

CALL FOR PAPERS

Under the concept of *critical transitions*, several disciplines such as ecology, biology, physics, epidemiology, oceanography, and geology have developed multiple modeling techniques and conducted empirical research on the analysis of major sudden transformations in the otherwise incremental dynamics of physical and natural processes. Through nonlinear developments, these changes profoundly reshape the organization of systems and landscapes giving rise to new structures and complex network relations.

While complexity sciences make decisive steps forward in the comprehension of the nonlinear dynamics of change, social sciences remain rather reluctant to view society as another field in which nonlinear developments can unfold, one that can even reflect upon its own shocks as “crisis.” Different contemporary social theories acknowledge the networked organization of the modern world and its growing potential for bringing about critical transitions. Yet, social sciences’ classical methods fall short of capturing and representing the nonlinear dynamics of sudden transitions, that is, the self-organizing behavioral and communicative patterns leading to major regime shifts that reorganize the structure and functioning of complex social systems. Mathematical and computational modeling offers a wide range of tools to represent, understand, and analyze possible complex dynamics of social behavior.

Considering that several advancements have been made regarding the integration of social sciences and modeling techniques, this special issue aims at applying modern computational modeling techniques (dynamic systems, network theory, agent-based modeling, and big data mining and alike) to possible critical transitions involving social phenomena. We seek interdisciplinary research papers that address the complex behavior of social systems leading to actual or potential critical transitions and that substantially reflect on the societal conditions originating them.

Potential topics include but are not limited to the following:

- ▶ Riots and upheavals on political affairs
- ▶ Sudden political polarization, restructuring of the labor market, and increasing social segregation or other critical transitions in the social structure of a host society after events of massive migration
- ▶ Effects of natural catastrophes on social communities and large populations, for example, in terms of structure of social networks, intergroup conflict, or solidarity towards out-group members
- ▶ Critical transitions in critical infrastructures such as water, energy, and transport systems
- ▶ Unintended side effects of policy interventions on fields such as education and health care

Authors can submit their manuscripts through the Manuscript Tracking System at <https://mts.hindawi.com/submit/journals/complexity/ccss/>.

Papers are published upon acceptance, regardless of the Special Issue publication date.

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