



In Partial Fulfillment of the Requirements for the Degree of

Doctor of Philosophy

David Iwaniec

Will defend his prospectus

Participatory Modeling of Sustainable Futures Scenarios for the City of Phoenix, USA

This research seeks to articulate and address growing concerns that traditional approaches to thinking about our future are inadequate to bring about sustainable and desirable futures. In so doing I introduce and test a conceptual model of two distinct futures-oriented approaches for developing normative scenarios (forward-casting and backcasting) in order to provide evidence-based understanding of the fitness of each approach to planning needs. I describe research for participatory modeling of sustainable futures scenarios for the city of Phoenix that are integrative across multiple time horizons. This involves the co-production and evaluation of forward-cast and backcast normative scenarios to develop futures-oriented sustainability innovations. These sustainability innovations take the form of dynamic representations of structures and system processes of future desirable states for targets, pathways, and goals including their articulation as policies, socio-technical innovations, and the roles and responsibilities of individuals and governance institutions.

The overarching goals of this proposed research is the conceptual and methodological development of a sustainability futures framework for futures research and planning needs. This includes the core research objectives to: I. Develop and evaluate participatory futures research and planning methodologies emphasizing sustainability criteria in the design, process, and outcomes of the proposed sustainability futures research in order to advance the development of future desirable states as a rigorous and coherent approach to long-term futures sustainability research; II. Improve our understanding of the diverse approaches to futures research through evaluative and evidence-based research in order to better frame planning objectives and to inform the selection of futures-oriented approaches; III. Develop and implement an integrative framework tying together sustainable research across multiple time horizons to connect long-term goals to practical action.

Expected outcomes of this proposed research include: enhanced anticipatory capacities of the city and community through the participatory approach to long-term

planning (i.e. Phoenix General Plan Update); improved understanding of futures-oriented approaches in relation to planning needs; the development of an integrative approach to normative scenario modeling for sustainability futures; and Phoenix-specific futures-oriented sustainability innovations in the form of articulated targets, goals, and generated pathways.

Friday, April, 6, 2012

1pm

Wrigley Hall, L1-15

Faculty, students, and the general public are invited.

Supervisory Committee:

Arnim Wiek (Chair)

Daniel Childers

Timothy Lant