



In Partial Fulfillment of the Requirements for the Degree of

Doctor of Philosophy
Rider W. Foley

Will defend his prospectus

**Towards Sustainable Anticipatory Governance – From Process
Analysis to Intervention Research**

The research addresses how transformational sustainability science and anticipatory governance can shape responsible innovation of emerging technologies. Sustainability science and anticipatory governance converge on tackling urgent societal challenges that have future-oriented impacts and are conducted in close collaboration between researchers from different academic fields and stakeholders from different societal domains. However, the majority of innovation studies take a descriptive approach to technological and societal changes or are not focusing on actors and activities across the innovation process. Further, actor-specific governance of nanotechnology fails to reflect sustainability values and value-laden responsible innovation and sustainability literature fails to be specific to stakeholders engaged in innovation activities.

Furthermore, scenario construction has focused on technologies and societal outcomes, rather than making a stronger link to alternative governance regimes. And finally, efforts to reconcile sustainability problems and technological solutions have not included systemic problem definitions to assess the proposed technological intervention. The overall research goal for the dissertation is to move from process analysis to intervention research in an effort towards sustainable anticipatory governance of emerging technology. The research objectives to reach this goal are to (i) develop a systemic actor-oriented innovation model as the basis for stakeholder reflection and sustainability appraisal; (ii) merge the knowledge domains of sustainability and governance principles to further develop value-laden and actor-specific guidelines for responsible nanotechnology innovation; (iii) build measurable stakeholder capacity to consider futures and assess alternative governance regimes and; (iv) broaden the problem framework when appraising the amenability of sustainability problems to

technological interventions. The research uses a range of methods including document analysis, participant observations, interviews, workshops, and walking audits. The research design is place-based and participant-oriented to address nanotechnology issues embedded in real-world settings (Metropolitan Phoenix), to allow people and communities to participate at a scale that is both relevant and accessible in their daily lives.

Monday, April, 9, 2012
1pm
Wrigley Hall, 481

Faculty, students, and the general public are invited.

Supervisory Committee:
Arnim Wiek (Chair)
David Guston
Ben Minter
Thomas Seager