

# Understanding Political Turbulence: The Data Science of Politics

[Keynote]

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Social media are now inextricably intertwined with the political behaviour of ordinary citizens. As people go about their daily lives on an ever-changing cast of web-based platforms, they are invited to make ‘micro-donations’ of time and effort to political causes: liking, sharing, tweeting, retweeting, following, uploading, downloading, signing petitions and so on, which extend the ladder of participation at the lower end and draw new people into politics, particularly in younger age groups. These ‘tiny acts’ of political participation can scale up to large mobilizations. The overwhelming majority fail, but some succeed rapidly and dramatically through a series of chain reactions and tipping points.

This keynote talk reports on research carried out for a new book by Helen Margetts, Peter John, Scott Hale and Taha Yasseri: *Political Turbulence: How Social Media Shape Collective Action* (Princeton University Press), which explores the dynamics of political mobilization in a digital world. When deciding whether to participate, people are exposed to social influence exerted by social media platforms, particularly social information about the participation of others and their own visibility (or anonymity) to other people. Both social information and visibility influence the likelihood of participation, and when varied through changes to interface design, can increase or decrease support for campaigns or initiatives. The effects of these different forms of influence can be tested in experimental settings, showing that whereas visibility may seem more effective in driving participation, social information is more efficient.

The findings show how the new dynamics of collective action are injecting turbulence into politics, with mobilizations demonstrating instability, unpredictability and, often, unsustainability, as displayed in the revolutions of the Arab Spring. Contemporary liberal democracies appear to be converging to a model of ‘chaotic pluralism’. In so far as politics is characterised by diversity and heterogeneity, this model is reminiscent of pluralist political thought from the 1950s and 60s (such as Robert Dahl and Charles Lindblom) or revisionist models of the 1990s (such as Hirst’s *Associative Democ-*

*racy*, Bruce Bimber’s ‘Accelerated Pluralism’ or William Connolly’s *Pluralism*). But this chaotic version, driven by non-linearity and high interconnectivity, is far more disorganised, unpredictable and unstable than the architects of pluralist, neo-pluralist or revisionist models envisaged, lacking the traditional balanced equilibrium of functional pluralism.

In this changed (and chaotic) political world, traditional social science methods of understanding, predicting or shaping political preferences or behaviour are breaking down. Where costs of participation are very low, demographics—the usual social science predictors of political opinion or behaviour—are less useful, and other measures of individual level difference (such as personality) become more important. And in this fast moving digital world where every share, like or view generates transactional data in real-time, the conventional methods of understanding and explaining political behaviour—high cost and irregular ‘snapshot’ opinion polls or surveys—have started to fail, witnessed most recently in the 2015 UK general election.

The key methods used in the book, therefore, need development for the future of politics. Turbulence is here to stay, and to understand, explain and predict political behaviour will require expertise from the physical and life sciences as well as social science. As researchers we need to develop the generation and analysis of large-scale transactional data relating to political behaviour, using machine learning and other data science techniques combined with the understanding of decades of social science research. We need to develop the experimental methods to build explanation into analyses of online behaviour and, ultimately to make it possible to design interventions to harness this new willingness for political engagement and build it into institutional design. The largest political parties in countries such as the UK and US run highly sophisticated data-driven campaigns, but when it comes to governing or interacting with citizens, the institutions and policy-making processes of democratic systems have lagged behind.

## CCS Concepts

•Human-centered computing → Collaborative and social computing;

## Keywords

social data science; computational social science; interface design; social influence; collective action; political science; political mobilization; experiments

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