

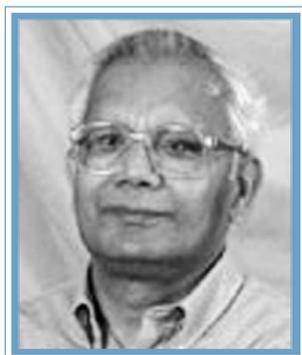
Bios Rhythms

Department of Biostatistics

SCHOOL of PUBLIC HEALTH ISSUE NO. 13/JANUARY 2003
The UNIVERSITY of NORTH CAROLINA at CHAPEL HILL

Professor Sen Wins Noether Senior Scholar Award

Pranab K. Sen, Cary C. Boshamer Professor of Biostatistics and Professor of Statistics, University of North Carolina at Chapel Hill, received the 2002 Noether Senior Scholar Award from the American Statistical Association at the joint statistical meeting in New York City. This prestigious award was made for a lifetime of outstanding achievements and contributions in the field of nonparametric statistics for both research and teaching. Sen made pioneering research contributions in the fields of multivariate nonparametrics, sequential nonparametrics, clinical trials and survival analysis, bioassays and asymptotic methods. He has published 20 books and monographs, mostly in this general field, and has more than 550 statistical publications.



Dr. Sen delivered his invited Noether Award address, "Biostochastics and Nonparametrics: Oranges and Apples?" on August 14 at a session sponsored by the ASA Section on Nonparametric Statistics. The Noether Award also carried a cash prize of \$10,000. Professor Sen graciously donated this prize to the UNC

Public Health Foundation, which is contemplating a visiting Professorship in the Department of Biostatistics.

Gottfried Noether was a leading scholar in nonparametric statistics with interests in research and teaching. He was head of the Department of Statistics at the University of Connecticut for 14 years, and before that he was Professor of Mathematics at Boston University for 15 years. His wife and daughter presented the American Statistical Association (ASA) with an endowment fund to recognize distinguished researchers and teachers, and to support research in the field of nonparametric statistics. This was the third year that the award has been given. The first two recipients were Erich L. Lehmann of the University of California (2000) and Robert V. Hogg of the University of Iowa (2001).

From the Section President

Greetings to all! For the past year and a half, I have been attending the School of Public Health Alumni meetings. One thing that I have learned is that our alumni are a great source of knowledge and experience for the department. A department is not just its staff, professors and students. Its reputation and its opportunities for education are dependent on its alumni, too. The wealth of experience among our alumni is staggering and a great source that needs to be continuously tapped. Future and current students should be in touch with our department's graduates to learn from them. There is a mentoring list-serve set up on the alumni web page as a way for students to ask questions to a large audience (check it out!), but it may be too impersonal for some people. For you local alumni or even distance alumni, in person

contacts or phone calls with the students should be encouraged. If you would like to have your name and contact information made available to current students who have questions about our department, your company, or the area you live in, please let me know. I participate in a similar program at the University of Minnesota and it is fun and painless. Also, if you would be interested in participating in a department sponsored activity, like career day, or seminars, or even as a guest lecture, or you just have an idea to share, please contact me. As a faculty member and an alumna I can help make your wishes come true! (not really, but it sounds good).

Lastly, please mark your calendar now for the upcoming Foard Lecture which is planned for March 26, 2003, School of

Public Health Alumni Day. The speaker will be Dr. Risa Lavizzo-Mourey, Senior Vice President and Director, Health Care Group at the Robert Wood Johnson Foundation.

Take care,
Gail

BIOS ALUMNI ASSOCIATION

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(gtudor@bios.unc.edu)

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(kkesler@rhoworld.com)

From the Department Chair

Despite a difficult budget year in North Carolina, Carolina Biostatistics has flourished. As I write, we are nearing the end of a very productive fall semester and are optimistic that the spring will bring even more accomplishments by our faculty, staff and students.

This year our incoming graduate students were among the best at the University, as was proven when four of them received Graduate School Scholarships after a campus-wide competition. Emma Huang, who received her undergraduate degree in mathematics from Cal Tech, was named a Reynolds Fellow. This fellowship provides funding for five years of graduate study. Sean Simpson also received a five-year scholarship when he was named a Royster Fellow. Sean has an undergraduate degree in mathematics from Harvard. Another two of our incoming students were named as Scholars for Tomorrow. These one-year scholarships are given to students with interest in areas that the University considers to be strategic. Tania Robbins, a mathematics and statistics major from Purdue, is interested in statistical genetics. Chris Slaughter received his undergraduate degree from Tulane University with a double major in mathematics and cell and molecular biology. He is interested in environmental applications of biostatistics. While these students received prestigious awards, the accomplishments of our other incoming students are also impressive. As a result, we are certain that our current group of graduate students is as good as any in the country.

Not to be outdone, our undergraduate program continues to attract wonderful students. Angela Blotzer, one of our BSPH students, has been elected to Phi Beta Kappa. Angela has a double major in biostatistics and music, and is writing two senior theses.

Funding for graduate training received a boost when the Environmental Biostatistics Training Grant, directed by Larry Kupper, was renewed for the sixth time. The five-year renewal will mean that this grant has provided continuous funding for 35 years. Currently the grant provides



funding for 18 biostatistics, 9 epidemiology, and 4 environmental sciences graduate students. This total of 31 traineeships makes the program the largest NIEHS training grant in the country. Combining the environmental training grant with the demography training grant (PI Chirayath Suchindran) and the cardiovascular clinical trials training grant (PI Lloyd Edwards) places Carolina Biostatistics among the leaders in total training grant slots in the country.

Last year in BiosRhythms we announced eight new faculty members. Two of those eight, Joe Ibrahim and Fred Wright, joined us during the past several months. After such a productive year of recruiting, we have not added any new faculty members in 2002. We are recruiting again in 2003 and hope to announce some new faculty appointments next year.

Three faculty members have left Carolina Biostatistics. After a year's leave of absence, Associate Professor Francoise Seillier-Moiseiwitsch accepted a position as Director of the Bioinformatics Research Center at the University of Maryland, Baltimore County. Doug Taylor resigned his position as Research Assistant Professor to become Associate Director of Biostatistics at Family Health International. Yen-Feng Chiu has returned to Taiwan where she is an Assistant Investigator at the Division of Biostatistics and Bioinformatics, National Health Research Institutes, Taipei, Taiwan. We appreciate all of the contributions these three professors have made to our program and wish them well in their new positions.

Elsewhere in the newsletter, you will read of other noteworthy accomplishments of our faculty, staff and students. We are also aware that our alumni continue to be world leaders in biostatistics. You can read about these and other developments on our web site. Please stop by to see us when you are in the area, or at our ENAR and JSM receptions.

With warmest regards,
Ed

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Lyles Awarded the 2002 James E. Grizzle Distinguished Alumnus Award

Robert H. Lyles received the 2002 James E. Grizzle Distinguished Alumnus Award.



This award, established in honor of the outstanding career of Dr. James E. Grizzle, recognizes a UNC biostatistics alumnus for outstanding

contributions to biostatistical methodology and consulting.

Melvin Alexander (MSPH '79) is currently a lead health analyst with the Delmarva Foundation for Medical Care, Inc., a healthcare quality improvement organization in Maryland. He led one of the writing groups that drafted the first healthcare quality-management systems' guideline under the International Organization for Standardization's quality standard.

Cande Ananth (MPH '93) was promoted to associate professor of obstetrics and gynecology, and appointed director of the section of epidemiology and biostatistics, Department of Obstetrics, Gynecology and Reproductive Sciences, Robert Wood Johnson Medical School. He has also been conferred the 2001 Outstanding Young Professional National Maternal and Child Health Achievement Award, by the Coalition for Excellence in MCH Epidemiology.

John Bailer (PhD '86) spent the spring of 2002 on sabbatical leave in the Department of Biostatistics at UNC-CH. John, a professor in the Department of Mathematics & Statistics at Miami University in Ohio, spent time collaborating with colleagues at UNC-CH and NIEHS (including alumni Chris Portier and Joe Haseman), and enjoying life with his family in Chapel Hill.

Rachael DiSantostefano (MS '93) is a second year PhD student in health policy and administration at UNC-CH with an interest in pharmacoeconomics and evidence-based medicine. She is a research fellow at GlaxoSmithKline in the company's Global Health Outcomes Group.

David Hardison (PhD '81) was elected to a three-year term to the Clinical Data Interchange Standards Consortium board.

Lyles received his PhD degree in 1996 and his MS in 1991, both from the School of Public Health Department of Biostatistics. He received his BS in mathematics from Vanderbilt University in 1988. From 1996 through 1998, Lyles was a faculty member in the Department of Epidemiology at Johns Hopkins University, Baltimore, Maryland. Since 1999, he has been an assistant professor in the Biostatistics Department at Emory University, Atlanta, Georgia. In the spirit of the Grizzle Award, Lyles' extensive publication record maintains a nice balance between

methodologic publications in the best biostatistical journals and applied publications reflecting successful collaborations with subject-matter researchers. His methodologic research record reflects an interest in statistical problems in environmental and occupational health and in epidemiology, measurement and misclassification error problems, and missing data issues.

Lyles' dissertation, directed by Professor Lawrence Kupper, won the 1996 Bernard G. Greenberg Award for the best dissertation in at the UNC School of Public Health.

Frank Harrell (PhD '79) had his book *Regression Modeling Strategies* published by Springer.

Siegrid Marie Hessenthaler (MPH '95) accepted a position at the Duke Clinical Research Institute (DCRI) in December.

Michael Jiroutek (DrPH '02) recently moved to Wallingford, CT as he began his position as research biostatistician with Bristol Myers Squibb.

Tonya King (PhD '99) and her husband Brian had a baby boy (Luke Norman) on May 24, 2002. They're not sure yet whether Luke will be a statistician or a pilot.

Ann Marie Clark Lockhart (MS '87), after working for eight years as a statistical analyst, left the NIEHS in 1995 to start a family with her husband Malcolm (now married 12 yrs). They have three children: Neal (age 7), and twins Paul & Claire (age 3). Ann loves staying home, but hopes to return to the field when they are all full-time students.

Bob Lyles (PhD '96) and his wife, Cindy, were blessed with a second little girl, Renee Grace, born on October 30th. She was 8 lbs., 1oz, and 21 inches at birth. The whole family is doing great, and the older daughter, Lauren, is relishing the big sister role so far.

Michael Matthews (MSPH '77) is CEO of CenVaNet, a provider-owned care management organization based in Richmond, VA. Earlier this year, CenVaNet was selected as one of 15 sites participating in the Medicare Coordinated Care Demonstration, the most comprehensive and rigorous assessment ever conducted regarding the efficacy of disease manage-

ment and case management.

Lawrence H. Muhlbaier (PhD '81) is assistant research professor in both the Department of Biostatistics and Bioinformatics, and in the Department of Surgery, at Duke University Medical Center. He is a faculty statistician with the Duke Clinical Research Institute and part of the Duke Outcomes Research and Assessment Group. He has recently written "HIPAA Training Handbook for Researchers: HIPAA and Clinical Trials."

Phil Simmons (MS '91) was promoted to director of biostatistics and clinical data management at Kos Pharmaceuticals in Miami, Florida. Also, he has recently hired Lin Malott, another UNC alumnus, as senior manager of biostatistics.

Fraser B. Smith (PhD '92) moved to Washington, DC to accept a position at the FDA as a mathematical statistician. He is a statistical reviewer for the Division of Anti-Viral Drug Products (DAVDP) in the Center for Drug Evaluation and Research (CDER).

Tara Smith Strigo (MPH '95), after nine years at Duke Comprehensive Cancer Center, has returned home to UNC. She is now director of research development and administration, population sciences, Lineberger Comprehensive Cancer Center.

Yasar Yesilcay (PhD '75) and his wife Serpil came back to the US in 1997 to be close to their daughter. Since 1998 he has been teaching in the Department of Mathematics and Statistics at James Madison University. They have a two-year old granddaughter and are glad to spoil her on every possible occasion.

Department Happenings

Biostatistics Golf Tournament



The 11th Annual Biostatistics Superball Tournament was held on October 6, 2002. Simply glorious fall weather, with those patented Carolina blue skies, provided the perfect complement to the par 71 Hillandale course in Durham. The team of Larry Kupper, Steve Gilbert, Karthi Natarajan and John Kairalla teed off at 12:07 and carded 69 for fourth place. The 12:22 group of Bill Pan, Bill McGee, Steve McKee and June Stevens snagged third place with 67. Mike Jiroutek, Mike Symons, Jamie Powers and Danny Garcia teed off at 12:15 on their way to a 66, which was good for second place. In first place on the score card, and first off the tee at noon, were Keith Muller, Shane Rosanbalm, Byron Raines and Brooke Rittgers with a winning score of 65. Mike Symons and Steve McKee were the sharpshooters, each winning a closest to the pin award. Thanks go to Mike Jiroutek who has helped behind the scenes to make the tournament a success for the past few years. We hope his new doctorate and position with Bristol Meyers Squibb in Connecticut will let him, Molly and Danny join us for golf in the future.

2003 Events

Mark your calendars for this year's UNC-CH biostatistics alumni events.

ENAR: The 2003 Carolina biostatistics ENAR reception will be Monday, March 31, 5-7p.m., at the Tampa Bay Marriott Waterside Hotel.

ASA: The Carolina bios alumni reception at the ASA is tentatively planned for Monday August 4th from 5:30 to 7p.m. at the San Francisco Hilton and Towers. Please see our website for definite date and time.

Foard Lecture: The School of Public Health Alumni Day is planned for March 26, 2003. The speaker will be Dr. Risa Lavizzo-Mourey, Senior Vice President and Director, Health Care Group at the Robert Wood Johnson Foundation.

Greenberg Lectures: The 2003 Greenberg lecturer will be Anastasios (Butch) Tsiatis, professor of statistics at North Carolina State University. The lecture is planned for May 20-22. Please see our website for details.



2002 Annual Biostatistics Picnic

On Sunday September 8th, the Department of Biostatistics hosted the annual picnic at The Farm for bios faculty, staff, students and their families. Attendees enjoyed a full buffet from Bullock's Bar-B-Cue and recreational activities such as softball and horseshoes.

Department Happenings

Michael Boehnke, Speaker for the Bernard G. Greenberg Lecture Series

The 2002 Bernard G. Greenberg Distinguished Lecture Series was held May 22-24, 2002. The lectures were presented by Michael Boehnke, professor of biostatistics at the University of Michigan.

Boehnke graduated with a PhD in biostatistics from UCLA in 1983. Since then, he has been honored with the Snedecor Prize for Outstanding Paper in Biometry, and the University of Michigan School of Public Health Excellence in Research Award.

Boehnke's research includes statistical designs, models and methods for the analysis of human genetic data, particularly human gene mapping. His work on genetics relates to such diseases as diabetes, schizophrenia and eye diseases. Some of the statistical methods and software he has produced include pedigree analysis,



estimating the power of studies to map human disease genes, inferring relationships of relative pairs, identifying genotype errors and constructing genome maps by using radiation hybrids.

His topics for the Greenberg Lecture Series were as follows:

- 1) Statistical Strategies and Methods for Human Gene Mapping;
- 2) Identifying Misspecified Relationships and Genotype Errors in Human Gene Mapping Data;
- 3) Identifying Efficient Data Subsets for Gene Mapping of Complex Human Diseases;
- 4) Toward Identification of Genes for Type 2 Diabetes: Progress of the FUSION Study.

The Greenberg Lecture Series is held annually and named in honor of Bernard G. Greenberg, former dean of the School of Public Health and chair of biostatistics.

The 2003 Greenberg lecturer will be Anastasios (Butch) Tsiatis, professor of statistics at North Carolina State University. The lecture is planned for May 20-22. Please see our website for details.

Statistical Genetics Courses Offered

The UNC-CH Department of Biostatistics is offering two advanced courses in statistical genetics. The fall course, BIOS 281, Statistical Methods in Human Genetics (3 credits), was taught by Professor Fred Wright. This course provided an introduction to statistical procedures in human genetics, Hardy-Weinberg equilibrium, linkage analysis (including the use of genetic software packages), linkage disequilibrium and allelic association. BIOS 283, Statistical Methods in Quantitative Genetics, is offered this spring for 3 credits and is taught by Professor Fei Zou. This course provides an introduction to the statistical basis for variation in quantitative traits (with focus on decomposition of trait variation), linkage map construction, statistical methodologies and computer software for mapping quantitative traits, and whole-genome analysis issues.

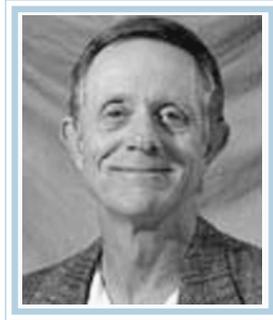
BIOS Alumni, Student Run the Chicago Marathon

Along with 31,108 other participants, BIOS alumni Yun Li (MS '01), Doug Schaubel (PhD '02) and Sandra Woolson (MPH '01), along with current PhD student Jackie Johnson, ran the 2002 Chicago Marathon, held October 13. They were right behind the Kenyans the entire way! Doug finished the 26.2 miles in 03:52:00, Yun in 04:13:08, Sandra in 04:14:03, and Jackie in 05:41:11. This was the first marathon for both Yun and Jackie, and the second for Doug, who also ran the 2001 Raleigh Marathon. The Chicago Marathon was a whopping fifth marathon run for Sandra, who has also run the prestigious Boston Marathon! All four had a great time in Chicago and are planning to meet again next year for more fitness, pasta and thigh pain.

Department Grants

Funding Renewed for Environmental Biostatistics Training Program

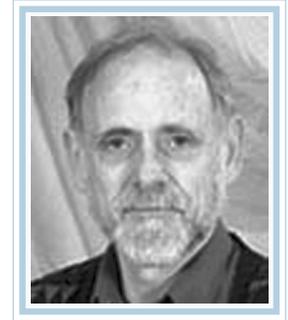
Funding for the Environmental Biostatistics Training Program has been renewed by the National Institute of Environmental Health Sciences (NIEHS) for the period July 1, 2002 through June 30, 2007; this renewal represents 35 consecutive years of funding from the NIEHS. **Lawrence L. Kupper**, Alumni Distinguished Professor and associate chair, has served continuously as the program director since 1972. This training program is the largest and most successful of its kind in the world, and has produced a very large number of doctoral and postdoctoral graduates who now occupy leadership roles in academia, government and private industry. This new funding award, in the amount of \$6,008,315 for five years, is the largest training grant funded by the NIEHS.



The grant will provide yearly support for 31 predoctoral trainees (currently 18 in biostatistics, nine in epidemiology, and four in environmental sciences & engineering) and also provides funding for three postdoctoral trainees. The biostatistics training component is designed to train biostatisticians to conduct state-of-the-art biostatistical research relevant to important environmental health problems and to provide high-level statistical consulting support for other researchers in the environmental health field. The epidemiology training goal is to train epidemiologists to investigate the influence of environmental exposures on human health, with the capability of integrating approaches from molecular biology, biostatistics and environmental sciences. The environmental health training goal is to train environmental scientists to conduct research on biological and statistical methods for assessing environmental exposures as they relate to human health effects. Researchers at NIEHS will continue to be closely involved in this training program.

ARIC MRI and Neurocognitive Longitudinal Study Funded

Lloyd Chambless is the principal investigator (PI) and **Diane Catellier** is co-PI of the Collaborative Studies Coordinating Center's recently funded ARIC MRI and Neurocognitive Longitudinal Study. The study is funded until August 31, 2005 by the National Heart Lung and Blood Institute through the University of Mississippi (Thomas Mosley, PI) with a subcontract to UNC-CH. This study is designed to learn more about risk factors related to progression of brain abnormalities and how progression may relate to clinical outcomes such as cognitive decline and stroke. Brain morphology can be readily visualized using magnetic resonance imaging, or MRI, making it possible to detect and quantify changes in the brain's structure and vasculature. However, little is known about what factors influence brain changes and whether those changes have any prognostic significance. The Atherosclerosis Risk in Communities (ARIC) Study, also coordinated at the Collaborative Studies Coordinating Center, performed MR imaging of the brain between 1993 and 1995 on a sample of middle-aged adults in Forsyth County, North Carolina and Jackson, Mississippi. Analysis of this baseline cross-sectional data revealed a remarkably high prevalence of brain abnormalities that were found to be associated with reduced cognitive functioning and with clinical cardiovascular disease outcomes, such as incident stroke.



The newly funded study will repeat the MRI scans, add new volumetric measurements of selected brain regions, and reassess cognitive functioning in the original ARIC MRI cohort. Conducting this study within ARIC takes advantage of its large, racially diverse population and extensive vascular risk factor data (including new genetic and biochemical factors), to provide new insights into brain-aging and associated clinical outcomes.

Cai Wins Renewal of Multivariate Survival Analysis Grant

A re-funded project, led by principal investigator Jianwen Cai, will develop and investigate new methodology for analyzing recurrent event data from cardiovascular disease studies, asthma studies, and other biomedical research studies. In many biomedical studies, subjects may experience the outcome of interest more than once; outcomes of this sort have been termed recurrent events. For example, patients with cerebrovascular disease may experience repeated transient



ischemic attacks, and HIV patients may experience recurrent opportunistic infections. Other examples of recurrent events include infections, myocardial infarction, tumor metastases, disease relapses and remissions. This project aims to develop statistical methods for analyzing such data. A range of marginal and conditional models for analyzing censored recurrent event data will be investigated. The influence of terminating events and dependent censoring will also be examined. The proposed methods will be applied to analyze data from studies of left ventricular dysfunction patients, asthma patients and kidney transplant patients. This grant is funded by the National Heart, Lung and Blood Institute, from 1/1/2002 - 12/31/2004, in the amount of \$573,827.