Developing computational methods to study human behavior in the digital society

The digital transformation of our society offers a wealth of data on human behavior captured by information and communication technologies, such as social media and smartphones. This has given rise to Computational Social Science as an interdisciplinary endeavor that develops computational methods that shed a new light into human behavior. I will present novel methods that can be combined to study society across levels: from large-scale data analysis of whole societies to individual-level behavior on social media. These levels of analysis are connected by a combination of big data techniques, natural language processing methods, and computational agent-based models. I will show how this perspective can be applied to study the dynamics of online polarization, to measure gender inequality across the world, and to understand the dynamics and relevance of collective emotions.