ISSUE - Dealing with Disciplines

- Disciplines are distinguished partly for historical reasons and reasons of administrative convenience (such as the organization of teaching and of appointments)... But all this classification and distinction is a comparatively unimportant and superficial affair. **We are not students of some subject matter but students of problems. And problems may cut across the borders of any subject matter or discipline** (Popper, 1963).

- What is critical to realize is that “the way in which our universities have divided up the sciences does not reflect the way in which nature has divided up its problems” (Salzinger, 2003, p. 3)

CHALLENGE – Collaborating Across Disciplines

- To address the **multi-faceted nature** of the complex problems of the 21st century, we must bring together scholars from **differing disciplines**
SOLUTIONS – *International Attention to Interdisciplinary Scholarship*

1. **Increased emphasis on collaborative research** projects that create a team of scholars **cutting across disciplines** to address complex phenomena
2. **Policy, Academia, and Industry** communities all making more of a concerted effort to understand and **improve collaborations**
3. Tremendous **growth** in study and understanding of teams

- *It is the scientific study of teamwork that could be the true catalyst for change*
  - Matured into its own area of inquiry producing a rich base of knowledge
  - Helped us to better understand the complex coordinative processes engaged by teams
  - *To understand why “teamwork” matters, we need to understand what is interdisciplinary research*
What is Interdisciplinary Research?

- Demands **more than just complementarity**
  - Team members **combine or juxtapose** concepts and methods from different disciplines
- Overarching goal is systematic **integration**
  - Integrates information, data, techniques, tools, perspectives, concepts, and/or theories from **two or more disciplines** or bodies of specialized knowledge (NAS, 2004)
- **Goal is to advance fundamental understanding and to solve problems whose solutions are beyond the scope of a single discipline or field of research practice**

“To do something interdisciplinary it’s not enough to choose a "subject" (a theme) and gather around it two or three [disciplines]. Interdisciplinarity consists of creating a new object that belongs to no one” (Barthes, 1977).
Reframe interdisciplinarity as a process of teamwork to be mastered

- *By understanding teamwork and organization fundamentals, we can overcome challenges and achieve success in interdisciplinary research (Fiore, 2008)*

A New Field - *Science of Team Science*

- Understand and improve how scholars interact and integrate across disciplinary, professional, and institutional boundaries (e.g., Börner et al., 2010; Falk-Krzesinski et al., 2010; Fiore, 2008; Hall et al., 2008; Stokols et al., 2008).

Clusters as Interdisciplinary Scholarship

- Leverage this new field focused on improving teamwork in academia to develop interdisciplinary cluster hire initiatives
Cluster Hire Initiative

Meeting the Grand Challenges of the 21st Century: The University of Iowa Cluster Hire Initiative

Current Clusters

- The Aging Mind and Brain
- Genetics
- Informatics
- Obesity
- Public Digital Arts
- Public Humanities in a Digital World
- Water Sustainability

Employers are asking for graduates who can work in teams across disciplinary specialties. And, despite budget cuts,