

# Einladung zum Biometrischen Kolloquium

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### UNDERSTANDING HUMAN BEHAVIOR IN THE DIGITAL SOCIETY: THE CASE OF COLLECTIVE EMOTIONS

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Medizinischen Universität Wien, Spitalgasse 23, 1090 Wien

**HOST:** Susanne Strohmaier

#### ABSTRACT:

Computational Social Science is an emerging field that studies human behavior and social interaction through digital traces. The revolution in measurement brought by our digital society gives us data at global scales, very high frequencies, and unprecedented levels of depth and resolution. Digital traces can complement traditional methods in the social sciences, such as experiments and surveys, providing us with a natural and large-scale view of collective phenomena. After providing an overview of potential and limitations of Computational Social Science, I will present an example of how social media data can be used to analyze collective emotions: After collective traumas such as natural disasters and terrorist attacks, members of concerned communities experience intense emotions and talk profusely about them. Although these exchanges resemble simple emotional venting, Durkheim's theory of collective effervescence postulates that these collective emotions lead to higher levels of solidarity in the affected community. We present the first large-scale test of this theory through the analysis of digital traces of 62,114 Twitter users after the Paris terrorist attacks of November 2015. We found a collective negative emotional response followed by a marked long-term increase in the use of lexical indicators related to solidarity. Expressions of social processes, prosocial behavior, and positive affect were higher in the months after the attacks for the individuals who participated to a higher degree in the collective emotion. Our findings support the conclusion that collective emotions after a disaster are associated with higher solidarity, revealing the social resilience of a community.