



## **FUDAN-SCMS ALGEBRAIC GEOMETRY SEMINAR**

### **ZOOM MEETING SEMINAR**

**LECTURE :**

**BRILLIANT FAMILIES OF  $K3$  SURFACES**

**Speaker: Daniel Huybrechts (Bonn University)**

**Time: Mar 18, Beijing 20:30-21:30 (GMT 12:30-13:30)**

**Zoom Meeting Id: 831 5157 9014**

**Password: 254625**

**Abstract:** We explain how Hodge theory unifies three a priori very different types of deformations of  $K3$  surfaces: twistor spaces, Brauer (or Tate-Shafarevich) families and Dwork families. All three share the property of transporting complex multiplication from one fibre in the Noether-Lefschetz locus to any other. This phenomenon is at the moment observed in all three cases but geometrically only explained for Brauer families. The motivation comes from the Hodge conjecture for squares of  $K3$  surfaces which is still open.