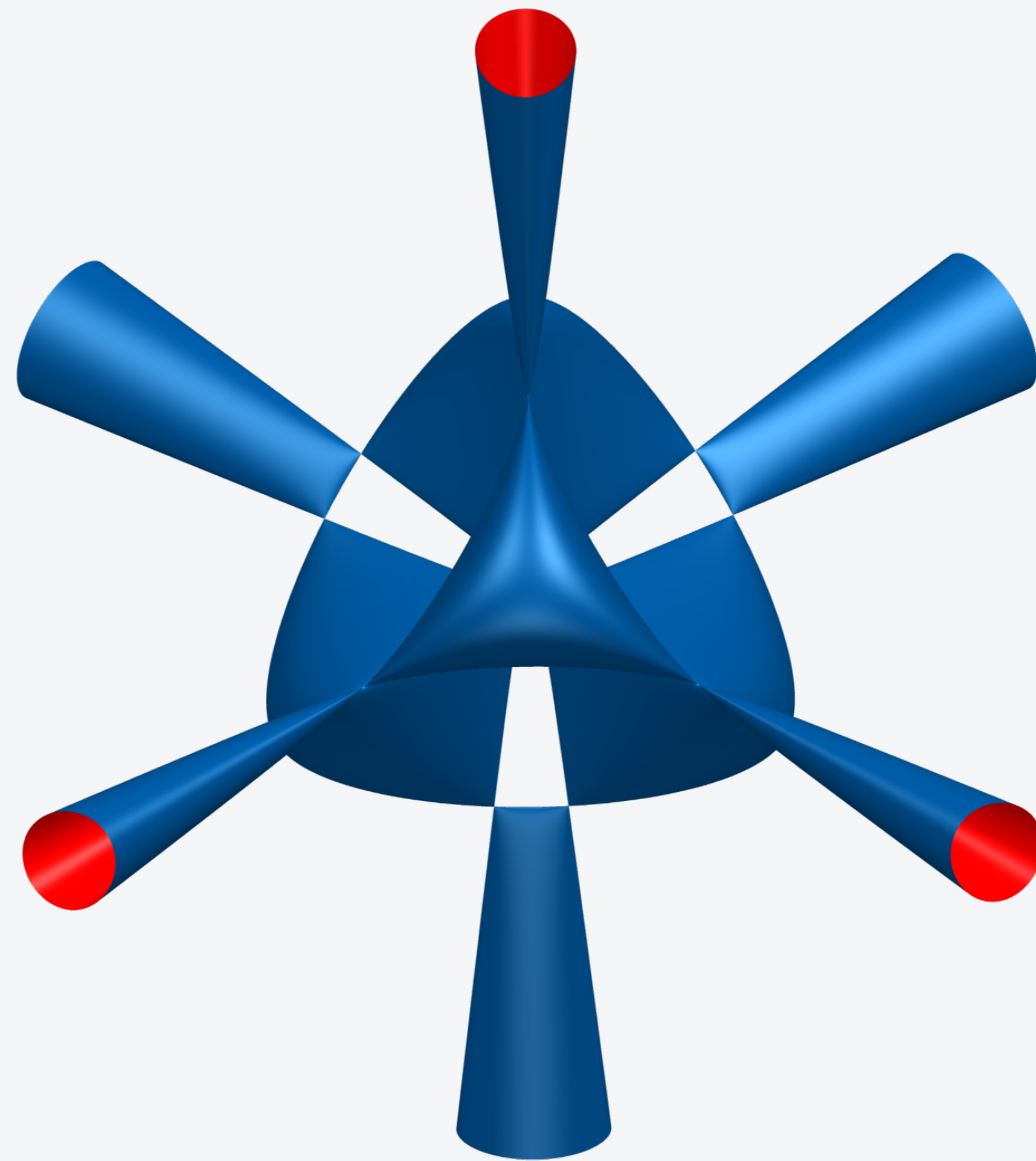


## Day of Algebraic and Arithmetic Geometry



**Friday, May 20th, 14:00 - 18:00**

**Berlin-Brandenburgische Akademie der Wissenschaften, Leibniz Saal**

14:00 - 15:00 **Rahul Pandharipande (ETH Zürich)**

### **Algebraic cycles and moduli spaces**

**Abstract:** I will discuss conjectures and results (old and new) related to algebraic cycles which emerge from the study of moduli spaces of curves, sheaves, and maps. Some are related to tautological cycles on moduli spaces and others are related to virtual fundamental classes. Several open questions will be presented.

15:30 - 16:30 **Emmanuel Kowalski (ETH Zürich)**

### **A geometric interpretation of additive problems for primes**

**Abstract:** The Schinzel Problem in analytic number theory concerns the primes values taken by an integral polynomial evaluated at integers. In the context of function fields, this becomes a natural problem of algebraic geometry of curves. The talk will present this analogy and discuss some progress in the geometric direction, as well as some interesting open problems that arise.

17:00 - 18:00 **Vasudevan Srinivas (TIFR Mumbai)**

### **Abelian Varieties and Theta Functions associated to compact Riemannian manifolds: constructions inspired by superstring theory**

**Abstract:** We outline a construction of abelian varieties and theta functions due to Moore and Witten, associated to the topological K-groups of certain Riemannian manifolds. This is based on joint work with Chris Peters and Stefan Müller-Stach.

These lectures are part of the Einstein Visiting Fellowships  
of Rahul Pandharipande and Vasudevan Srinivas