Speakers & Abstracts

Teaching Statistics and Data Science in the Age of Computation and AI

Prof. Mine Çetinkaya-Rundel

Biography: Dr. Mine Çetinkaya-Rundel is a Professor of the Practice and Director of Undergraduate Studies in the Department of Statistical Science as well as the Director of First-Year Experience in Trinity College of Arts & Sciences at Duke University and a leading voice in modern statistics and data science education. Her work focuses on integrating reproducible computing, open-source tools, and real-world data into the statistics curriculum, transforming how students engage with data and statistical thinking. She is a core contributor to the OpenIntro project and an advocate for open educational resources and statistical computing in R. A Fellow of the American Statistical Association and an Elected Member of the International Statistical Institute, she has received numerous honors, including the ASA's Waller Education Award and the Robert V. Hogg Award for Excellence in Teaching Introductory Statistics. She currently serves as Vice President of the International Association for Statistical Education (IASE) and as co-chair of the ASA's DataFest Steering Committee. Through her teaching, writing, and advocacy, Dr. Çetinkaya-Rundel has advanced accessible, computation-rich, and reproducible data science education worldwide. Dr. Çetinkaya-Rundel is also a Senior Developer Advocate at Posit, PBC, on the tidyverse team.

Abstract: Statistics education stands at a critical juncture as we navigate the intersection of traditional statistical theory, modern computational approaches, and emerging AI technologies. While traditional statistics education has prioritized theoretical frameworks and applications, computation has emerged as the backbone of contemporary data analysis—from data acquisition and wrangling to visualization, modeling, and communication. Now, AI tools are further transforming this landscape, creating both opportunities and challenges for statistics and data science educators. Data science combines principles from statistics and computer science to extract insights from data using reproducible and transparent processes. While it shares teaching strategies with related fields, it poses unique challenges and opportunities. The presentations will outline a forward-looking curriculum model for introductory courses that balances statistical thinking, data science methods, and explicit computational instruction. We will also present ten practical rules for teaching data science, developed and tested by leading educators and in our own classrooms, as well as an R package that uses LLMs to provide immediate feedback on student work in data science courses. We will cover technical design, challenges in evaluation, student responses, and ethical considerations for integrating LLMs into assessments.

Promoting and making statistics accessible for the broader audience

Prof. Jo Røislien

Biography: Professor Jo Røislien is a research scientist, communicator, author, and TV star. He is a professor of medical statistics at the University of Stavanger and has been involved in numerous research projects in medicine and health. At the same time, he has written and hosted multiple science TV series and short films for national and international audiences, including being first-ever Norwegian host on the Discovery Channel. Many Scandinavians have encountered the TV show *Siffer* and the podcast *Nakne Tall*. He has given numerous motivational talks on mathematics and statistics for teenagers and students, and educated teachers, researchers, science communicators, and public officials in the art of communicating complex topics.

Abstract: The talks will include topics like *From math to mass media: The stories of a celebrity statistician*, *THNK before you talk — a science-based checklist for effective science communication*, and *Statistics to the masses! From communication theory to communication in practice.* The THNK model is a checklist for effective communication of science, based on results from an international communication research project. The model highlights how trust, emotions, narratives, and creativity are the four key factors when the goal is to reach out with scientific knowledge. The talk will showcase some challenges we've had when promoting statistics to a broader audience, and how we solved them, including some examples of communication that does *not* work, and what could be done to help it.

Bridging the Gap: Statistical Literacy as the key to AI Literacy

Dr. Katharina Schüller

Biography: Dr. Katharina Schüller is an accredited statistician (AEUStat) and one of the leading experts in data science, artificial intelligence, and statistics. Her expertise covers data strategies, data literacy, data and AI ethics, and diversity. In 2003, she founded STAT-UP Statistical Consulting & Data Science, where she remains CEO to this day. With her team, she advises top international corporations and federal agencies on developing data strategies and models for making data-driven decisions with the help of statistics, AI, and machine learning. She shares her knowledge of data and statistics in lectures and workshops and also imparts her expertise as a best-selling author. Other successes include awards such as the special prize in market research from planung&analyse and the Digital Female Leader Award.

Abstract: In an age where artificial intelligence increasingly influences our daily lives, understanding data is no longer optional - it is essential. True AI Literacy depends on a strong foundation in Statistical Literacy. This talk explores why statistical thinking is key to using AI responsibly and effectively, and how strengthening these skills can help individuals and organizations navigate the opportunities and challenges of an AI-driven world. Drawing on current initiatives and examples, the session invites participants to reflect on how we can build a more data- and AI-literate society.