

STOR-i SPRING SCHOOL: 22-27 MARCH, 2026

Titles and Abstracts

Day 1 & 2

Dave Morton, Northwestern University

Masterclass on Models, Computation, and Applications in Stochastic Programming

Stochastic programming provides a modeling framework for decision-making under uncertainty with applications ranging from energy systems to supply-chain optimization to finance and beyond. We will discuss foundational models in stochastic programming, including static, two-stage, and multi-stage models, along with modern risk measures. We can solve such models via the extensive form using general-purpose solvers, or we can develop tailored cutting-plane algorithms that exploit convexity and handle larger problem instances. The sample average approximation (SAA) facilitates computation. After characterizing the SAA approach, we will provide a practical SAA algorithm that yields statistical bounds on the near-optimality of its solution. We will implement and solve multiple example stochastic programming applications, using both off-the-shelf software and special-purpose solvers.

Day 2

Nicola Rennie, Office of National Statistics

Workshop on Engaging and effective data visualisations

Data visualisation can be a very effective method of communicating findings, especially to broad audiences. However, good data visualisation requires appreciation and careful consideration of your audience, a chart's purpose, and its technical design elements. It also involves a creative element, where we make choices about the story we want to tell. Our design decisions are then driven by the need to convey that story most effectively to our audience.

By the end of this workshop you'll:

- Understand why data visualisation is an important aspect of data science and research communication,
- Know when visualisation is and isn't an appropriate way of communicating,
- Have a solid visual vocabulary to describe what makes a chart effective,
- Be able to choose an appropriate chart type for a specific audience, and
- Know how to design effective charts that still look good.

This interactive session will be tool-agnostic so whether you use R, Python, JavaScript, or pen and paper to develop charts, this session will provide you with the skills and confidence to create more effective visualisations.