

Northeastern University



Mathematics Department

Geometry, Physics, and Representation Theory Seminar  
together with  
Geometry, Algebra, and Singularities Seminar

**Ryan Grady**  
Montana State University

Thursday, October 11, 3:50-4:50 pm, Lake Hall 509

## **A hierarchy of symplectic $\sigma$ -models**

### **Abstract**

In this talk I will discuss a family of classical field theories in the Batalin–Vilkovisky formalism. These theories take as input  $n$ -symplectic Lie algebroids which correspond to symplectic manifolds, Poisson manifolds, and (higher) Courant algebroids. I will also discuss possible boundary conditions for these theories, e.g., Dirac structures and multiplectic structures. Finally, I will discuss aspects of the quantum theory in low dimensions.