Humans have been modifying the environment through processes associated with industrialization, population growth, and urbanization. One of the most important outcomes of these activities has been increased emissions of carbon dioxide (CO2) resulting from fossil fuel burning as well as deforestation.

Anthropogenic emissions of CO2 and other gases such as methane are important due to the greenhouse effect. The earth absorbs energy from the sun. Through complicated processes, some energy reaching us from the sun is trapped by constituents of the atmosphere, chiefly water vapor, but also CO2 and others, leading to a warming of the surface and lower atmosphere. This greenhouse effect is a good thing, at least for us. Without it, the environment would be far colder. However, the extra emissions we are putting into the atmosphere create an enhanced greenhouse effect, leading to unnatural global warming. Global warming in combination with other anthropogenic effects may lead to very complex changes to our climate.

In 1988, the World Meteorological Organization and the United Nations Environment Program organized an international panel of scientists to consider climate change. This led to the establishment of the Intergovernmental Panel on Climate Change (IPCC). This large and influential organization recently shared the Nobel Peace Prize with Al Gore.

The latest IPCC report states: “Warming of the climate system is unequivocal” and that it is “very likely” caused by human activities (IPCC’s use of the phrase “very likely” corresponds to a probability of at least 0.90). Beyond IPCC, there is a consensus among many scientists and politicians, as evidenced by both candidates in the most recent U.S. Presidential race, and the public that our climate is changing as a result of human activities.

The case for anthropogenic climate change involves three points: (1) climate is changing; (2) human activities have led to increases in CO2 and other greenhouse gases, other pollutants, and created a variety of other changes such as in land-use, agricultural practice, and deforestation, and (3) there are scientific arguments and large-scale computer models suggesting climate change due to anthropogenic inputs. No one of these points stands alone as a compelling argument. Scientific analyses of climate change require a quantitative integration of observations and modeling, and assessments of uncertainty.

The graph shown here presents a summary of the arguments offered by IPCC. This one result is not the basis for the sweeping claims made by IPCC; it is merely emblematic of the weight of evidence so many of us find compelling.

The figure plots time series corresponding to global averaged surface temperatures. Three primary series are plotted: (i) observed temperatures, (ii) temperatures summarizing the results of various climate system models computed using variations in natural forcings on the climate (e.g., solar energy) and (iii) models using those natural forcings in combination with anthropogenic inputs such as greenhouse gases and aerosols (particulate matter). Note that plots of the latter two series also include some indications of spread or uncertainty. Uncertainties are also present in the observations, though they are judged to be much smaller than those depicted for the model output. The key point is that though the models reasonably represent the observations in the early portion of the time period, model results using natural forcings alone fail to predict rising temperatures indicated by the latter portion of the observations. By including anthropogenic as well as natural forcings, the models suggest warming patterns that match the observations.

The story is far from complete. Today, scientists, policy makers in both the public and private sectors, and the public are concerned about the impacts of climate change and their remediation. The role for statisticians in these efforts is crucial. Efficient decisions and policies require more than statements that climate change is real. They require quantitative predictions of impacts and measures of associated uncertainties.

Editor’s Note: Mark Berliner has been an active contributor to the Nobel Prize winning efforts of the IPCC.
Letter from the Chair

The relative calm of the previous year erupted into a full-blown upheaval this past year. We spent a good deal of our time preparing numerous program review and strategic planning documents for our College and the Office of Academic Affairs. One of the consequences of the discussions that followed is that the College of Mathematical Sciences (MAPS) and the College of Biological Sciences have been merged into a single College of Biological and Mathematical Sciences (BMAPS). We will be spending much of the coming year understanding and adjusting to the many implications of this merger, including an entirely new college administration.

On another surprise front, with this consolidation of our activities the Statistics Department Express did not stop long enough for me to get off as was anticipated at this time last year. As a result it looks like everyone will have to put up with me for another term — or at least for another year. I am happy to do it because of the frequent faculty and graduate student travel to conferences. The Pending Endowment Fund is designated as a fund that will, once it is fully endowed, provide annual income that can be used to support such travel in years to come. These two funds were initiated last year by a very generous gift to the Department by Dr. Gary Koch, who received his undergraduate and Masters degrees in Industrial Engineering from Ohio State before moving on to his Ph.D. degree in Statistics from the University of North Carolina. Gary established the two funds with an initial contribution of $15,000 to the Pending Endowment Fund #8490697 and an initial contribution of $6,000 to the Current Use Fund #8321483. The Current Use Fund has already provided funds this year to support our graduate students’ travel to the 2008 JSM in Denver and major professional conferences to give talks and poster sessions about their research. In addition to his initial gifts to establish these two Funds, Gary has also pledged to match contributions from other alumni and friends (all of you) up to $15,000 in each of the years 2008 and 2009. If we are able to meet his generous challenge of these matching amounts in 2008 and 2009, the Pending Endowment Fund will be fully endowed, at which time the interest from it will also be available to support graduate student travel to conferences. I am pleased to say that we have already met over half of the $15,000 in matching contributions for 2008 and I want to say a special thank you to each of you who has helped reach this stage of our goal. That leaves us with $7,000 that still needs to be raised to meet our full matching potential of $15,000 this year. I encourage those of you who have not yet given to consider making a gift this year (2008), we will be halfway there for the full endowment of the Fund. A second year of giving to the Fund at the same level as this year’s gift would enable us to fully endow the Fund by the end of 2009 and I encourage all of you to consider making a gift this year (2008). I am happy to do this option for calendar year 2009 as well. Having a fully endowed Fund will support graduate student travel will be an important (and much appreciated) asset for our graduate program in the years to come.

Update on Space—Continued Good News!

Progress continues to be made on the renovation of Cockins Hall, as work on replacing our failed roof is formally under way. We look forward to its completion so we can turn our attention to improving and expanding the interior for our faculty and students.

We also are very pleased that for the first time in the history of our Department we have sufficient space for all of our graduate students! Combining the space from the two former classes mentioned in last year’s Newsletter with some space on the fourth floor of the Mathematics Building, we have been able to provide all of our graduate students with office space in Cockins Hall or the adjoining fourth floor of the Mathematics Building. We very much appreciate the cooperation of the Mathematics Department in helping make this happen.

Responding to overwhelming sentiment that I limit my poetry this year, I will yield only to a short epitaph for the Chicago Cubs from a St. Louis Cardinal.

The money flew out and the players came in.
The Cubsbies clearly wanted to win; All season long, They were quite strong; Better than they’d ever been. But, alas, they struck out; Got swept in a rout; And the Cubsbies must wait yet again. (Read that: Maybe next century?)

New Initiative—Gary Koch Family & Friends Graduate Student Travel Funds

We are pleased to announce the formation of the Gary Koch Family & Friends Graduate Student Travel Pending Endowment and Current Use Funds to support graduate student travel to conferences. We will present our research at professional meetings. The Current Use Fund is a source that can be used immediately by the Department to support current student travel to conferences. The Pending Endowment Fund is designated as a fund that will, once it is fully endowed, provide annual income that can be used to support such travel in years to come. These two funds were initiated last year by a very generous gift to the Department by Dr. Gary Koch, who received his undergraduate and Masters degrees in Industrial Engineering from Ohio State before moving on to his Ph.D. degree in Statistics from the University of North Carolina. Gary established the two funds with an initial contribution of $15,000 to the Pending Endowment Fund #8490697 and an initial contribution of $6,000 to the Current Use Fund #8321483. The Current Use Fund has already provided funds this year to support our graduate students’ travel to the 2008 JSM in Denver and major professional conferences to give talks and poster sessions about their research.

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New Initiative—Nationwide Center for Advanced Customer Insights

Jason Hsu and Joe Verducci are taking sabbatical leave during the 2008-2009 academic year. Jason is working with worldwide collaborators to compile and publish a state of the art set of core biostatistics methodologies for optimal pharmaceutical drug development. This effort involves researchers from both the pharmaceutical industry and academia. Jason will provide the lead in developing and delivering the statistical content, while others in industry and academia will concern themselves with the outreach to ensure that the resources are necessary for successful implementation of these statistical guidelines. Jason will spend a portion of his leave in China working with the pharmacy committee charged with establishing the infrastructure and operating rules for China’s growing pharmaceutical industry and clinical trial research programs.

Joe will spend his sabbatical at the newly created Mathematics Applications Consortium for Science and Industry (MACSI) headquartered at the University of Limerick in Ireland. He will be conducting interdisciplinary research with scientists in the pharmaceutical industry on the development of methodology for assessment of procedures that are useful in the discovery of new drug compounds. Joe has also received a prestigious Fulbright Fellowship Award to help support this collaborative research program.

Congratulations to Jason and Joe on their exciting sabbatical research opportunities and to Joe on the extremely competitive Fulbright Fellowship Award!

Personnel Changes—Steady as She Goes

This was another relatively quiet year with regard to personnel changes in the Department. Ryan Hayes left our statistical support group last year. Ryan had a love for his favorite pastime—mountain skiing. (He apparently was not satisfied with the extensive skiing opportunities available here in Ohio.) We thank Ryan for the tremendous help he provided our Department, particularly with regard to support of our undergraduate statistics education program, and we wish him the best of the west, including no broken bones or squandered paychecks in Lake Tahoe. After some delay we were given permission to hire a replacement for Ryan and I am pleased to welcome Mark Fojas as the very able replacement here in Ohio. We also have been able to move our Statistical Consulting Service. It didn’t take long, however, for Tom to become involved in another major project of significant benefit to the University, in general, and to our Department, in particular. He led the effort to form a new partnership with Nationwide Insurance to establish the Nationwide Center for Advanced Customer Insights. The Center is fully funded by Nationwide and managed by Ohio State. It employs faculty members and graduate students from the Marketing, Statistics, Psychology, Economics, and Computer Science Departments to develop new analytical methodologies that help solve important marketing problems. (For more details about this exciting new initiative, see a separate article elsewhere in this Newsletter.)

Department of Statistics

Volume 16, 2008

The Ohio State University

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Decisions, Decisions, Decisions, ...
by Angela Dean and Steve MacEachern

How do we make decisions? Decision making underlies all of our daily activities, from deciding how much time to spend surfing the net, to deciding the optimal route from home to work, to deciding what to eat from a freezer full of melting food (most of us chose to eat the ice cream and other goodies during the week-long power outage in Columbus). An interdisciplinary team from the departments of Statistics, Psychology, and Marketing has been taking a rigorous look at how we make decisions and how we can improve our decision making. This group, affectionately known as SPAM (with a psylent P for the Psychologists), meets every week for lively and entertaining seminars and discussions.

Highlights of the SPAM seminars have included film clips of frenzied shoppers attempting to fill their carts (yes, plural!) with as much as they could grab in one minute, swarms of bees trying to decide on a new home, and a virtual supermarket for online purchase decisions. The frenzied shopper provides insight into instantaneous decision making under extreme conditions; the swarm of bees gives us a parallel to the firing of neurons in the brain while making a decision; the virtual supermarket allows us to capture the effect of product displays on consumer purchase behavior. Of course, the seminars did include more traditional academic content, with students and faculty members presenting seminars and discussions.

Many and varied research projects are underway. Here is a sample of four of them.

The level effect is a well-documented phenomenon in Psychology and Marketing. It occurs when a consumer evaluation of extreme levels of a product attribute, such as credit card interest rate, is influenced by the number of intermediate levels that are evaluated by the same consumer. Qing Liu, along with Angela Dean and Greg Allenby, has developed a means of modeling the level effect which allows one to boldly extrapolate into new choice settings where no consumer has gone before. Qing is continuing to study consumer behavior and is currently an Assistant Professor in the Marketing Department at the University of Wisconsin, Madison.

Item response theory provides the foundation for many exams, from the GRE for admittance to graduate school to professional licensing examinations. Traditionally, the models have been strongly parametric, assuming that the distribution of abilities in a population is normal, and positing extremely restrictive model forms relating ability to exam performance. Longjuan Liang and Michael Browne have created a means of removing many of these restrictions while retaining the most desirable properties of the models, such as monotonicity of the distribution of scores in ability. Longjuan and her models currently reside in New Jersey where she has taken employment at the Educational Testing Service.

Horse racing is an ancient pastime where the winning horse is the first to pass the finish line. Psychologists, notably Trish Van Zandt, have used this as an analogy to model the process of accumulation of evidence in favor of potential choices. Each potential choice plays the role of a horse in the race, and the accumulated evidence is the distance covered by the horse. When there is enough evidence in favor of a potential choice, the choice has “reached the finish line”, and the race ends. Shiling Ruan, along with Angela Dean, Steve MacEachern, and Thomas Otter, has expanded the horse-race model to allow for dependence amongst the choices. Shiling chose to work for the Food and Drug Administration (FDA) in Maryland, where she now lives after a lengthy journey through the states of Washington and California.

The cornerstone of Bayesian statistics is the ability to perform an internally consistent analysis that incorporates prior information. The drawback is that, with strict adherence to Bayesian principles, there is no scope for exploratory data analysis, model creation or refinement. Qingzhao Yu, along with Mario Peruggia and Steve MacEachern, has developed a method whereby several decision makers independently and freely analyze a piece of the data set and report their posterior distributions. The posterior distributions then become prior distributions for the unexplored portion of the data, and these prior distributions are updated and combined, through a Bayesian synthesis, to yield a single overall inference.

Qingzhao, whose goal is to guarantee employment for an inordinate number of statisticians, is currently an Assistant Professor at Louisiana State University in New Orleans.

The Statistics Department is home to many of the participants, both faculty and students, in the SPAM research group. New participants are always welcome. Look for Greg Allenby, Michael Browne, Peter Craigmile, Angela Dean, Chris Hans, Radu Herbei, Elly Kaizar, Steve MacEachern, Mario Peruggia, Trish Van Zandt, and Xinyi Xu, among the faculty. (Who didn’t make it into the photo?) Look for Hang Joon Kim, Pingbo Lu, Michael Sonsken, Fangfang Sun, and Ruoxi Xu among the students who were there for the photo.

So, how do we make decisions? Well, the SPAM seminar is going strong, and we’re working on a host of interesting applications together with the underlying theory, and will be for years to come.

Statistics Takes a Lead Role in the New Nationwide Center for Advanced Customer Insights
by Tom Bishop

Nationwide and The Ohio State University have entered into a partnership and have established the Nationwide Center for Advanced Customer Insights. The Center will conduct marketing research and develop customer insights using state-of-the-art predictive analytics, data mining and advanced analytical techniques that improve Nationwide’s understanding of customer behavior and consumer purchasing patterns.

The Center will manage tactical projects involving the application of existing theory and methodologies to solve specific marketing problems. It will also manage projects requiring seminal research by OSU faculty members and graduate students to develop new analytical methodologies. The Center will offer OSU faculty members and graduate students direct access to Nationwide customer and marketing data. Nationwide has agreed to grant OSU researchers the right to publish the research results subject to coding the data to protect confidential information. Our faculty and students will work directly with Nationwide marketing executives and marketing staff to solve marketing problems important to Nationwide.

The Center is fully funded by Nationwide and managed by Ohio State. The Center will employ the best OSU faculty members, staff and graduate students from across the University, including faculty and students from the Statistics, Marketing, Psychology, Economics and Computer Science Departments. The Department of Statistics is actively involved in the Center. The Department of Statistics is actively involved in the Center. Dr. Tom Bishop is the new Director for the Center. Juhee Lee, a graduate student in the Department of Statistics, is working for the Center as a research assistant, and Dr. Chris Holloman, the director of the Statistical Consulting Service, is providing research support to the Center.

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So, how do we make decisions? Well, the SPAM seminar is going strong, and we’re working on a host of interesting applications together with the underlying theory, and will be for years to come.
Soma Roy

One of my favorite childhood games is now my profession. I graduated in August 2008 from The Ohio State University’s Department of Statistics with a Ph.D., and now I teach at California Polytechnic University in the very gorgeous city of San Luis Obispo, California. Perhaps surprisingly, how I could I pretend that the living room was a classroom, the furniture was students, and much to the dismay of my mother, that the door was shut between the hours of 9 AM and 5 PM. Thankfully, this day has been great. I have had my share of successes and failures, and I feel like I am a better person because of it all. I started OSU in the summer of 2003. It was the first time that I had ended up double majoring in mathematics and political science at Marshall University in Huntington, WV. It was not until my first statistics course that I was able to tie the two fields together. By my junior year, I had decided that I wanted to be a survey statistician. I started researching graduate schools the summer before entrants to graduate school that I wanted to obtain a master’s degree that was focused on applications of statistics and, I knew that I wanted to study survey methodology. I found that OSU offered me both of these opportunities within the Master’s of Applied Statistics program. I applied to the program in the fall and received word the following spring that I had been accepted.

I had nothing but positive experiences during my two years at Ohio State. I was shocked to find that at such a large university, the statistics department offered a very personable atmosphere to everyone that I talked to. The professors always showed a passion for the subject and a willingness to go above and beyond to help us learn. Since I was fortunate enough to receive the Graduate Fellowship, I was able to focus 100 percent on my coursework and take several extra electives my first year. I was able to take a variety of both theoretical and applied courses which gave me both a deeper knowledge of the theoretical underpinnings of statistics and the skills to apply a variety of statistical tools. In addition to my statistics courses, I took coursework in computer science and Marketing departments in order to receive a Graduate Interdisciplinary Specialization (GIS) in Survey Research. In the midst of all of this, I managed to find time to get married between my first and second years! My second year was a bit more difficult, being a TA was the best kind of training for the job. I started out as a recitation instructor for Statistics 143, working with Dr. Jackie Miller. Even though the first quarter was hard, I learnt a lot about teaching Statistics, and teaching in general. Of course, the Statistics 603 Teaching Statistics course was designed to receive training in teaching Statistics. I must mention at this point that choosing to accept the Early Start option was one of the smarter choices I have ever made. It was the right applied course in my field, but also very helpful in making the transition into graduate school. Returning to what I was saying about my TA experiences, although it may sound silly, I have to admit that I loved the graduate students. You had to grade exams, but doing it with the rest of the gang was fun, especially when you get free pizza for it.

I am very fortunate to have the opportunity to work with Dr. Stasny on at least two research projects. She is, honestly, one of the most encouraging people I have met in my entire life. Even though she likes to dabble in crime, my projects with her were mostly about weight issues. Of course, I also got to work with Dr. Bill Notz - another really great teacher and person, and my first supervisor. There have been so many for a better adviser sooner. After I passed my second qualifier, I was looking around for a problem to work on for my dissertation. I started attending the Computer Experiments Journal Club, and soon after signed up for reading hours with Dr. Notz. Thus began the journey towards my thesis – which is about sequential designs for computer experiments.

Even though I know that I will always admire OSU Statistics is the easy rapport between the faculty and the students. It was always easy to go up to any professor and ask for guidance without feeling threatened. The learning experience on which I would stop by Dr. Mike Fligner’s or Dr. Miller’s office to just vent or talk, I could write an entire essay series (the kind with a beginning and an end) about my time spent at OSU, but I am going to try and cut it short.

Thanks to my training at OSU Statistics, I have just the kind of job that I wanted, and I have the journey from those days to what it is that being in school is all about. Even though the department here at Cal Poly is magnificent, OSU Statistics will always have a special place in my memories and my heart.

Yonggang Yao

I joined the Statistics PhD program at OSU in the summer of 2003. While applying for the program, I obtained my electrical engineering BS and MS in 1992 and 1996 respectively, and I received my BS in 1991. All of them were offered by Wuhan University, one of the most beautiful universities in China. After graduating from Wuhan University. I found that OSU offered me both of these opportunities within the Master’s of Applied Statistics program. I applied to the program in the fall and received word the following spring that I had been accepted.

The five years that I spent in OSU Statistics were all amazing. I had some incredible opportunities as a Teaching Assistant (TA). Since in America, some people think of Statistics as a business course, the professors always showed a passion for the subject and a willingness to go above and beyond to help us learn. Of course, the Statistics 603 Teaching Statistics course was designed to receive training in teaching Statistics. I must mention at this point that choosing to accept the Early Start option was one of the smarter choices I have ever made. It was the right applied course in my field, but also very helpful in making the transition into graduate school. Returning to what I was saying about my TA experiences, although it may sound silly, I have to admit that I loved the graduate students. You had to grade exams, but doing it with the rest of the gang was fun, especially when you get free pizza for it.

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In Memoriam -- Ransom Whitney
by Tom Wilkie

D. Ransom Whitney, founder of our Department of Statistics and best known for his Mann-Whitney U Statistic, died on August 16, 2007 at the age of 92. Professor Whitney held a BA from Oberlin College, an MA in Mathematics from Princeton University, and a PhD in Mathematics from the Ohio State University. After graduating from Princeton he began his teaching career at Mary Washington College and then joined the U.S. Navy, serving from 1942 to 1946. While in the Navy he taught celestial navigation at Princeton, trained at Bell Labs, and served on the USS Atlanta in the Pacific.

Upon discharge from the Navy he came to OSU, received his PhD in 1946, and immediately joined the Mathematics faculty. There he established a working relationship with Professor H. B. Mann, and together in 1947 they published their world-famous paper introducing the Mann-Whitney U Statistic. It soon became the most widely used non-parametric statistic for two-sample tests.

While in the Mathematics Department, Professor Whitney served as Acting Chairman during a difficult time for that department, and he was instrumental in causing the university to turn the fortunes of that department around. At that time he also led the planning committee for the "new" math building. By the time it opened, Whitney had gathered together a critical mass of faculty members in mathematical statistics, and they had established a full range of statistics courses as well as a graduate degree program. The group then separated from Mathematics to form a Division and later a Department of Statistics.

Professor Whitney served as Chair of Statistics for the first eight years of the department, and he was instrumental in the establishment of the Statistics Laboratory to provide consultation and assistance to faculty and students. As a result the students have done very well in both the corporate and university job market. It is notable that Professor Whitney did this while he taught a full-time load, proposed and taught over a dozen new courses, served on many committees at all levels of the university.

Professor Whitney served as a consultant to a number of corporations, especially testifying as an expert witness in utility rate cases. He was author or coauthor of three textbooks in mathematics and statistics.

In the mid-fifties Professor Whitney and Mathematics Professors Roy Reeves and Leslie Miller founded the Numerical Computation Lab. That laboratory was theprecursor of the Academic Computing Center, which Roy Reeves went on to head for many years. Professor Whitney was a member of several mathematical and statistical societies. In particular he was named a fellow in the American Statistical Association and the American Association for the Advancement of Science.

Professor Whitney left a legacy in the wider university community in several ways. He served as President of the Faculty Club, started the Tertulian breakfasts and the original Lunch Bunch.

These, and many of his other activities, were in keeping with his deeply held belief that the role of university professor extended beyond the boundary of the department or college, and the way to have good things happen was to promote collegiality across the university and beyond the formal level by informal associations. In later years he was one of the founders of OSURA, the retirement association for university faculty and staff, and he served as its first president. He and several others created it from nothing to become an active organization with about 2800 members today. In 1982 Professor Whitney retired and was given the University Distinguished Service Award. He remained president. He and several others created it from nothing to become an active organization with about 2800 members today.

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POWERS TEACHING AWARDS

The Thomas and Jean Powers Teaching Awards are presented each year in two categories to (1) the best TAs teaching either recitations or lectures, and (2) an outstanding professor in the Department. These awards were instituted in 1986 through a generous gift to the Statistics Development Fund by Tom and Jean Powers. The Department is lucky to have a large number of excellent Graduate Teaching Associates. The selection of the best TAs is never an easy task, and there are always a number of extremely good teachers who are runners-up for the award. In 2007-08, the awards for best TA were presented to John Draper, Soma Roy, and Josh Svensson. The faculty award was presented to Professor Doug Wolfe.

WHITNEY AWARDS

In 1992, Professor Emeritus Ransom Whitney and his wife Marian Whitney made a generous gift to the Statistics Department, and to institute several awards for graduate students. In 2007-08, the winner of the first best consultant award in the Statistical Consulting Service was Chris Sroka. The award for the best research associate was given to Nader Gemayel. The award for best research leading to the Ph.D. was awarded to Yonggang Yao and Jie Ding. We congratulate these students and thank them for their hard work.

CRAG COOLEY MEMORIAL PRIZE

The Craig Cooley Memorial Prize for 2007-08 was awarded to Soma Roy. Each year this award is presented to a graduate student in the department demonstrating exceptionally scholarly excellence and leadership qualities. Craig embodied these two qualities throughout his graduate career. Tragically, he was killed just before receiving his Ph.D. in 1996. To honor his memory the department created the Craig Cooley Memorial Prize.

UNIVERSITY AND COLLEGE FELLOWSHIPS

For 2007-08, single-year University Fellowships were awarded to Jason Gordon from The Ohio State University, Shawn Graves from Kentucky State University, Ted Yang from The Ohio State University, and Dunke Zhou from Zhejiang University. A three-year Susan Harvey Stogdon Dean’s Distinguished University Fellowship was awarded to Elizabeth Fry from Valparaiso University.

Departmental Awards -- Congratulations to Our Award Winners!

Battelle Fellowship

Two awards in the amount of $2,500 each were provided by Battelle. The 2007-08 recipients were Stephen Bamattre from California Polytechnic State University, San Luis Obispo and Alice Kemme from Xavier University.

Capital One Fellowship

An award in the amount of $3,000 was provided by Capital One. The 2007-08 recipient was David Spade from West Liberty State College.

Lubrizol Foundation Fellowship

An award in the amount of $3,000 was provided by the Lubrizol Foundation. The 2007-08 recipient was Elizabeth Fry from Valparaiso University.

Merkle Fellowship

An award in the amount of $1,500 was provided by Merkle. The 2007-08 recipient was Dioneis Kalos from University of South Florida.

We appreciate the support from Battelle, Capital One, Lubrizol, and Merkle.

Chair's Fellowships

Chair’s Fellowships, provided through the Department, are able to offer special recruitment Fellowships to some of the very best new applicants to our graduate programs. These Fellowships are funded through the generous support of sponsoring industrial organizations, for which the Department is always grateful. The sponsoring organizations, their Fellowship stipend amounts and the 2007-08 student recipients are as follows:

Chris Sroka receiving the Whitney Best Consultant award from Bill Notz.

Craig Cooley Memorial Prize:

Bill Notz presents Soma Roy with the Craig Cooley Memorial Prize.
This Year’s Ph.D. Graduates

We are proud to have another excellent group of Statistics and Biostatistics Ph.D. graduates this year. Below are the titles of these graduates’ dissertations and the positions they have accepted:

Ph.D. in Biostatistics:

- **Jie Ding** – "Monte Carlo Pedigree Disease-Linkage Test with Missing Data and Population Structure", Post-Doctoral Fellow, Division of Oncology Biostatistics, Medical School, Johns Hopkins University.
- **Xue Liang (Jeff) Pan** – "Using Structural Information in Modeling and Multiple Alignments for Phylogenetics", Biostatistical Scientist, OSU Center for Biostatistics.

Ph.D. in Statistics:

- **Arun Kumar** – "Sequential Calibration of Computer Models", Post-Doctoral Fellow, Biostatistics Department, University of Rochester.
- **Chen Quin (Eric) Lam** – "Sequential Designs in Computer Experiments for Response Surface Model Fit", Senior Assistant Director, Singapore Department of Statistics, Ministry of Trade and Industry.
- **Lixin Lang** – "Advancing Sequential Monte Carlo for Model Checking, Prior Smoothing, and Application in Engineering and Science", Senior Research Biostatistician, Bristol Myers Squibb.
- **Rajib Paul** – "Theoretical and Algorithmic Developments in Markov-Chain Monte Carlo", Assistant Professor, Department of Statistics, University of Western Michigan.
- **Namhee Kim** – "The effect of L-dopa on fMRI language processing" was selected by the Cognitive Neuroscience Society for presentation at the Graduate Student Presents Forum of the CNS in Seattle in April, 2008. Namhee also received travel support to attend the conference.
- **Eric Lam** won a prestigious IMS Laha Travel Award to attend the 2008 World Congress/IMS Annual Meeting in Singapore, July 14-19, 2008. Eric was recognized and honored at the Presidential Address during the meeting.

Some of the awards won by our students for their research this year include:

- **Liang Liu** won the Publish Award for Excellence in Systematic Research. The award is given to the two best papers based on student research in the journal Systematic Biology.
- **Jingyuan Yang** was also selected as one of just eight students to present her research in the first BGSU/OSU Graduate Student Poster Session at the Joint Statistics Meetings.
- **Lori Hoffman, Lei (Emily) Kang, and Shijin Wu** (an external MAS student whose home department is History) were selected to participate in the 2008 OSU Edward Hayes Graduate Research Forum competition. Lori’s talk was on, “A Probabilistic Look at Recombination under the Coalescent”; Emily spoke on, “Statistical Analysis of Small-Area Data Based on Independent, Spatial, Non-Hierarchical, and Hierarchical Models”, and Shijin’s talk was titled, “Organizational Capability, Entrepreneurship, and Environment: Chinese Multinationals 1912-1949”.

A number of our students won awards to present their research at conferences across the country and the world:

- **Nader Gemayel** won a travel grant to present her research at the FDA/DIA Statistics workshop on April 13, 2008. She was the only student speaker at the conference.
- **Yi Liu** was also selected as one of just eight students, five from OSU and three from Bowling Green, to present her research in the first BGSU/OSU Graduate Student Conference on Population. Yi’s paper, “Adjusting for Missing Covariates using the EM Algorithm for Logistic Regression Models: A Study of the Effect of Childhood at Risk of Overweight on the Age of Menarche” was based on her NIH-funded research conducted under the guidance of Prof. Pam Saltzbruy (Nursing), Pat Reagan (Economics), and Elizabeth Stasny.
- **Hyejung Moon** won a travel grant to present her paper, “Two-Stage Group Screening for Computer Experiments” in the 2008 Spring Research Conference.
- **Yonggang Yao** was selected to receive a travel award to the workshop on “Future Directions in High-Dimensional Data Analysis” which was held at The Isaac Newton Institute for Mathematical Sciences at Cambridge, U.K. in June 2008.

Internships

Once again our graduate students found a variety of exciting summer (and other quarter) internships this year.

- **John Draper** spent his summer at Battelle as an intern working on image and discriminant analysis.
- **Vandna Pruthi** worked at McGraw-Hill Companies in their Research Department. She conducted data analysis of surveys to evaluate McGraw-Hill math and science products and programs.
- **Kelly Schlessman** was a summer intern in the Statistical Sciences Department of the Lubrizol Corporation in Wickliffe, OH.
- **Brian Schnitker** worked as a data analyst at ITT Industries in the aerospace division. The group he was part of designs and engineers instruments utilized on weather satellites. The instrument that he worked with is scheduled for launch in 2010.
- **Jingyuan (Summer) Yang** enjoyed her internship in the late stage statistics group in the Biostatistics And Research Decision Sciences (BARDs) department within Merck Research Laboratories.
- **Lili Zhang** traveled to Australia for her summer (Australian winter) internship in the Division of Mathematical and Information Sciences at CSIRO. She worked on “Statistical Models for Investigating Spatio-Temporal Variations in Water Quality Across Water Stores in South East Queensland”.
- **First-year student Dunke Zhou gets into the swing of things at the Department’s Spring Picnic.”**
Graduate Student Corner (continued)

Student Presentations at the 2008 JSM
The Department was represented at the Joint Statistical Meetings in Denver this summer by 14 of our graduate students. Thanks to all the presenters for helping us show what impressive students we have. The students and their topics are listed below:

Candace Berrett (Invited Panel member): “Training TAs To Teach in Graduate School and Beyond”
Nader M. Gemayel, joint with D. Wolfe and E. Stasny: “Sequential Unbalanced Ranked Set Sampling”
Gang Han, joint with T. Santner: “Simultaneous Determination of Calibration and Tuning Parameter”
Lei (Emily) Kang, joint with N. Cressie: “Space-Time Random-Effects Models”
Namhee Kim, joint with P. Goel and D. Beversdorf: “The Use of Singular Value Decomposition and Infrared Spectroscopy To Study Protein Composition and Infrared Spectroscopy”
Rajib Paul: “Reproducibility of Classification Rules Based on a Bootstrap Resampling Approach”
Chin-Yuan Liang: “The Use of Singular Value Decomposition and Infrared Spectroscopy To Study Protein Composition and Infrared Spectroscopy”
Hyjeung Moon, joint with T. Santner and A. Dean: “Two-Stage Group Screening for Computer Experiments”
Taylor Pressler: “The Use of Singular Value Decomposition and Infrared Spectroscopy To Study Protein Composition and Infrared Spectroscopy”
Yonggang Yao, joint with Y. Lee: “Functional Component Pursuit for Small N, Large P Data”

Li Yu, joint with J. Verducci: “The Tau-Path Test for Detecting Subpopulation Association”

We note that many of the students who traveled to present their research this year were supported in part by funds from the new Gary Koch Student Travel Award Fund. Dr. Koch wrote the following about his reasons for helping to establish this fund in our department:

The travel awards are very important because they enable graduate students to participate in enlightening environments that can substantially strengthen their education and professional development. When I was a graduate student, attending statistical conferences and presenting contributed papers for emerging categorical data methodology was an invaluable professional experience. Enhancing ways in which current graduate students can have such energizing experiences is a vital priority for me.

Best regards,
Gary Koch

Alumni News
Effective May 9, 2008, Dave Cameron (MAS 1987) was promoted to Vice President, Statistical Methodology, at A. C. Nielsen.
Amy Perketich (MAS 2001) has been working within the Statistics and Information Analysis product line at Battelle Memorial Institute for over three years now. He writes, “My time is largely spent on projects associated with the Battelle Biomedical Research Center (BBRC), the EPA Office of Water, and internal research and development. Much of the work associated with the BBRC has been centered on the development of a therapeutic model for exposure to anthrax.”
Shiling Ruan (Ph.D. 2007) has taken a position as customer insights analyst for Alliance Data here in Columbus. She joins Adam Dallas (MAS student) who started at the company about a month earlier.
Bryan Ray (MAS 2005) has been working within the Statistics and Information Analysis product line at Battelle Memorial Institute for over three years now. He writes, “My time is largely spent on projects associated with the Battelle Biomedical Research Center (BBRC), the EPA Office of Water, and internal research and development. Much of the work associated with the BBRC has been centered on the development of a therapeutic model for exposure to anthrax.”
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Effective May 9, 2008, Dave Cameron (MAS 1987) was promoted to Vice President, Statistical Methodology, at A. C. Nielsen.

Yi-En (MAS 2006) took a position with Battelle for Kids. Battelle for Kids is an educational consulting company mainly focusing on K-12 students’ progress measurement. With the start of the new school year in fall 2008, she began a new job at Olentangy Local Schools. As the in-house statistician, Yi-En is helping the district to interpret and utilize the achievement and growth data for curriculum, scheduling, intervention, and research.

Dan Weston (MAS student) left for Lithuania on August 1, 2007. Dan also recently received his MBA in management from Dallas Baptist University.

Paul Wood (M.S. 1982) joined the University of Pittsburgh Medical Center (UPMC) as Vice President for Public Relations, with responsibility for media relations and internal communications. Paul reports that UPMC is one of the leading nonprofit health systems in the United States, with 48,000 employees. It owns 20 hospitals throughout Pennsylvania as well as clinics and other facilities throughout the U.S., Europe, and the Middle East.

New Dependent Varibles
Kristina (Bleek) Duncan (Ph.D. 2004) and husband Chris welcomed daughter Isla Mary on May 2, 2008 in San Diego. Isla started life out in the right tail of the

Toy stuck on roof.

(What is the probability of getting the stuck toy off the roof by throwing a ball at it? Apparently, it is quite low.)

Having fun at the Department’s Spring Picnic.
Graduate Student Corner (continued)

Graduate student Rui Wang’s son, William Wang, was born on November 29th, 2007. Rui reports, “He brings us a lot of fun, as well as troubles.”

Sincere Thanks to Our Donors

We wish to recognize those alumni, friends, students, staff, and faculty members who have helped the Department financially over the past year. Your donations, no matter the amount, make it possible to continue to attract, train, and reward our excellent graduate students. Many thanks to the following donors:

Craig Cooley Award Fund
Mary Ellen Smirich Frustaci
Brian Wynne

Gary Koch Student Travel Award Fund
Robert Abel
Jun Li
Oajije I. Ajayi
Qamui Li
William Anderson
Xihuiong Li
Ignacio Alarcon
Jiun Lin
Karen Blockson
Xiang Ling
Arthur Rocian
Yi Liu
Meng Chen
Charles Locke
Minxing Chen
Greg Mack
Patricia Borchers Coistello
Ted Miller
Daniel Cotton
Hyejung Moon
Nathan Cruze
Karen Murphy
Cathy Dolsen
Gary Phillips
Doug Dolsen
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Minggao Shi
Meng Fan
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Edward Ovur, Jr.
Tao Wang
Marla and Gary Gross
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Jeff Wright
Gang Han
Brian Wynne
Bill Harper
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Patricia Friedburg Fuller
Neal Alan Wallingford
Lawrence Fulton
Marian Whitney
Walter Hoy
Nina Whitney
John Jacobowitz
Thomas and Geraldine Willke
Margaret Lessmann

Not listed above are the members of the faculty and staff who donated to the Department this year, as that would almost require giving a complete roster of the Department. Those gifts are evidence of the commitment of the faculty and staff to the Department and are also greatly appreciated.

Supporting Current and Future Students

As you can tell from the reports in this newsletter, we have a spectacular group of graduate students in the Department. To continue to attract and support these students is, of course, expensive. For example, the Department matches any travel support that students receive, up to the actual cost of travel. We recognize excellence in teaching, research, consulting, and service by graduate students through annual awards. We pay for outstanding potential students to come visit the Department. We ask you to consider helping to support our current and future students through a contribution to one of the Departmental funds for graduate students:

Craig Cooley Fund #06940-601434
Gary Koch Student Travel Fund #06940-480697
Graduate Fellow Fund #06940-307669
Powers Award Fund #06940-605898
Statistics Support Fund #06940-307699
Whitney Scholarship Fund #06940-607699

This is an excellent way for alumni to give something back to the Department. Your gift, in any amount, is important and appreciated.

Enjoying food and friends at the Department’s Holiday Party

weight distribution at 9 pounds 2 ounces. She keeps herself busy learning and growing.

MAS student Joe Hutchings and his wife welcomed their third son, Zane Thomas Hutchings, at 8:52 a.m. EDT, March 10, 2008. Important data on the new arrival includes: Weight: 8 pounds 8 ounces; Length: 19 and 12/16”; Head circumference: 14”.

Second year Ph.D. student Hang Joon Kim reported the birth of his son on Friday, May 9, 2008. Alex weighed 7 pounds and 15 ounces. Hang notes, “We do not know which parent he resembles, but it is clear that he is tall. Whenever I see his face, I cannot stop smiling. It’s a kind of magic.”

In general, she is quite easy going, but talkative. Neha’s parents are both associate professors in the Mayo Clinic and their third son, Zane Thomas Hutchings, at 8:52 a.m. EDT, March 10, 2008. Important data on the new arrival includes: Weight: 8 pounds 8 ounces; Length: 19 and 12/16”; Head circumference: 14”.

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With great joy and happiness, Yufeng Liu (Ph.D. 2004) and Juan Du (Ph.D. 2006) reported that their second boy, Alex HaoPeng Liu, was born on Wednesday, April 23 at 5:07 p.m. His birth weight was 7 pounds and 9 ounces, and height was 21 inches. Mom, baby, and big brother Andrew are doing great.

Sumithra Mandrekar (Ph.D. 2003) and Jay Mandrekar (MS 1999) became the proud parents of a baby girl on June 8, 2007. Neha (pronounced Nayha) is reportedly very laid back and content, and never cries! In general, she is quite easy going, but talkative. Neha’s parents are both associate professors in the Mayo Clinic College of Medicine, and moving up the ladder.

Fourth year Ph.D. student Shari Modur became the proud parents of a baby girl on June 8, 2007. Rui reports, “He brings us a lot of fun, as well as troubles.”

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Fourth year Ph.D. student Shari Modur became the proud parents of a beautiful baby boy named Siddarth, two weeks earlier than expected on January 23, 2008.

Dale Rhoda (MAS 2006) and wife Kara were thrilled to announce that little Nathaniel Charles Rhoda joined their family on August 16, 2008, and that he’s doing well. Nathaniel was born on August 11, weighed 7.5 pounds, and was 19.5 inches long at birth. He’s a very snugly little guy. He eats well and is happy. We are thrilled to have him be part of our family after many weeks of anticipation.
CONGRATULATIONS TO OUR GRADUATES!!

The following students earned degrees in 2007-08.

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<thead>
<tr>
<th>Master of Applied Statistics</th>
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