

## **A NEW DEFORMATION TYPE OF IRREDUCIBLE SYMPLECTIC VARIETIES**

**Speaker: Zhiyu Liu**  
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**Time: Wed., Oct. 23rd, 14:00-15:30PM**

**Venue: Room 102, SCMS**

### **Abstract:**

Irreducible symplectic varieties are one of three building blocks of varieties with Kodaira dimension zero, which are higher-dimensional analogs of K3 surfaces. Despite their rich geometry, there have been only a limited number of approaches to construct irreducible symplectic varieties. In this talk, I will introduce a general criterion for the existence of irreducible symplectic compactifications of non-compact Lagrangian fibrations, based on the minimal model program and the geometry of general fibers. As an application, I will explain how to get a 42-dimensional irreducible symplectic variety with the second Betti number at least 24, which belongs to a new deformation type. This is a joint work with Yuchen Liu and Chenyang Xu.