Department Grants

Center for Health Statistics Research

by Robert Agans

The Center for Health Statistics Research (CHSR), which was established in October 1999 as the direct result of funding from a centers-for-excellence cooperative agreement sponsored by the Centers for Disease Control and Prevention (CDC) through the National Center for Health Statistics (NCHS), is pleased to announce another year of funding. This funding, combined with strong commitments by the School of Public Health as well as several departments and research centers at UNC-CH, has enabled the CHSR to establish itself as an effective and growing practice-oriented research partnership involving the university and state agencies, as well as the contract research community in the state. To provide a degree of focus to its efforts, the CHSR has organized its work around the following research theme: statistical issues arising out of population-based research intended to promote health and prevent disease in high-risk populations.

Collaborators include four School of Public Health departments (biostatistics, epidemiology, health behavior and health education, and maternal and child health), three research units in the School (the Minority Health Project, the Population Center, and the Survey Research Unit), a state public health agency (the North Carolina State Center for Health Statistics), and a private not-for-profit research organization (RTI, International).

The center's first year was generally devoted to establishing the CHSR facility and initiating work on its four core studies. The second year was dedicated to serious work on each core study as other research possibilities were sought, and the third year was devoted to the dissemination of early research findings through presentations at various scientific meetings as a preliminary step to publication of these results in the research literature. This fourth year of funding will allow the center to expand on previous work as well as to branch out in new areas.



The CHSR is headed by Professor **William Kalsbeek** (pictured above), and is housed in the Survey Research Unit.

The latest project to be added as a center study is led by Professor Chirayath Suchindran and involves statistical methods for spatial analysis. This is a collaboration between those studying methods to understand the distribution of vital health outcomes through spatial mapping and modeling, and those who translate this information for people who develop health policy at the state level. Additional studies being conducted at the CHSR include: (i) Measurement and Sampling Issues in the Hispanic Population, led by Robert Agans from the Department of Biostatistics and the Survey Research Unit; (ii) Small Area Estimation to Target High-Risk Subpopulations for Health Intervention, led by Ralph Folsom of RTI; (iii) Nonresponse in Longitudinal Studies, led by William Kalsbeek from the Department of Biostatistics and the Survey Research Unit; (iv) Sampling and Process Issues in the Use of the Internet for NCHS Surveys, led by J. Michael Bowling from the Department of Health Behavior and Health Education; and (v) Impact of Design Differences in School-Based Surveys on Population Estimates of Youth Tobacco Use, led by Professor Kalsbeek.

For additional information on the Center for Health Statistics Research, please see their website (http://www.sph.unc.edu/chsr).

Funding for the Medical Image Presentation (MIP) project was renewed for an additional five years and roughly \$8 million. Keith E. Muller leads the biostatistics core, as he has since 1989. Doctoral students Inkyung Jung and Yueh-Yun Chi, along with BSPH student Sari Hopson, help support the scientists. The principal investigator is Stephen Pizer (Kenan Professor in computer science, radiology and radiation oncology). New projects center on 1) computer identification of objects in anatomical images; 2) using computer tools to plan radiotherapy treatment; and 3) modeling changes in shape of parts of the brain due to schizophrenia.

The department's Collaborative **Studies Coordinating Center (CSCC)** has recently received three contracts from the National Heart, Lung and Blood Institute (NHLBI) to review and update the publicly available databases from three completed NHLBI-funded studies to conform to current regulations on confidentiality of research data and privacy of participant information from such studies. The studies include two landmark clinical trials (the Studies of Left Ventricular Dysfunction and the Lipids Research Clinics (LRC) Coronary Primary Prevention Trial) and one epidemiologic study (the LRC Prevalence Study) for which the CSCC was the coordinating center. These new projects will ensure that the data released for public use protects study participants against disclosure of personally identifying information. This will include protection against statistical disclosure using combinations of participant characteristics. It will also update the datasets and supporting documentation to conform to current standard storage formats on CD-ROM. James Hosking is the principal investigator for these contracts; C.E. Davis is a co-investigator.

Department Grants

Ibrahim Brings Grants to Department

Joe Ibrahim joined the UNC-CH Biostatistics Department in July 2002, from the Harvard University Biostatistics Department

and the Dana Farber Cancer Institute. He brought two grants to Carolina. One grant, titled "Inference in Regression Models with Missing Covariates," is sponsored by the National Cancer Institute. This project examines new methodology for making inference about the regression

parameters in the presence of missing response and/or covariate data for models for longitudinal data and cure rate models for survival data. In addition, new methodology is developed for making inferences in the presence of censored covariate data for these classes of models. In particular, it examines the class of generalized linear mixed models and the cure rate model. Fully parametric and semi-parametric models are considered. The methodology addresses problems occurring frequently in

clinical investigations for chronic disease, including cancer and AIDS, as well as problems relating to the environment.

"Methods for Analyzing Repeated Categorical Data" is another grant Ibrahim has brought to the department. Sponsored by the National Heart, Lung & Blood Institute, it is awarded to the Medical University of South Carolina (Stuart Lipsitz, PI) with a

subcontract to UNC biostatistics. In repeated measures studies, the basic sampling unit is a group or cluster of subjects; a measurement is made on each subject within the cluster. For example, in a cancer clinical trial in which the outcome is tumor response (yes,no) to chemotherapy, a cluster could be composed of individuals from the same institution. Missing responses and covariates are common occurrences in repeated measures studies, and this proposal develops

methods relating to missing data problems in repeated measures studies.

A third grant recently funded as a competitive renewal to the Medical University of South Carolina (Debajyoti Sinha, PI) with a subcontract to UNC biostatistics and sponsored by the National Cancer Institute, is titled "Semiparametric Bayesian Survival Analysis." The focus of this research project is to develop and extend semiparametric Bayesian models and methodologies for the analysis of various types of survival data under complex censoring mechanisms and different data collection schemes. Special considerations will be given to methodologies which deal with complex censoring mechanisms and missing data patterns, two crucial components in biomedical applications. Several tools, such as the EM algorithm and Markov Chain Monte Carlo algorithms including Gibbs sampling, will be applied to find posterior estimates of several quantities of interest.

Wright Awarded NIGMS Grant

studies. The methods apply directly to

Associate Professor Fred Wright is the principal investigator of a grant titled "Inference and Robust Methods for Linkage Mapping." The project is funded by the National Institute of General Medical Sciences for the period 5/1/98 - 4/30/03. The long-term objectives of the project are to develop new statistical and computational methods for discovering and localizing genes influencing complex traits and to improve the design of genetic linkage

experimental crosses and human studies involving relative pairs, and the insight gathered from these investigations may enable extensions to more genetic epidemiological designs including the parametric analysis of multiplex pedigrees. Methods are proposed for describing confidence intervals for gene

locations, and several seemingly disparate linkage designs are unified in a likelihood

framework. Additional proposed work includes adaptive nonparametric methods for mapping quantitative traits. The robustness and wide applicability of the methods proposed will be examined using a combination of simulation and analysis of existing linkage datasets.

Three Faculty Awarded UNC AIDS Research Grants

Three biostatistics faculty won grants from the UNC Center for AIDS Research (CFAR) for one-year studies; they are Drs. Keith Muller, John Preisser, and Donglin Zeng. **Keith Muller**'s CFAR grant pays a graduate research assistant to help create programs which extend Muller's existing power software. A key feature includes the ability to create confidence intervals around power and sample size values due to using variance and mean estimates in power calculation. Results from three journal articles published with alumni Doug Taylor and Virgina Pasour provide the basis for the new methods. **John Preisser**'s study examines bivariate

binary-response transition models and strives to demonstrate their application in clinical settings. The motivating application involves longitudinal data on the presence of fatigue and depression among HIV-positive gay men recorded during semi-annual evaluations by medical specialists. Dr. Preisser and Richard Zink, a doctoral student, are conducting a simulation study to evaluate the performance of three variance estimators of regression parameter estimates in models that predict current fatigue and depression based upon past evaluations of the same. **Donglin Zeng's** study uses latent processes to model both

the CD4 cell count and the HIV viral load. Current research is interested in modeling the relationship between the longitudinal pattern of the CD4 cell count, the HIV viral load and the development of CMV disease, as detected by some assay, including DNA PCR, Hybrid Capture DNA etc. However, the CD4 cell count and the HIV viral load may not be recorded every time, or their measurements may be contaminated with errors. The latent processes used for this study represent the true values of the CD4 cell count and the HIV viral load so they are used to predict the CMV development, as detected by the assays.

After almost 30 years of collaboration with our friends and colleagues in Russia, China, Poland and Pakistan, the CSCC's International Studies has ended. This work began in 1973 as an ancillary study in the Soviet Union to the Lipid Research Clinics program. The work in the Soviet Union began with a visit to Moscow by Dr. Jim Grizzle, Chair of the Department of Biostatistics and Dr. Al Tyroler, professor of epidemiology. Dr. Dale Williams directed the research until 1991 and Dr. Ed Davis then directed the work until funding ended in August 2002. Over the past 15 years Sandy Irving, research associate in biostatistics, has served as the project director and Dr. Barbara Dennis of the Department of Nutrition developed dietary collection methods for use in all four countries. The studies were funded by the National Heart, Lung and Blood Institute and the Ministries of Health within the various countries.

The most important accomplishment for those who worked with these studies is, of course, that they learned about other cultures, and made friends among their colleagues that will be treasured even as the formal work ends. All of the scientific collaborations were funded through NIH and involved US consultants who were leaders in the field— first and foremost the school's Biostatistics faculty, current and previous. Some of the more notable accomplishments of the scientific collaborations are:

For Russia: Screened 7,800 men in the 1970's and 3,000 women in the early 80's. The men were followed for 12 years of mortality & morbidity follow-up and the women for eight years. (Back in those days, men always got preference in heart research!)

For Poland: Screened 5,000 men and women in the mid-80's and re-screened another sample from the same population at two additional screens 3-4 years apart.

For China: A cohort of 10,000 participants were screened three times over a 10 year period (beginning in 1983-84). There was a mortality follow up of 10 years on this cohort. A fourth screen was done on an independent sample about 12 years after the first screen to look at changes in risk factors.

An Era Ends by Sandy Irving

For Pakistan: An intervention study was done on 400 families to test if knowledge could reduce the intake of salt and saturated fat in their diet. This involved over 2,500 people (average of 7/family) and over 4,000 household visits for training.



L to R, Ed Davis, Alexander Deev (statistician at the National Center for Preventative Medicine in Moscow), Al Tyroler (epidemiologist at UNC), and Dimitri Shestov (epidemiologist at the Experimental Medicine Institute in St. Petersburg) in front of the National Center for Preventative Medicine in Moscow in 1990.

Since 1985, the CSCC has hosted over 550 person-weeks of visitors (thanks to all of you who helped host/entertain/transport these special colleagues). Staff at the CSCC has participated in well over 100 person-weeks of visits to the collaborating countries.

There have been over 70 journal publications (with joint authors from US + country of data collection), many more that were not joint publications, over 150 presentations at scientific meetings and 16 data books (or data previews) published (not journal reviewed, but NIH publications).

We have seen vast changes in communication, from telegram or yearly personal visits to instant communication with email and faxes. We have observed changes from FBI investigations after the Russian colleagues visited in the 1970's to no more cold war! Ed Davis survived a war during a visit to Russia by staying in the home of one colleague for safety. The Polish government became democratic during our screening. And a clinical trial continued to be conducted in Pakistan even though the State Department would not approve travel for US citizens and all communication had to be done by phone, fax or email. Our colleagues in Karachi actually came under machine gun fire when returning from the screening clinic, but they went back the next day and screened again.

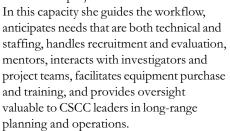
Many findings have intrigued scientists, starting with the early observations that Russians (at that time-Soviets) had higher HDLs (the good cholesterol) than those in the US but it did not seem to prevent their heart disease (remember there was no HDL2 and HDL3 in the 1970s). In China, it was noted early that abdominal obesity was independently related to cardiovascular risk factors even in lean Asian populations. Another publication using the Chinese data noted that despite low levels of cholesterol, the correlates of lipids were similar to those of western populations. Our Polish collaboration found that hypertension was higher and less controlled in Polish samples compared to US samples, pointing out the need for programs to control hypertension in Poland. Another paper showed that stroke mortality rate trends were opposite in US and Poland between 1968 and 1994. The stroke rate was declining in the U.S., but increasing in Poland. The Pakistan data are still in journal review, but it was an accomplishment to be able to implement a clinical trial with standardized data collection methods in a lower middle class community in Pakistan. The dietary intervention was successful in reducing the amount of oil used in cooking by the intervention group, but this had only a small effect on the blood cholesterol levels of the Pakistani families.

Those of us who were involved intimately have good memories (kind of like child birth...one forgets the pain!) and many wonderful friends that we stay in touch with at special times. And, we also have a few lagging manuscripts we are trying to get published!

Hope Bryan Wins 2002 Biostatistics Staff Award

Hope Bryan won the 2002 Biostatistics Staff Award for Excellence. As director of the

Computing Division for the Collaborative Studies Coordinating Center, she is responsible for all data management for clinical trials and epidemiological studies. She leads a team of twelve programmers and network support individuals and directs project support for eleven active projects.



Beyond her extensive day-to-day responsibilities, she contributes significantly to CSCC collaborative activities including handling multiple proposal preparation needs, offering CSCC capabilities for unique needs, and advising investigators for highly specialized responses to data management system concerns and research progress review. Most recently, she has been active in a primary role in project development for several new proposals that require extensive review of very complex data management planning at national and international levels. She is very professional, prepared (while

meeting urgent project deadlines simultaneously), enthusiastic about opportunities

and changes, and eager to provide the best possible ways of handling clinical trial needs.

Bryan has a BS in physical anthropology and MS in information science both from UNC-Chapel Hill. She is married to Terry Hudgins, who works in the Department of

Epidemiology, and has two sons, Heath, age 9 and Oliver, age 5.

The Staff Award for Excellence was created in 1993 to recognize biostatistics staff for outstanding contributions to the department. Hope Bryan is the 16th recipient of the award.

Previous recipients were:

2001	Veronica Stallings
2000	Carolyn Hagy, Ashley Bowers
1999	Mike Jensen
1998	Melissa Hockaday, Jackie Keith
1997	Nancy Cohn
1996	Carolyn Hagy, Betty Owens
1995	Mary Everette, Dianne Hill
1994	Betty Pounders, Stephanie Reed
	(Earnshaw)
1993	Vera Bennett, Ravi Mathew

New Staff

Matthew G. Beukema, Processing Unit Supervisor IV, 9/5/02 William Cade, Research Assistant, 10/1/02
Joe Eisen, Social Research Associate I, 6/10/02
Melissa Hobgood, Student Services Manager I, 4/1/02
Terri Lewis, Statistician II, 4/29/02
Kelly Reace, Office Assistant IV, 1/14/02
Guochen Song, Applications Programmer II, 1/14/02
Amy Subramanian, Office Assistant IV, 9/23/02
Mariya Yevsyukova, Applications Programmer II, 6/17/02
Scott Zentz, Computer Systems Administrator I, 4/21/02

Star Heels Awards

This awards program, sponsored by TIAA-CREF, allows departments to award a \$20 gift certificate to a deserving employee. Winners chose a gift certificate from A Southern Season, UNC Student Stores, Lowes, or University Mall. We received a number of strong nominations this year and were only able to give out four awards.

Betty Owens

Betty Owens, departmental registrar, won the February Biostatistics Star Heels Award before she retired in March. Her nominator wrote: "I nominate Betty Owens. She has been a fantastic registrar and I will miss her enthusiasm and interest in helping all faculty and students in BIOS."

Bob Matherly

Bob Matherly , data management programmer at the Collaborative Studies Coordinating Center, won the March award. Bob's nominator wrote: "Bob is the individual primarily responsible for the successful creation of the new web-based data management system. Not only has Bob brought his excellent technical and CSCC-related expertise to this project, he has also been a great mentor and resource to all of the other members of the team."

Gwen Hackney

April's Star Heels Award winner was Gwen Hackney, processing assistant/human resource facilitator. Gwen's nominator had these kind words to say about her efforts: "I nominate Gwen Hackney because she patiently answers every question that I ask of her even if it is not her area of responsibility. I feel that she goes out of her way to make my life easier."

Carol Williams

Carol Williams, calling room supervisor at the Survey Research Unit won the May Star Heels Award. Carol's nominator wrote: "Carol's dedication and hard work in meeting the demands of her position, as well as a vacant position in our unit, have been tremendous."

Service Appreciation

5 Years

Michael Jensen Xiang-Fang Li William McGee Kim Ring Julie Woodruff Haibo Zhou

10 Years

Jianwen Cai Melissa Hobgood Aluoch Ooro

15 Years

Peter Desaix Mal Foley Dawn Stewart Deborah Rubin-Williams

20 Years

Lloyd Chambless Paul Stewart

25 Years

Margaret Tapp

30 Years

C.E. Davis Betty Owens Chirayath Suchindran

35 Years

Gary Koch Pranab Sen

Promotions

Robert Agans, Research Associate
Shrikant Bangdiwala, Research Professor
Marvin Black, Computing Support Tech. II
Barbara Brown, Social Research Assistant I
Ricky Christian, Accounting Technician III
John Preisser, Research Associate Professor
Bethsaida Seagroves, Administrative Asst. I

Lin Receives Honors from Two Universities

Danyu Lin, Dennis Gillings Distinguished Professor, Department of Biostatistics, received the honor of 2002 Myrto Lefkopoulou Distinguished Lecturer from the Harvard School of Public Health. Lin presented a lecture entitled "Selection and Assessment of Regression Models," on September 19 at the Harvard School of Public Health.

The lectureship was established in memory of Dr. Myrto Lefkopoulou, a faculty member and graduate of the Harvard School of Public Health who died of cancer in 1992 at the age of 34. The Myrto Lefkopoulou Lectureship is awarded annually to a promising statistician who has made contributions to either collaborative or methodologic research in the applications of statistical methods to biology or medicine and/or has shown excellence in the teaching of biostatistics. Ordinarily, the lectureship is given to a statistician within 15 years of receiving an earned doctorate. In previous years, this honor has been given to: Brad Carlin, Michael Boehnke, Ronald S. Brookmeyer, Steven N. Goodman, Trevor Hastie, Hans-Georg Mueller, Giovanni Parmigiani, Kathryn Roeder and Louise Ryan.



In addition, Lin has also been chosen by the Department of Biostatistics and Computational Biology at the University of Rochester as the Odoroff Memorial Lecturer. Lin will choose the

topic and deliver his lecture in spring 2003. Every year the department hosts a lecture by a distinguished statistician in honor of Dr. Charles L. Odoroff, the founding director. The lecture series is supported by funds contributed by family and friends of Dr. Odoroff after his death in 1987 at age 49.

Previous lecturers have included Paul Meier, Frederick Mosteller, David Cox, Bradley Efron, Joseph Fleiss, Ross Prentice, Nan Laird, Mitchell Gail, John Gower, Alan Agresti, David DeMets, Norman Breslow, Scott Zeger, and Mark Espeland.

Shrikant Bangdiwala, research professor, was invited as plenary speaker for the "Megaevento 2002" - the joint meetings of the Latin American Societies of Statistics (CLATSE), the Argentinian Biometry Group (GAB), and the International Journeys in Teaching of Statistics (JIEE). The conference, held in Buenos Aires, Argentina, from Oct 28-Nov 1, commemorated the 50th anniversary of the founding of the Statistical Society of Argentina (SAE). Dr. Bangdiwala gave the closing plenary lecture on "Statistical Literacy" and also participated by offering a mini-course on "Data & Safety Monitoring Committees".

Bangdiwala was also an invited instructor in the "Advanced Nordic-Baltic Course on Safety Promotion and Injury Prevention Research," held in the village of Toila, in Estonia, August 11-22. Participants were from Scandinavian and Baltic countries. Topics presented by Dr. Bangdiwala were "Scientific considerations in injury research methodology" and "Different strategies of using data in injury prevention and health promotion."

Professor **Craig Turnbull** received a 30-Year Service Award from the North Carolina Public Health Association at its annual meeting in New Bern, NC on September 26.

Turnbull was also invited to give a presentation at the annual meeting of the American Public Health Association in Philadelphia, Pennsylvania on November 13. His talk was titled "Undergraduate program in Biostatistics at the University of North Carolina at Chapel Hill."

Department Registrar, Betty Owens, Retires

Congratulations and best wishes to Betty Owens, biostatistics' registrar, who retired this year. Her last official day as registrar was March 27, 2002. Though we are excited for her, we are also sad to see her go.

Owens worked in the Department of Biostatistics for 28 years, first coming to the department as a secretary to Dr. Carol Hogue and Richard Shachtman. In 1974, Owens' work for the Department of Biostatistics began; Dr. James Grizzle was chair, and she worked in trailer 39, hand-typing many complicated biostatistics equations on an electric typewriter. She

joined student services in 1992.

She says she will miss everyone in the department, which seems like a big family to her, but especially she will miss working with the students. She has loved helping students adapt and grow in the biostatistics program here. Working in biostatistics has "been a real joy," and she will take all the memories of students, faculty and staff with her.

Where is she going? Carolina beach!! She plans to spend much of her free time at the family beach house.



The above photo was taken at Betty's wellattended retirement party as she opened the card signed by the department.

Hobgood Begins as Department Registrar

Effective April 1, 2002, the Department of Biostatistics has a new Registrar. Melissa Hobgood assumed the duties of registrar when Betty Owens retired. Hobgood came to the Department of Biostatistics from the UNC-CH Graduate School where she worked for the last four and a half years as the main contact person for all graduate school information. She has more than seven years of student services experience, including extensive work with students and broad knowledge of the admissions process. Prior to joining the graduate school, she worked in the University

registrar's office for three years with academic records, student health and the student information system. She has been with the University since September 1992.



Hobgood Contributes to Blood Drive



Congratulations to Melissa Hobgood who, along with two other Carolina employees, won this year's blood drive poster contest. Their logo, pictured to the left, featured the theme created by Hobgood "Proud to be a Heeler, Carolina Cares." David MacDonald from the School of Information and Library Science, and Dail White, from the School of Pharmacy were the other team members. Each received a framed poster signed by the chancellor.

Biostatistics is proud to announce the following births:

Katelin Aspre Mueller was born on May 11, 2002, first child, a daughter, for **Lisa Gravens Mueller** and her husband Frank Mueller. Lisa is a statistician III in the Collaborative Studies Coordinating Center (CSCC).

Shayla Ann was born October 15, 2002, daughter to **Colleen O'Briant**, a social research assistant II at the CSCC, and her husband, Mike Wallace.

E. Vidya Antony has a new baby daughter, Jessica, born at 11:38 a.m., November 18 at 6 lbs 1 ounce. Vidya is an applications analyst programmer I in data management computing at the CSCC. Her husband Dr. Antony Jeyaraj is in the Department of Cell Biology and Anatomy.

Sara Marie was born December 4th at 2:34pm weighing 7 lbs and 12 oz to **Stephanie Cano**, biostatistics graduate student.

Student News

Taylor Wins Both Greenberg Award and Barry H. Margolin Award

Dr. Douglas J. Taylor has been awarded the 2001-02 Bernard G. Greenberg Award for the outstanding doctoral dissertation in the



Taylor (right) accepts the Margolin (left) award.

UNC-CH School of Public Health, and the 2001-02 Barry H. Margolin Award for the Outstanding Doctoral Dissertation in the Department of Biostatistics. Taylor's dissertation, entitled "Mixture Models for Occupational Exposure Data With Limits of Detection," was directed by Dr. Lawrence Kupper.

Taylor's dissertation addresses an important and common problem associated with occupational health data. Personal exposure measurements are gathered on workers in a plant over time to quantify levels of exposure to possibly harmful substances. However, it is very often the case that a significant number of such measurements fall below detection limits, and it is not known whether such a measurement is either truly zero or greater than zero but still unobservable (i.e., is left-censored). By

cleverly utilizing the information in these non-detectable values, Taylor was able to develop useful maximum likelihood methods for mixed model analyses of complicated and commonly encountered longitudinal occupational health data sets. His research also demonstrated that the typical treatment of non-detectable values (e.g., assigning such measurements some fixed value at or below the detection limit) can lead to biased statistical inferences.

Dr. Taylor already has one first-authored paper emanating from his dissertation research that has appeared in *Biometrics* (2001, Vol. 57, 681-688), and he has another first-authored paper that will appear in *Statistics in Medicine*. Taylor has recently begun work as Associate Director of Biostatistics at Family Health International in Research Triangle Park.

Kistner Receives Departmental Award and NIEHS Award

Emily Kistner won the 2001-02 Max Halperin Award last spring, and has since been awarded a Technical Intramural Research Training Award (IRTA) by the National Institute of Environmental Health Sciences. The Technical IRTA is a two-year traineeship allowing Kistner to work under the direction of Dr. Clarice Weinberg, who will advise Kistner on her dissertation research in the area of statistical genetics. This traineeship delivers a stipend and is not a regular government appointment. The NIH describes the purpose of a technical IRTA: "to produce a cadre of highly trained research support professionals capable of performing the latest advanced techniques... by developing the trainees' skills in the conduct of basic and applied research."

Kistner was awarded the Max Halperin Award by the Department of Biostatistics during the annual awards ceremony at the Foard Lecture. The Halperin Award, which provides a \$2,000 stipend, is designed to encourage the development of young biostatisticians. Kistner's nominators spoke of her strong interest in the field of biostatistics and her consistently high standard of achievement in all of her biostatistical activities. She has an excellent academic record in both theoretical and applied biostatistical courses. She holds a BSPH and a MS degree from the School of Public Health Department of Biostatistics, and she was a predoctoral trainee on Dr. Lawrence Kupper's training grant in environmental biostatistics before beginning her PhD dissertation.

The Halperin award is named in honor of Dr. Max Halperin, who was a graduate of the UNC-CH Department of Statistics. Dr. Halperin spent his entire professional career at the National Institutes of Health and at George Washington University. He had a close working relationship with several Carolina biostatistics faculty members, and



spent a sabbatical here from 1979-80. Dr. Halperin was known for his intellectual fervor and for his interest in working with students and young faculty.