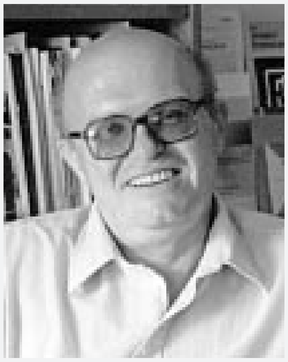
THE OHIO STATE UNIVERSITY

DEPARTMENT *of* STATISTICS

NEWS

Volume 6, 1998

Remembering
Robert Bartoszynski



Robert Bartoszynski

Robert Bartoszynski, Professor in the Department of Statistics at The Ohio State University since 1983, died on January 17, 1998 after suffering complications from diabetes and heart disease. Robert will be remembered by the statistical community as a world class scientist, devoted teacher, advisor, and mentor.

Robert's scientific contributions included fundamental research in the theory of stochastic processes and the probabilistic modeling of biological phenomena. This included important work in the theory of epidemics, prey-predation models, the development of cancer and the metastasis of tumors. The stochastic process he developed for modeling rabies has been extensively studied in the literature and is called "the Bartoszynski Process" in his honor. Robert's contributions were recognized by his peers through his service on the Editorial Boards of several professional journals, and his election as a Fellow of the Institute of Mathematical Statistics and a member of the International Statistical Institute. He was a member of the American Statistical Association, Bernoulli Society and Polish Mathematical Society. In total, he published about 80 scientific articles, books, and book chapters. Most recently, he co-authored a textbook, ``Probability and Statistical Inference," which reflects his philosophy of teaching probability. The preparation of this text was one of the great joys of the last years of his life.

Robert always enjoyed an interesting problem and there were many blackboards in faculty offices and the lounge filled with problems initially posed by Robert.

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Department of Statistics
THE OHIO STATE UNIVERSITY
25th Anniversary

Plan Now to Join Us For the 25th Anniversary Celebration

October 7, 8 and 9, 1999!

On Thursday, October 7 and Friday, October 8, 1999, we will host a two-day conference to celebrate the 25th anniversary of the Department of Statistics at The Ohio State University. We have much to celebrate!

The Department of Statistics formally began as a small graduate program in the 1974-75 academic year. Since that autumn quarter in 1974, the department and graduate program have grown and matured. We are fortunate to have been associated with hundreds of quality faculty and graduate students over the years and we look forward to hosting as many of you as possible for this conference celebration.

The activities on Thursday, October 7, will be devoted explicitly to our Department and its faculty and graduates, while the activities on Friday, October 8, will likely include components of the annual Ohio Statistics Conference. For those of you who might be interested in staying, Saturday, October 9 is the home football game between Ohio State University and Purdue University. We are planning a tailgate party before the game and will let you know of the availability of tickets to attend the game. Tailgaters are welcome at the party — whether you attend the game or not!

The morning of October 7 will be devoted to a plenary session directed toward topics related to broad aspects of the statistics profession. In the afternoon, we intend to offer sessions of contributed/invited papers organized around topical areas. We want these sessions geared toward what is most relevant to you, our alumni. *For this reason, we highly encourage any of you who might be interested in organizing and/or participating in such a session to write directly to Professor H. N. Nagaraja, or to contact him via e-mail at hnn@stat.ohio-state.edu.* More details (housing, registration arrangements and costs, speakers and topics for both days, etc.) will be provided through a specific conference mailing in Autumn Quarter 1998.

It will be wonderful if you are able to join us. We hope that you will mark these October 1999 dates on your calendar and join us in celebrating 25 years of excellence!

25th Anniversary Celebration • October 7, 8 and 9, 1999

Robert Bartoszynski *(continued from page 1)*

He had a style all his own. A multiple choice test he once gave to a class of undergraduate students contained a question which had the following four possible answers: choice A - the answer is 3, choice B - “none of the above”, choice C - “none of the above”, choice D - “none of the above.” What made the problem decidedly Robert’s was that the only correct answer was B. On another exam, he asked if there were any distributions which had the same mean and variance, for which the Poisson seems like the natural answer. Of course, the answer is that there are no distributions with this property since the mean and variance are in different units.

Robert was not interested in the details of administrative matters. So, it was probably inevitable that he would become entangled with the most bureaucratic of agencies — The Immigration and Naturalization Service. One day he had an appointment to finally get things cleared up. He drove up to the district office in Cleveland and looked around town for an hour searching for the address. What made this episode decidedly Robert’s style was that the appointment was in Cincinnati!

Robert was born in Warsaw, Poland, July 9, 1933. He came to the United States in 1958 as a graduate student at the University of California at Berkeley. He obtained his Ph.D. in mathematics from The Institute of Mathematics of the Polish Academy of Sciences in Warsaw, Poland in 1959 where he was employed from 1955 to 1985. He served as Head of the Department of Applied Probability from 1972 to 1985. During his tenure in the Polish Academy of Sciences, he held visiting appointments at Warsaw University, Tulane University, University of California at Berkeley, Sydney University and University of New South Wales, Australia, University of Kentucky, Rice University, Indiana University, University of Florida and Purdue University. In 1983, he became a Professor in the Department of Statistics at The Ohio State University.

Robert is survived by his wife, Sonia, two children, Tomek (a set theorist at Boise State University) and Janina, and a grandchild, Kasia. To those of us who worked with him, we will always remember his sense of humor, gentle manner and his joy in posing and solving problems.

Department of Statistics News
Volume 6, 1998

THE OHIO STATE UNIVERSITY
Department of Statistics
The Ohio State University
1958 Neil Avenue
Columbus, OH 43210-1247

The *Department of Statistics News* is an annual publication of the Department of Statistics at The Ohio State University.

Editor:
Mike Fligner

Academic Enrichment

This year the Department of Statistics received funding for two Academic Enrichment Proposals. The Academic Enrichment Program is a University wide competition for a pool of funds provided by the Office of Academic Affairs. The proposals are initiatives which involve academic program enhancements or are designed to enrich student experiences. The first proposal to receive funding was submitted jointly with the Department of Mathematics for the development of Computer Based Learning and Testing through the Mathematics and Statistics Learning Center (MSLC). The second proposal was for a new initiative in the Modeling and Analysis of Space-Time Phenomenon.

The proposal for the development of Computer Based Learning and Testing through the MSLC addresses a University-wide initiative to enhance the undergraduate educational experience. This past year, **Bill Notz** served on the advisory committee of the new MSLC.

Mathematics and Statistics Learning Center

The Center is supported by Academic Enrichment funds through a proposal submitted in 1997 by the Department of Mathematics. Initially it was designed to provide and coordinate tutoring for undergraduate Math and Statistics courses; provide group study rooms, examination rooms, and rooms for practice teaching; serve as a repository for course information and materials; and assist in TA training.

MSLC had a wildly successful first year. Located on the first floor of Cockins in space formally occupied by the Department of Statistics, rooms are designated by course number to allow students to seek tutoring assistance by class. Last year, hundreds of students sought assistance and were tutored. Their comments indicated they appreciate the help and enjoy the structure of the program. Many students found themselves acting as tutor, giving help as well as receiving it, when they came to the rooms for practice.

Ultimately, the MSLC will provide distance learning services, computer labs for students in Math and Statistics courses, computerized placement exams, computerized tutorial material, lab materials, and teacher resources. It is hoped that the Center will become a national model for the teaching of Mathematics and Statistics. Recently, the Department of Mathematics hired Tony Nance to serve as acting director for next year. Tony received his Ph.D. in Mathematics from Ohio State in June ’97. He is a life-long resident of Columbus except for his time as a student at John Carroll University where he received his B.S. and M.S. He is currently half-time director of the MSLC until September 1st, when it becomes full-time (and the last three hairs on his head fall out, according to Tony).

Welcome *(continued from page 3)*

Ph.D. from the University of Chicago and had a position in San Diego prior to moving to Columbus. We are hopeful that the search for a Director of the Biostatistics Program concludes successfully — and soon. Look for the highlight of the activities of the Biostatistics Program elsewhere in the Newsletter.

Our seminar series this year featured a large number of talks about the emerging area of Statistical Genetics. The featured speaker for the annual Chhotey Lal and Mohra Devi Rustagi Lecture was Professor Terry Speed from the University of California at Berkeley who spoke on *Probability, Statistics, and Meiosis*. Genetics was also the 1998 theme for the joint annual mini-symposium with the Cleveland Clinic and the Case Western Reserve University.

The Department thanks its industrial relations committee: Bob Ahlbrandt, Hoeschst Marion Roussell, Tony Lachenbruch, Food and Drug Administration, Dan Meyer, Pfizer Corporation, Elizabeth Margosches, Environmental Protection Agency, Randy Potter, Lucent Technologies, and Tommy Wright, U.S. Bureau of the Census. This group met in November and gave us valuable advice about revising the content of our Applied Master's Degree program and improving minority recruitment and retention.

Look for several new efforts on the pedagogy front by OSU faculty. A CD version of the EESEE project (*Electronic Encyclopedia of Statistical Examples and Exercises* developed by Bill Notz, Dennis Pearl, and Elizabeth Stasny) will be available in the Autumn of 1998. The CD will be distributed with the revised edition of *Introduction to the Practice of Statistics* by David Moore and George McCabe. Mike Fligner and Bill Notz have written the study guide and test bank for the same text.

Beginning with this issue we will be posting the newsletter on the departmental web site (http://www.stat.ohio-state.edu). If you know of OSU alumni who have not received a hard copy of the newsletter, please tell us. In the mean time, you can point them to our web page!

Look for the article about our upcoming 25th Anniversary conference and tailgate party. We hope to see as many alumni as possible for this informative — and fun — event.

Sincerely,

Thomas J. Santner

Tom Santner

Graduate Student Profile

Joan (Chun-Lynn) Hu

Editors note: The Statistics Newsletter has a tradition of featuring profiles of our fine graduate students. Joan received her doctorate in June of 1998 and moved to Phoenix to take a position as a statistical consultant for American Express. Her husband, Shen Zhang whom she met and married while attending OSU, (although she "claims" this was not her plan!) received his Ph.D. in Statistics in June of 1998 and is also working for American Express. The Statistics Department wishes them both the best of luck in their lives and their careers.

Joan writes:

I was born in Taiwan where I first learned statistics. In Taiwan I earned a Bachelor's and a Master's degree. After working for a few years, I decided to come to the United States to continue my education. I can still remember the day that I first came here. I was so excited about everything. My friends in Taiwan who had gone to graduate school in the U.S. suggested that I go to OSU to work on my Ph.D. They told me the professors were great and the Statistics Department had a good program. With hard work they told me I could get a Ph.D. along with a husband too! I got both even though I treated it as a joke at that time.

During my Ph.D. study, I took full advantage of the facilities and resources from the Statistics Department to develop my statistical analytic ability and to accumulate both teaching and consulting experience. I have worked as a Teaching Assistant (TA) for four years. My duties included leading recitation sections and computer labs, reviewing course material and developing and grading course homework assignments. I have always treated teaching as a learning process. The need to precisely articulate basic concepts in the classroom has often forced me to rethink and clarify my own ideas. I have also enjoyed the interactions with the students.

I have also had the opportunity to do some consulting and collaborative research in the department's Statistical Consulting Service. I am proud of my involvement in several large projects, and I learned a lot in the process. These experiences also helped me to broaden my computing skills. I also worked as a Research Assistant (RA) under the direction of Dr. **Douglas A. Wolfe**, who not only gave me the opportunity to further my education, but also provided me with great assistance and kindly suggestions, both personal and professional, since the day I began my

From Recycling to Cooking Ham, The Consulting Service Keeps Busy

The Statistical Consulting Service had another busy year in 1997-98. We had the opportunity to work on several interesting projects. The students who have been appointed to the SCS practiced their knowledge of statistical methods, plus learned about lots of other things, including birds, fish, roses, trade, snakes, ham and cakes, just to name a few.

In one study, **Shanggang Zhou** helped researchers in the School of Natural Resources find ways to turn trash into fertile topsoil. Despite that we admittedly have not thoroughly understood the nature of all the raw ingredients, with the help of linear optimization techniques Shanggang managed to turn data on chemical composition and availability of recycling materials into winning, mixing recipes for topsoil.

In another study, **Joan Hu** helped scientists in the Department of Food Sciences and Technology to devise cooking recipes for ham. Under a contract with the U.S. Army, these scientists have been studying the change in the dielectric properties of ham as a function of the cooking temperature and a few other factors. What at first seemed to be a straightforward regression problem, turned into an interesting and challenging shifting regimes modeling effort. As the cooking temperature increases, protein breakdown occurs at some random temperature level, depending on the moisture and salt content of the ham. In turn, the functional relationship between mean dielectric loss and temperature shifts from quadratic to negative exponential.

In a third study, **Greg Stark** joined forces with researchers in Plant Pathology to save clover from extinction. The objective of this study was to identify the reason for potential systematic changes in the probability distributions of seeds per floret and florets per clover head. With conditioning plots and other powerful exploratory analysis tools in hand, Greg arrived to the recommendation of a mixed effects Poisson regression model.

In addition to working with the fine personnel at OSU, we have also had considerable success with several industrial projects. Under a contract with LCI International we helped their accounting office carry out a seasonal analysis and develop a forecasting model for the volume of their residential and commercial lines. Under a contract with the Scott's Company we helped obtain tolerance bands for fertilizer release curves, which they needed for quality assurance purposes. In a third project we helped Resource International, under a contract with the Ohio Department of Transportation, to revise the Pavement Condition Rating system, which plays an important role in the inspection and maintenance of the state's highway system. Finally, we have successfully finished a multi-year, small-area estimation study, under a contract with the Ohio Department of Health, identifying counties in the state with large numbers of uninsured people.

Congratulations to our Award Winners!

PSYCHOMETRIC SOCIETY DISSERTATION PRIZE


Peggy Hwang

Peggy Hwang was awarded the 1998 Psychometric Society Dissertation Prize for her Ph. D. dissertation entitled "Factor Analysis of Time Series". Peggy completed her dissertation under the direction of **Michael Browne** who holds a joint appointment in the Statistics and Psychology departments. The award was presented to Peggy at the Joint Meeting of the Psychometric Society and the Classification Society of America held at the University of Illinois, June 17-21, where she gave an invited talk on her work.

Peggy entered the department in 1990 under a multiple year University Fellowship, and completed her dissertation in 1997. She is currently working with the Quantitative Analysis Group in the Marketing Services Department of the National Geographic Society in Washington, D.C. Specifically, Peggy is a "database marketer." This means that after a test mail is completed on a product (e.g. a book, magazine, video, calendar, etc.) she helps to develop a model based on the results of the test to pinpoint the people most likely to be interested in it. Aside from this day to day production related job, Peggy is also helping to update and clean the database as well as developing ways they can better utilize all the data they have. The department congratulates Peggy on her prize and wishes her the best of luck in her career.


Laura Salter

GRADUATE STUDENT RESEARCH FORUM AWARD

The Council of Graduate Students organizes a Graduate Research Forum each Spring quarter. Graduate students from across campus present their research in a forum divided into 10 disciplines, roughly by colleges. The presentations are judged by a

Successful Intramural Season Demonstrates New "Recruiting" Strategy

After several years of losses sustained by all Statistics intramural teams, the graduate chair has obviously been convinced of the importance of athletic ability when recruiting new graduate students. This change in policy led to our most successful intramural season in recent memory.

The fall began on an excellent note. Golf was finally added to the list of intramural sports attempted by Statistics. The department put up a two-man golf team which included two of our top 1997 recruits Jeff Lehman and Craig Shirk. They proved worthy of their sports "bonuses" and came back with a tournament win.

Our four-man flag football team including Jeff, Craig, Dave Hoffman and Vivek Venkatachalam made it into the playoffs. The intramural basketball team also entered the playoffs, but suffered defeat in the first round. To keep in shape, Friday night basketball has been instituted. Unlike Monday night football, this is a participation sport. The department has been reserving a court in Jesse Owens North every Friday night, and the turnout has been between 8 and 15 participants. Students have even been limiting their pizza and beverage intake at the Friday pizza parties so they can be ready to run up and down the basketball court.

After two years of defeats, all estimates of our probability of winning a men's softball game, Bayesian as well as frequentist, were zero. But proving once again the unpredictability of human behavior, the season started with the first win in over two years. Not content with just one win the men's softball team fought their way into the playoffs. Sadly, they lost in the first round. The coed softball team made it into the championship game also, where they finally went down in extra innings. Soccer, never a strong Statistics sport, had an estimated probability of winning a game right about equal to men's softball. But, after winning their first game, the team went 2 -1 -1 for the season, and lost to the "Indian 9" in the playoffs.

Congratulations to all participants. The department is building a trophy case for the main office since expectations run high for the 1998 -99 season.

Annual Spring Picnic, Park of Roses 1998

Jim Rogers and Greg Stark fire up the grill for the Spring picnic (left). Despite the dismal weather, the turnout and food were excellent.

Faculty Updates *(continued from page 10)*

was being imaged. The new methodology is not invasive and so time series of the blood flow in the brain can be gathered without risk to the subject. The data sets are typically large (128 by 128 by 7) voxels by 70 serial observations. The data is also highly spatially and temporally correlated. The models for such activity require substantial computer and software resources in addition to knowledge of mathematical models.

After a two year tour as Associate Dean, **Doug Wolfe** is back in the department teaching a full load and actively engaged in research. His proposal "Optimal Judgment Sample Sizes for Distribution-Free Ranked-Set Sampling Procedures, Effects of Imperfect Judgment Rankings, and Extensions to K-Sample and Correlation Problems", has been funded by the National Science Foundation for three years. The Department is delighted to have Doug back in the "ranks" (no pun intended).

Elizabeth Stasny is continuing to work 20% of her time for the Survey Research Unit which is funded by an Academic Enrichment grant. This year Elizabeth was made a Fellow of the American Statistical Association and promoted to Full Professor. Congratulations on a great year!

Steven MacEachern spent the 1997 - 98 academic year on sabbatical at Carnegie Mellon University working with Larry Wasserman and Jay Kadane. Steve is also the proud dad of Katie, born on March 3, 1998 and weighing in at 8 pounds and 2 ounces.

Mario Peruggia spent the 1977 - 98 academic year on leave at the University of Virginia. We're happy that he has returned and rumor has it he will be tying the knot with Amy Ferketich, a graduate student at OSU this August. Congratulations!

Nandini Raghavan will be on leave for the 1998 - 99 academic year doing research at NISS.

Alumni Reply Form (continued)

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Comments about the Newsletter

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DEPARTMENT of STATISTICS NEWS

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CONGRATULATIONS

To the following students Earning degrees in 1997-98!

M.A.S.

- Autumn 1997
  - Qun Liu
  - Mary Ellen Smircich
- Winter 1998
  - Chiraz Ben El Hadj
- Spring 1998
  - Joseph Chatlos
  - Yao-chuen Fang
  - David Hoffman
  - Justin Kubatko
  - Pi-yeh Liu
  - Kati Maharry
  - Catherine Mayhew
  - James Mulik
  - Amy Stai
  - Lance Stoudt

M.S.

- Summer 1997
  - Zheng Zhou
- Winter 1998
  - Parthena Katsaounis
  - Chun Li
  - Loraine Sinnott
  - Brent Worden
  - Xin Ye
- Spring 1998
  - Sanjeev Chaudhuri
  - James Colton
  - Donald Duvall
  - Yuqun Luo
  - Jill Santana

Ph.D.

- Summer 1997
  - Kathleen Fritsch
  - Theresa Papa Stern
  - Peiling Yang
- Winter 1998
  - Glenn Hofmann
  - Yongdai Kim
- Spring 1998
  - Roger Bilisoly
  - Jim Clark
  - Chung-Lynn Hu
  - Xiong Hu
  - Shen Zhang