

Keynote Addresses

Keynote

The Challenges and Opportunities in Bridging Computer Science and Social Science in Studying Social Media

David Lazer

Studying social media requires bridging computational and social scientific approaches to data. Social scientists bring expertise in understanding human behavior, in developing valid and reliable constructs around human behavior, in developing interpretable statistical models; but generally have been lacking in the study of large scale, complex systems, in the algorithmic analysis of large scale data, and in studying social dynamics. Computer scientists have mirror strengths and weaknesses, with great strengths in studying large scale, dynamic data, and in the development of statistical approaches that squeeze the maximum amount of information from data; but with little grounding in social theory or conception of valid and reliable measurement of human behavior and opinion, or in interpretation of statistical analyses thereof. This talk explores these strengths and weaknesses, and points the way to possible syntheses of approaches.

David Lazer is a professor in Northeastern University's Department of Political Science and the College of Computer and Information Science. His research focuses on computational social science and collaborative intelligence, and has been published in such journals as *Science*, *Proceedings of the National Academy of Science*, the *American Political Science Review*, and the *Administrative Science Quarterly*, as well as in computer science conferences such as WWW, Ubicomp, and ICWSM.

Keynote

Visualizing Social Weather and Climate

Fernanda Viégas and Martin Wattenberg

Visualization plays many roles in social media, from scientific tool to consumer-oriented interface. Just as important, it operates at different scales, from showing the shape of a conversation to mapping entire communities. We'll give a tour of a series of social visualizations that display data at many different scales, and talk about how they distinguish ephemeral phenomena (social weather) from long-range patterns (climate). We'll also discuss the design process we use to create visualizations that make these distinctions clear, with a series of good examples and unfortunate — even embarrassing — mistakes.

Fernanda Viégas and Martin Wattenberg lead Google's "Big Picture" visualization research group in Cambridge, Massachusetts. Before joining Google, the two founded Flowing Media, Inc., a visualization studio focused on media and consumer-oriented projects. Prior to Flowing Media, they led IBM's Visual Communication Lab, where they created the ground-breaking public visualization platform Many Eyes. The two became a team in 2003 when they decided to visualize Wikipedia, leading to the "history flow" project that revealed the self-healing nature of the online encyclopedia.

Viégas is known for her pioneering work on depicting chat histories and email. Wattenberg's visualizations of the stock market and baby names are considered Internet classics. Viégas and Wattenberg are also known for their visualization-based artwork, which has been exhibited in venues such as the Museum of Modern Art in New York, London Institute of Contemporary Arts and the Whitney Museum of American Art.