Classical Mechanics and Differential Geometry

SPEAKER: Casey Blacker, East China Normal University
TIME: 12:30pm-1:30pm, Tuesday, December 11, 2018
VENUE: Room 302, NYU Shanghai, 1555 Century Avenue, Pudong New Area, Shanghai

ABSTRACT

Symplectic geometry arose in physics as the ideal setting for classical mechanics, and multisymplectic geometry has recently emerged as an analogous candidate in classical field theory. In this talk, I will introduce symplectic geometry according to the perspective that every symplectic manifold is locally the phase space of a classical mechanical system. The related theories of contact and polysymplectic geometry will also be discussed, along with relevant historical background. Working by analogy with the symplectic approach to classical mechanics, I will conclude with a brief introduction to the multisymplectic formalism in Classical field theory.

BIOGRAPHY

Casey Blacker is a Postdoctoral Scholar at the East China Normal University, Shanghai. He obtained his PhD from UC Santa Barbara in 2018 and his undergraduate degree from the University of St Andrews, Scotland, in 2013. His interests have included spin geometry, index theory, and symplectic geometry. He is currently involved in the reduction, localization, and quantization of multisymplectic manifolds.

* This event is open to NYU community and invited guests only.