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DEPARTMENT OF MATHEMATICS AND STATISTICS



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ARJUN GUPTA
(PROFESSOR AT BGSU FOR 39 YRS)

To read interview, see "Interview With Arjun Gupta" on page 2

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DEPARTMENT OFFICERS

Hanfeng Chen	CHAIR
Diem Nguyen	ASSISTANT CHAIR
Craig Zirbel	GRAD COORD
Jim Albert	UNDERGRAD COORD

We hope to include news of many more alumni in future issues, so please tell us about you: new and updated career news, family news, and anything you would like to share. A survey is provided for your convenience on a separate card insert enclosed, or simply send an email to one of the editors.

Jim Albert , albert@bgsu.edu
Steve Seubert, sseuber@bgsu.edu
2014-2015 Editors

MESSAGE FROM THE CHAIR



It is completely an accidental event that I took on the position as Chair in July 1, 2015, when BGSU was surrounded by exciting news and achievements. First of all, US News & World Report ranked BGSU as one of the top 100 public universities in the United States. The University admitted the best academically prepared freshman undergraduate class for the second consecutive year. The freshmen enrollment of 3400 is 12% higher from last year and the one-year retention rate increased to 77 percent. The Carnegie Foundation named the university as one of only 340 institutions to receive the 2015 Community Engagement Classification, reflecting high participation rates in service-learning.

The Department of Mathematics and Statistics has kept pace with the University. In May 2015, the department hosted the Spring Topology and Dynamics Conference organized by Drs. Rieuwert Blok, Elmas Irmak, Mihai Staic and Xiangdong Xie, welcoming 167 participants and research leaders in the field from all over the world. In the Fall of 2015, the department added the undergraduate Data Science specialization program. The program is supported by an NSF grant with Jim Albert and Maria Rizzo being the principal investigators. Currently we have 171 undergraduate majors (across all specialties) and 72 full-time graduate students plus 7 part time students. The Master of Science in Analytics program (jointly run by Math & Stat, ASOR, CS and MIS) completed its first cohort with 9 students and started its second cohort this semester with 36 students. A new doctoral program or specialization in Data Science and Data Analytics is under discussion.

On a note of personnel news, our Distinguished University Professor Arjun Gupta, an elected fellow of the American Statistical Association, Institute of Statistics and Royal Statistical Society of England, retired in June, 2015. During his 39 years at BGSU, he published more than 550 articles, 20 books, and graduated 26 PhD students, among his numerous other significant contributions to the department, the University, and statistical science. We all miss him and wish him the best in his retirement life. Professor Jim Albert was presented the American Statistical Association (ASA)'s prestigious Founders Award, at the 2015 Joint Statistical Meetings in Seattle, on August 12, 2015.

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DEPARTMENT NEWS 2014-2015



Dr. David Meel giving the welcome message to the participants of the 49th edition of the Spring Topology and Dynamics conference, May 14-16 2015, Bowling Green OH.

“BGSU Mathematics Competition” 2015

On Saturday March 21st 2015 the department hosted the third Edition of the “BGSU Mathematics Competition”. The winners of this edition were: Kelcie Coffey, Linda Li and McLane Jeffers (for the beginners section), Rameen Salehi, Christian Burns and Jennifer Rudy (for the advanced section). This year the competition was organized by: Daria Filippova, Irina Franke, Robert Kelvey and Mihai Staic.

William Lowell Putnam Mathematical Competition

On December 6th 2014, seven BGSU students participated to the 75th edition of the William Lowell Putnam Mathematical Competition. The best score among BGSU students was obtained by Samuel David O’Neal (double major CS and Mathematics) who placed in the top 30% among all participants. The second best result among BGSU students was obtained by Benjamin Zauski (double major Statistics and Business).

49th Spring Topology and Dynamics Conference

Between May 14 and 16 2015, Department of Mathematics and Statistics hosted the 49th edition of the Spring Topology and Dynamics conference. This is an important annual national conference; the location rotates among US universities. The conference had support from NSF (\$40,000 grant), and sponsorship from CAS and Department of Mathematics and Statistics. There were 167 registered participants from all over the world. The local organizers were: Rieuwert Blok, Elmas Irmak, Mihai Staic and Xiangdong Xie.

Professors Awarded Collaboration Grant

Professors Alex Izzo and Xiangdong Xie have each been awarded a Collaboration Grant from the Simons Foundation. These are five year grants designed to increase collaborative contacts between mathematicians. The grants will provide funding for professors Izzo and Xie to travel to work with their collaborators and to invite other mathematicians to BGSU.



IXth International Conference on Multiple Comparison Procedures

Date: September 2 – 5, 2015

Venue: Westin Hotel, Raheja Mindspace, Hyderabad, India



BGSU alumni Xiping Cui and Vidyadhar Phadke met BGSU faculty John Chen at the IX(th) International Conference on Multiple Comparison Procedures in Hyderabad, India.

Falcons gathered in an international Statistics conference in Hyderabad, India

BGSU alumni Xiping Cui (Chair of the Statistics Department of University of California –Riverside) and Vidyadhar Phadke (Manager, Cytel Statistical Software and Services Pvt, Ltd) met BGSU faculty John Chen at the IX(th) International Conference on Multiple Comparison Procedures in Hyderabad, India. Conference attendants were researchers and applied statisticians in Universities and pharmaceutical companies of countries including China, Israel, Canada, Singapore, USA, India, Germany, and Austria. John Chen was an invited speaker, Vidyadhar Phadke chaired a session, and Xiping Cui presented a novel method in the conference.

Jim Albert received the prestigious Founders Award from the American Statistical Association (ASA).

“The Founders Award is the American Statistical Association’s highest recognition for distinguished service and leadership within the association and the statistical science profession,” said ASA President David R. Morganstein. Albert was honored “for outstanding leadership and efforts in statistical education and relationship building between academia and industry; for service as editor of The American Statistician and the Journal of Quantitative Analysis of Sports and as a member of the Significance editorial board; for major contributions as associate editor of several ASA journals; for chairing and participating in numerous ASA committees and councils devoted to statistics education, Bayesian statistics and two sports statistics; and for heightening interest in statistics through the use of sports examples and applications presented.



ALUMNI NEWS 2014-2015

WHERE THEY ARE NOW...

Robert D. Blandford (MA, Mathematics, 1962)

is retired from University of Southern Colorado, Pueblo, CO. He and his wife Patsy Blandford reside in Burlington, Colorado.

Robert Catanzano (MA Mathematics, 1964)

is Ed.D., receiving his doctorate in Mathematics Education in 1971 from University of Georgia. He retired from Berry College in Mt. Berry, Georgia after 33 years, and is Professor Emeritus of Mathematics. He currently resides in Rome, Georgia.

Ying-Ju Chen (Ph.D., Statistics, 2015)

is Visiting Professor at Miami University, Oxford, Ohio.

Bethany Lemont (Mathematics & Economics, 2014)

is currently a graduate student in Economics at Michigan State University in East Lansing, Michigan.

Songzi Li (Ph.D. Statistics, 2015)

is Biostatistician II at Pharmaceutical Product Development (PPD), a global company that specializes in contract clinical research. Songzi is located in North Carolina.

David (Yi) Li (Ph.D. Statistics, 2015)

is Predictive Modeler in the Data Scientist Team at Zurich North American headquarters in Schaumburg, Illinois. His responsibilities include using machine learning, and data mining techniques for large messy insurance data, or generalized linear models with strong constraints, which is sometimes not good for large messy data. He mentions that R, Python and SAS are popular software tools.

Richard H. Neff (MA, Mathematics, 1968)

received his Ed.D. from Temple University and retired after teaching mathematics for 30 years from Messiah College, Grantham, Pennsylvania. He plays banjo and sings in the Difficult Run String Band, and he is a copyist at the National Gallery of Art in Washington, D.C. "After doing 30 years of left brain work, I am enjoying right brain pursuits – music and art." He and his wife Ava reside in Fairfax, Virginia. Websites: www.drstringband.wix.com/drstringband, www.neffsfineart.com.

Mary Elvi Paler (Ph.D., Statistics, anticipated 2015)

is Assistant Professor at University of Wisconsin at Platteville starting August, 2015.

Stephen Stackhouse (MA, Mathematics, 1971)

is currently Inspector, retired as Project Engineer for the State of Maryland, Office of Traffic. He attends the local senior center and plays ping-pong three times per week.

Guangyuan Yang (Ph.D., Statistics, 2012)

has joined Travelers Insurance in Hartford, Connecticut, after working at Capital One Finance since 2012.

Deniz Yenigun (Ph.D., Statistics, 2007)

is Assistant Professor in the Department of Industrial Engineering at Istanbul Bilgi University since 2014.

Ben Zauski (2015)

graduated with dual majors in Mathematics/Actuarial Science and Finance. He is an alumni scholar and his many activities and leadership roles as a student at BGSU are highlighted in <http://www.bgsu.edu/news/2015/02/you-snooze-you-lose.html> (photo)

RECENT PH.D.s

Shihai Lu (Ph.D. in Statistics, Fall 2014)

"Novel Step-Down Multiple Testing Procedures Under Dependence: supervised by John Chen.

Ying-Ju Chen (Ph.D. in Statistics, Summer 2015)

"Jackknife Empirical Likelihood and Change Point Problems", supervised by Arjun Gupta and Wei Ning.

Songzi Li (Ph.D. in Statistics, Summer 2015)

"K-groups: A Generalization of K-means by Energy Distance," supervised by Maria Rizzo.

Yi Li (Ph.D. in Statistics, Summer 2015)

"Goodness of Fit Tests for Dirichlet Distributions," supervised by Maria Rizzo.

Yang Liu (Ph.D. in Statistics, Summer 2015)

"Variable Selection Utilizing the Whole Solution Path", supervised by Hanfeng Chen.





WN: As an educator and internationally-recognized researcher, what do you hope your legacy will be?

AKG: My legacy is my work, books, research papers and my 26 doctoral students, and my students' success (8 of them have their own doctoral students). They carry on the work that I started here and also the name of the department and the university.

WN: You have clearly proven throughout your career that you have an unyielding interest and passion for the field of statistics, what initiated this interest? What influenced your decision to devote your career to academia?

AKG: When I was in college, "Statistics" was a new subject in India. A separate department was founded and there was excitement. I was encouraged to get involved with this new area and here I am after over thirty years. But then the "freedom" is the most desired thing. The academia provides freedom of work and freedom of thought. I always liked this kind of atmosphere.

WN: When you reflect back on your long and successful career, which moments stand out for you as highlights?

AKG: I think there are several moments, not just a single moment standing out for me as highlight. The biggest moments for me were the times when my Ph.D students finished their dissertation work and found satisfactory jobs. Another moment was in the International Conference on Multivariate Statistical Modeling & High

INTERVIEW WITH PROFESSOR ARJUN GUPTA by Wei Ning

Professor Wei Ning recently interviewed Professor Arjun Gupta at the end his 39 year career at BGSU.

Dimensional Data Mining held in Turkey in my honor in 2008. All the attendees stood up and applauded after my remarks. In 1987, I served as a United Nations statistical consultant in Ghana for a semester. It gave me a platform not only getting involved with statistical education and consulting, but also for establishing the reputation of our department and university there.

WN: You have served BGSU for almost forty years and you have made significant contributions to the university. How do you think that BGSU has helped to foster and support your intellectual career?

AKG: The first important step that BGSU took was when the University decided to start the program in statistics in the math department in 1970, followed by the interesting statistics meetings and colloquium talks hosted by the department. It is notable that the department has always been very supportive of such statistical activities. The University has also supported me at meetings, my academic travels, and matching students' stipend to keep and attract graduate students.

WN: You have had over 500 publications and over 20 books on various statistical research directions. You have traveled around the world attending numerous conferences and giving lectures. What continues to drive you to actively research and present nationally and internationally?

AKG: Teaching and research is always fun for me. This is just part of the activities I enjoy. In traveling and conferences, I get the chance to meet fellow statisticians with various research interests which provide me opportunities to learn new things. I also get the chance to work with young researchers. It is also a good opportunity to advertise our department and our programs widely. As a bonus, many students

came to BGSU to study statistics, and in return, they keep advertising our department and programs nationally and internationally.

WN: What changes in statistics research trends do you think have been made since the time you entered into the statistics field? What do you think about those changes?

AKG: The biggest change has been in the ease in statistical computations. When I was doing my Ph.D, I inverted a 10 by 10 matrix manually. Now we have become impatient to expect instant answers. There is a tendency to replace the thinking by computation, but sensible conclusions are not reached all that much faster. Nowadays, big data is one of the mainstreams in statistical research which has been applied widely for example in biology and economics. The analysis of massive data in these fields requires us to collaborate closely with the researchers in computer science and other fields.

WN: You have directed over 20 doctoral students in the past over thirty years. All of them have successful careers either in industry or academia. Could you share your experience in supervising doctoral students? What have been your expectations for doctoral students during their studies?

AKG: I always expect my doctoral students to work hard in their work. However, they are not only your students simply but also should be considered or treated as your co-researchers because they always provide useful thoughts and feedbacks for research questions. So I always think that the benefits from directing doctoral students are mutual: for their studies and for your own research.

WN: Is there any advice that you could give to our graduate students, especially students in

statistics, related to their studies and/or future careers?

AKG: Work hard. Make sure you to learn three languages well, English, computing and calculus. Take as many courses as you can because solid background and wide range of knowledge in mathematics and statistics is always necessary and crucial for their future studies or research.

WN: Besides teaching graduate statistics courses, you also have taught undergraduate courses. What do you most enjoy from teaching undergraduate students?

AKG: The part I enjoy the most from teaching undergraduate students is that I try to motivate them to pursue higher education in general, and statistics in particular.

WN: You came to Bowling Green in 1976, which was almost forty years ago. What interesting, exciting changes have you witnessed in this city and the university?

AKG: Oh, there have been many changes in the city of Bowling Green and in university since I came to BG in 1976. The biggest changes were that the city built up the Woodland shopping mall and three windmills to generate part of the electricity in BG. For the university, many more new buildings have been built or renovated such as recreational center, Stroh Center. Our department name was changed from Mathematics to Mathematics and Statistics. And we have Ph.D program in Statistics in our department which was exciting.

WN: What are your plans after retirement? What are you most looking forward to in this next stage?

AKG: I will spend more time with my family, gardening and listening to Indian music. I will also be working on the second edition of my book "Matrix Variate Distributions."

MESSAGE FROM THE CHAIR:

CONTINUED FROM FRONT

The Department continues adapting to the collective bargaining agreement (CBA). We are now working on revising many of our department documents in accordance of the CBA. This is a rewarding process, letting us reshape our mission, make adjustments to effectively accomplish our goals in research, teaching and service, and reexamine the curricula of our undergraduate and graduate programs.

The department continues to work more effectively with foundational mathematics teaching to improve outcomes of student learning. The Math Emporium is now in its

third year and has evolved into an innovative form to deliver the college algebra courses (MATH 90X, 95X, 1210 and 1220) with a single classroom. The eventual goal is to present this curriculum into one-hour modules so that the students can efficiently complete their prerequisite mathematics.

It is a personal privilege for me to work with our staff, graduate students, world- recognized faculty, and alumni to move the department upwards towards our mission. We are all proud with what we have done here and what our alumni have achieved in their careers. We hope you will continue staying connected with

us and writing back to let us know how you are doing. Also, please feel free to stop by the department any time when you get a chance, to say hello to our staff, students and faculty.

Hanfeng Chen, Chair
*Department of Mathematics
and Statistics*

