

*Investigating human behavior on social media through network and data science approaches*

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Societies are complex systems whose collective dynamics emerge from a large number of individual interactions, increasingly mediated by online platforms. In this talk, I will present two studies that combine survey responses with digital trace data to investigate whether our measurements of social phenomena faithfully reflect the underlying system, and how the structure of online communities shapes individual engagement with political content. First, I examine political polarization on YouTube, demonstrating that restricting observations to visible engagement available through traditional data collection methods systematically overestimates segregation. Second, I analyze misinformation engagement on Facebook, showing that membership in specific online interest communities is a stronger predictor of engagement with low-credibility content than socio-demographic characteristics alone. Together, these studies underscore the value of richer behavioral data for understanding political engagement online.