

*Brainstorming scientific opportunities:
Synthesis on topics*

Neuroscience Approaches in bBSSR

<http://oppnet.nih.gov>



Concept 1: Linking Neuroscience and Behavior

- **Challenge: Complex behavioral models and theories and large neuroscience data sets**
- **Opportunity: To link these items without oversimplifying either**



Concept 2: Manipulating Brain Circuits in the Service of Understanding Behavior

- **Challenge: Neuroscience approaches exist but need to be applied to behavioral science**
- **Opportunity:**
 - **Examples: Optogenetic animal models and neurofeedback in humans**



Concept 3: Individual and Cultural Differences

- **Challenge: Accounting for tremendous variability in a meaningful way**
- **Opportunity: Behavioral scientists have expertise with appreciating these complexities and can inform questions in neuroscience (e.g., anatomy and function)**



Concept 4: Developing More Sophisticated Behavioral Phenotypes

- **Challenge: Using neuroscience to inform more comprehensive and contextually-sensitive measures of behavior**
- **Opportunity:**
 - **Examples of approaches: Experience sampling, ambulatory monitoring, non-verbal measures, qualitative/mixed-modeling approaches**



Concept 5: Tool and Infrastructure Development

- **Challenge: Vast amounts of neuroscience and behavioral data with little chance to do systematic analyses**
- **Opportunity: To support broad-based data archiving and development of statistical tools and techniques on datasets**



Concept 6: Brain-Behavior Camp

- **Challenge: Lack of understanding or appreciation of the “other”**
- **Opportunity:**
 - Intensive workshops (e.g., training in behavior for neuroscientists and training in neuroscience for behavior)

