

Fall 2020



STAT NEWS

The official newsletter of ISU statistics

Letter from the Chair

Dear alumni, students, staff, faculty, and friends of the ISU Department of Statistics,

The year 2020 has brought unprecedented challenges to our Snedecor Hall family, but I am pleased to report that we have had many successes despite the challenges. Laura Ziegler was promoted to Associate Teaching Professor. Peng Liu, Lily Wang, and Cindy Yu were each promoted to Full Professor, and Lily was named Fellow of the Institute of Mathematical Statistics. Professor Jae-Kwang Kim was also awarded the status of Fellow of the Institute of Mathematical Statistics and was honored with a College of Liberal Arts and Sciences (LAS) Dean's Professorship. Professor Karin Dorman won the LAS Award for Inclusive Excellence. Professor Heike Hofmann won the LAS Award for Outstanding Achievement in Teaching, was named Kingland Systems Faculty Fellow in Data Analytics, and was chosen to serve as Interim Professor-in-Charge of the undergraduate Data Science program at ISU. Distinguished Professor Bill Meeker was honored with the George Box Medal. LAS Dean's Professor Zhengyuan Zhu was named Fellow of the American Statistical Association.



Professor Zhu, who directs the Center for Survey Statistics and Methodology (CSSM), is the principal investigator of a renewed multimillion-dollar grant from the United States Department of Agriculture Natural Resources Conservation Service to develop statistical and survey methods in support of the National Resources Inventory. Alicia Carriquiry, Distinguished Professor and President's Chair in Statistics, is the principal investigator of a second five-year, 20 million dollar grant from the National Institute of Standards and Technology to support the Center for Statistics and Applications in Forensic

Evidence (CSAFE), which she directs. These major awards, along with several other grants to our faculty, provide many research assistantships to our graduate students and support important research efforts in the department.

We are thankful to gain several new personnel during 2020. Kori Khan is a new tenure-track assistant professor. Kori earned a JD degree and MS and PhD degrees in Statistics from The Ohio State University. Kori's legal expertise is useful for CSAFE, and her statistical expertise in Bayesian and spatial methods matches nicely with existing areas of strength in the Department of Statistics. Kori coauthored the paper "Restricted Spatial Regression Methods: Implications for Inference" in the *Journal of the American Statistical Association* in 2020.

Nicholas Syring joined the Department of Statistics as a tenure-track assistant professor following a postdoctoral scholar position at Washington University in St. Louis. Nicholas earned his PhD in Mathematics from the University of Illinois at Chicago. In 2020, he coauthored "Robust and Rate-Optimal Gibbs Posterior Inference on the Boundary of a Noisy Image," which appeared in *Annals of Statistics*.

Kristina Sasse is the department's new administrative assistant and has been a great help to me. Kristina splits her time evenly between the Department of Statistics and the Department of Mathematics. Nicole Shimp is our new outreach specialist who assists the Departments of Computer Science, Mathematics, and Statistics. Nicole replaces Kati Smith, who was our communications specialist until she left Iowa State in the spring for a job in her hometown. Nicole put together some highlights of our past year that accompanies this message. Thanks, Nicole!

On July 1, Professor Sarah Nusser returned to her position as full professor in the Department of Statistics after serving as ISU Vice President for Research since 2014. Sarah is spending the 2020-2021 academic year as a visiting professor at University of Virginia, working with Sallie Keller (ISU Statistics MS 1999, PhD 2001; more on a major honor for Sallie later in this newsletter) on topics related to open science and the current transformations in the federal statistical system. Recently, Sarah announced that she will retire in June 2021 after more than three decades at Iowa State. Sarah served as Director of the Center for Survey Statistics and Methodology (CSSM) for many years and played a major role in making CSSM the strong unit it is today. She has had a wonderful career and contributed much to Iowa State and our Department of Statistics.

In May, Professor Max Morris retired after 22 years in the Department of Statistics at Iowa State University, including a five-year term as department chair. Max had an outstanding career as a scholar, advisor, teacher, and leader. I am thankful for all his contributions to Iowa State and our Department of Statistics. I am especially grateful to him for all the help he patiently and graciously gave to me during my first year as department chair.

Faculty, students, and staff have conducted much of our business from home since March. This has meant finding new ways to get our work done. Most of our faculty are now well versed in online instruction. Even those teaching in person have put considerable effort into online delivery of course

materials for students unable to be in the classroom. For the first time ever, we proctored our written MS comprehensive exam and our written PhD preliminary exam online. Students were able to take these exams from the comfort and safety of their own residences while faculty proctors observed students via webcams. The derecho thunderstorm that caused a citywide power outage in August disrupted the planned timing of our PhD preliminary exam, but we were able to move ahead after a slight delay. The students prepared well and demonstrated their knowledge of statistical theory and methods despite the distractions of the pandemic and the storm.

I am fortunate to work with outstanding students, faculty, and staff who have stepped up to face the challenges of operating our department during the pandemic. People have done what needs to be done without complaint. Many have put in long hours on tasks that normally don't need doing. 2020 has been a year like no other. I know 2021 has challenges in store for us, but I am confident that we will meet those challenges and push through to better times.

Sincerely,

A handwritten signature in cursive script that reads "Dan Nettleton".

Dan Nettleton, Ph.D.
Laurence H. Baker Endowed Chair
Distinguished Professor
Chair, Department of Statistics
Director, Baker Center for Bioinformatics and Biological Statistics

World-class Faculty



[Heike Hofmann is named Kingland Data Analytics Faculty Fellow](#)

Professor Heike Hofmann has been named a Kingland Data Analytics Faculty Fellow by Kingland Systems Corporation and its owners, David and Deb Kingland.

[Distinguished Professor Alicia Carriquiry featured by Amstat News](#)

In celebration of Hispanic Heritage Month, Distinguished Professor Alicia Carriquiry was featured in an Amstat News article recognizing "12 individuals from the Hispanic community who have made tremendous contributions to the math and statistics field."



[Faculty Named Fellows of the Institute of Mathematical Statistics](#)

LAS Dean's Professor Jae-Kwang Kim and Associate Professor Lily Wang have been named Fellows of the Institute of Mathematical Statistics (IMS).

[Faculty Win LAS Awards](#)

Professor Heike Hofmann and Professor Karin Dorman won College of Liberal Arts and Sciences Awards.



[Associate Professor Niemi collaborating on the COVID-19 Forecast Hub](#)

Associate Professor Jarad Niemi joined the COVID-19 Forecast Hub in early April. The Hub aims to collect COVID-19 forecasts in a central location with a standardized format.

Distinguished Professor Bill Meeker Awarded George Box Medal

Distinguished Professor Bill Meeker has been selected to receive the George Box Medal "for his outstanding contributions to the statistical analysis of reliability data and to industrial statistics in general, by promoting the close cooperation between statistics and the fundamental science underpinning engineering applications."



Student Success

Statistics undergraduate presented at honors poster session

Statistics undergraduate Anyesha Ray presented at the fall 2020 honors project virtual poster session.



Eleven graduate student awarded department scholarship and awards

Eleven graduate students awarded department scholarships and awards during the virtual fall welcome seminar.

A data science difference-maker

Jessie Bustin combines her passions for numbers and a desire to help others in an online dashboard that helps lowans find local support for substance abuse recovery.

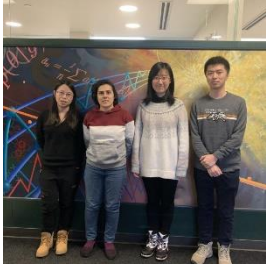


Graduate Student Sepideh Mosaferi awarded Scholarship

Sepideh Mosaferi has been named the 2020 Wray Jackson Smith Scholarship Awardee. The scholarship is given by the American Statistical Association Government Statistics Section and the Social Statistics Section.

Statistics Student Participates in Pitch off Competition

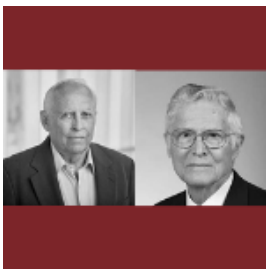
undergraduate student Cameron Stocker took second place in the College of Liberal Arts Entrepreneurship and Innovation Academy's pitch competition during the early spring semester.



Four graduate students won ASA Student Paper Awards

Graduate Students Xiyu Peng, Sepideh Mosaferi, Fan Dai, and Yawei Ge won American Statistical Association Student Paper Awards in the 2019 competitions.

Alumni Recognition



Alumni and Faculty Named Citation Laureates for Economics

Alumni David Dickey(Ph.D. '76) and Distinguished Professor Emeritus Wayne Fuller were named 2020 Citation Laureates for Economics.

Statistics Alumnus Ken Ryan named Fellow of the American Statistical Association

Alumnus Ken Ryan (MS '99, Ph.D. '01) was named Fellow of the American Statistical Association.



Statistics Alumnus Sallie Keller elected to the National Academy of Engineering

Alumnus Sallie Keller (Ph.D. '83) was elected to the National Academy of Engineering for development and application of engineering and statistical techniques in support of national security and industry.

Excellence in Research

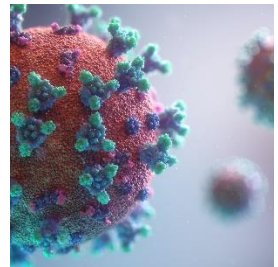


Iowa State University research team received NSF Grant for rural smart shrinkage project

Iowa State University research team including College of Liberal Arts and Sciences Dean's Professor and director of the ISU Center for Survey Statistics and Methodology Zhenyuan Zhu, and professor and interim professor in charge of data science Heike Hofmann received a three-year, \$1.5 million grant from the National Science Foundation for the rural smart shrinkage project.

Statistics research group answers the call of COVID-19

An ISU research team, led by professor Lily Wang, is the first to produce richly detailed COVID-19 forecasts for every county in the United States. Their groundbreaking statistical models are used by the CDC to forecast national COVID-19 deaths.



CSAFE Secures \$20 Million in Funding

Distinguished Professor Alicia Carriquiry and the CSafe team on securing another \$20M of funding over the next five years.

Iowa State researchers develop mathematical models which track and forecast COVID-19 spread throughout Iowa, the United States and the world

A team of researchers in the Department of Statistics at Iowa State University has developed an extended varying coefficient SEIR (Susceptible Exposed Infectious Recovered) model for calculating COVID-19's effective reproduction number (R).

