Keynote Speakers and Biographies

Keynote Address I (9:00AM–10:30AM)
Chair: Moinak Bhaduri (Bentley University)

Dr. Andrew Gelman

Title: Election Forecasting: How We Succeeded Brilliantly, Failed Miserably, or Landed Somewhere in Between

Abstract: Several months before the election we worked with The Economist magazine to build a presidential election forecasting model combining national polls, state polls, and political and economic fundamentals. This talk will go over how the forecast worked, our struggles in evaluating and improving it, and more general challenges of communicating data-based forecasts. For some background, see this article:
http://www.stat.columbia.edu/~gelman/research/published/jdm200907b.pdf

Bio: Andrew Gelman is a professor of statistics and political science at Columbia University. He has received the Outstanding Statistical Application award three times from the American Statistical Association, the award for best article published in the American Political Science Review, and the Council of Presidents of Statistical Societies award for outstanding contributions by a person under the age of 40. His books include Bayesian Data Analysis (with John Carlin, Hal Stern, David Dunson, Aki Vehtari, and Don Rubin), Teaching Statistics: A Bag of Tricks (with Deb Nolan), Data Analysis Using Regression and Multilevel/Hierarchical Models (with Jennifer Hill), Red State, Blue State, Rich State, Poor State: Why Americans Vote the Way They Do (with David Park, Boris Shor, and Jeronimo Cortina), A Quantitative Tour of the Social Sciences (co-edited with Jeronimo Cortina), and Regression and Other Stories (with Jennifer Hill and Aki Vehtari).

Andrew has done research on a wide range of topics, including: why it is rational to vote; why campaign polls are so variable when elections are so predictable; why redistricting is good for democracy; reversals of death sentences; police stops in New York City, the statistical challenges of estimating small effects; the probability that your vote will be decisive; seats and votes in Congress; social network structure; arsenic in Bangladesh; radon in your basement; toxicology; medical imaging; and methods in surveys, experimental design, statistical inference, computation, and graphics.

Keynote Address II (3:00PM–4:30PM)
Chair: Abidemi K Adeniji, Chair of NESS-NextGen Committee (M-Estimator LLC)

Dr. Rebecca Nugent

Title: Demystifying Data Science: Starts with People, Ends with People

Abstract: The Data Science Pipeline - far more than a set of AI/ML algorithms. The first questions we ask, the early decisions we make, the final use and interpretation of our results - all of these play a crucial role when leveraging data-informed decision making for any problem. In this talk, we'll unpack what data science is with an emphasis on thinking about the entire data life cycle. We'll explore how data science is being used to tackle problems in transportation logistics, retail, travel, professional sports, as well as take an insider's look at

modeling influenza and the COVID-19 pandemic.   We'll also peek under the hood at our Integrated Statistics Learning Environment (ISLE), an interactive browser-based platform that adaptively supports in-person and remote education with student-driven inquiry. ISLE allows us to study how people interact with, write about, and collaborate on data science, helping us fully optimize the data life cycle. Because, at its heart, data science starts and ends with people.

Bio: Rebecca Nugent is the Stephen E. and Joyce Fienberg Professor of Statistics & Data Science, the Associate Department Head and Co-Director of Undergraduate Studies for the Carnegie Mellon Statistics & Data Science Department, and an affiliated faculty member of the Block Center for Technology and Society. She received her PhD in Statistics from the University of Washington in 2006. Prior to that, she received her B.A. in Mathematics, Statistics, and Spanish from Rice University and her M.S. in Statistics from Stanford University. She was won several national and university teaching awards including the American Statistical Association Waller Award for Innovation in Statistics Education and serves as one of the co-editors of the Springer Texts in Statistics. She recently served on the National Academy of Sciences study on Envisioning the Data Science Discipline: The Undergraduate Perspective and is the co-chair of the current NAS study Improving Defense Acquisition Workforce Capability in Data Use. She is the Founding Director of the Statistics & Data Science Corporate Capstone program, an experiential learning initiative that matches groups of faculty and students with data science problems in industry, non-profits, and government organizations. She has worked extensively in clustering and classification methodology with an emphasis on high-dimensional, big data problems and record linkage applications. Her current research focus is the development and deployment of low-barrier data analysis platforms that allow for adaptive instruction and the study of data science as a science.