

*Brainstorming scientific opportunities:
Synthesis on topics*

*21st Century Transdisciplinary
Approaches to bBSSR*

<http://oppnet.nih.gov>



The Challenge - Barriers

- How to get people in different disciplines together
- Logistical challenges such as common language (e.g., mechanism)
- Issues within institutions such as distribution of funds
- Hiring, promotion, and tenure
- NIH support change in institutional reward structures
- Culture of review committees
- Cross-IC funding of projects



The Challenge - Unknowns

- Disciplines that are not represented (e.g., urban planning, political science, humanities, communication, mathematics, engineering, computer science)
- Unknown partners such as community leaders and NGOs



The Challenge - Approaches

- Need to broaden approaches in bBSSR for generating theories and models
- Handling massive amounts of data (computing issues, conceptual understanding)



The Opportunity - Barriers

- NIH-funded evaluation of team science, collaborative and communications structures
- Common language translations within as well as across disciplines
- Promote scientific matchmaking (including training)
- Interdisciplinary T32s like biobehavioral program
- Planned interdisciplinary thematic courses
- Center mechanisms including CTSA's
- Don't forget to look in your own backyard



The Opportunity – Scientific Topics

- Mindfulness
- Developmental/lifecourse research on resilience
- Plasticity and recovery as function of the person and the environment (social and environmental outcomes, not just physiological)
- Downward mobility
- Gene-environment interactions
- Climate change, extreme events, disasters



The Opportunity – Approaches

- **Modeling approaches to bBSSR (e.g., simulation)**
- **Involve humanities in understanding ethics**
- **Transdisciplinary collaborations (including humanities) to understand context across multiple levels**



What does this concept provide that is lacking or needed to advance the field?

- **True collaboration (not just each member in their own box)**
- **Infrastructure/support for the development of TD teams**
- **Collaboration across ICs and federal agencies**
- **Integrated computing systems for data analyses and interdisciplinary concept searches**
- **Developing “smart” databases that would make suggestions (e.g., Amazon)**
- **Technological breakthroughs in sampling techniques**
- **New ethical standards to reflect emerging data collection technologies**

