Lutheran Church in Radcliffe, Iowa, where she was still a member. Darlene taught Sunday School and was Sunday School Superintendent, member of Friend-n-Service, and sang in the choir.

Darlene is survived by her husband, Sterling, of rural Radcliffe; two sons, Jeff and his wife Shelly Wicks of Fairmont, Nebraska; and Terry and his wife Tammy Wicks of Manning, Iowa; one daughter Sandra Wicks of Fort Dodge, Iowa; seven grandchildren; her twin brother and two sisters.

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