

In Partial Fulfillment of the Requirements for the Degree of

**Doctor of Philosophy**  
**Nigel Forrest**

Will defend his prospectus

**Urban Sustainability Transitions through Evidence-Supported  
Intervention Practices**

**Abstract**

City sustainability initiatives are influenced by many factors that result in interventions being selected that produce suboptimal outcomes with respect to sustainability transitions. Effectiveness of selected interventions may be reduced by: consideration of only a narrow range of intervention options; limited use of evidence; isolated action; focusing on downstream effects; and incongruence with sustainability goals. Yet sustainability transitions require far-reaching and transformational intervention: this means interventions that align with shared, sustainability goals; are integrated, multi-level, dynamic, and systemic; and are supported by evidence of what works and under what circumstances. But what could cities do to select interventions that meet these criteria? While municipal networks such as ICLEI Local Governments for Sustainability provide guidance and frameworks to city practitioners they do not overcome the issues identified above. Sustainability science and related fields have developed methods and frameworks for managing sustainability transitions but with little attention to how cities might actually discover and select interventions that drive transition. Meanwhile, sustainability scientists call for greater solutions-oriented research but how might these solutions (interventions) find their way into the hands of practitioners? Fields such as public health have found *evidence-based practices* may deliver stronger outcomes and have developed intermediary knowledge systems that support discovery and use of interventions by practitioners. Could cities use a similar approach to improve progress towards sustainability?

The purpose of this research is to examine the feasibility, acceptability, and effectiveness of using *evidence-supported* intervention practices within city sustainability initiatives. A qualitative, action research approach will be taken with two city partners: the City of Avondale, Arizona, U.S. and the Municipality of Almere in the Netherlands. Working with each city separately, the research will proceed with: (1) a

case study to investigate current intervention practices; (2) creation of a framework (structure, procedures, criteria, and so forth) to guide evidence-supported practices; and (3) a participatory pilot study to test the acceptability and feasibility of the framework and the effectiveness of results produced (a set of projects selected for implementation). The study makes two contributions to urban sustainability knowledge and practice. The first is knowledge of existing intervention practices in city sustainability initiatives of which there is currently little empirical research. The second is the development of a guiding framework that cities can use to optimize the selection of sustainability projects. Such a framework will be of value to cities of differing sustainability capabilities and accomplishments.

Friday, April 25<sup>th</sup>, 2014  
11:30am  
Wrigley Hall, Room 323

Faculty, students, and the general public are invited.

Supervisory Committee:  
Dr. Arnim Wiek (co-chair),  
Dr. Daniel Schugurensky (co-chair),  
Dr. Rob Melnick (member)