

## **DEVELOPING CREATIVITY AND INNOVATION IN PHYSICS (Spring 2011)**

**April 7, 2011**

**Dan Leach Guest Presenter**

### **TRAITS AND PRACTICES USED BY INDIVIDUALS ENGAGED IN CREATIVE ENDEAVORS**

PERCEPTIVENESS/SEEING  
CURIOSITY AND EXPLORATION  
OPENESS AND A POSSIBILITY MINDSET  
CONNECTING, PATTERN RECOGNITION, SYSTEMS THINKING  
METAPHORICAL THINKING  
PLAYFUL ENGAGEMENT  
VISUALIZING  
MENTAL MODELING  
PROBLEM/SOLUTION MINDSET  
OPPORTUNITY ORIENTATION  
TINKERING AND EXPERIMENTATION  
INNER DRIVE AND PERSISTENCE  
TRANSFORMATIONAL ORIENTATION

### **IMPORTANT FACTORS AND CONSIDERATION WHICH IMPACT CREATIVITY**

#### PERSONAL DIMENSIONS

- SKILLSETS
- PSYCHOLOGICAL
- BELIEFS
- EXECUTIVE FUNCTION

#### SOCIAL FACTORS, DOMAIN SPECIFIC FACTORS, AND SYSTEMIC FORCES

- SOCIETAL/FAMILY
- CULTURE
- PROFESSIONAL
- DISCIPLINE SPECIFIC
- ORGANIZATIONAL
- POLITICAL
- ECONOMIC

#### RISK ORIENTATION

- FEAR/RISK/REWARD/VALUE
- RISK MANAGEMENT APPROACH