Mathematics Department Colloquium

Organizer(s): Kenneth Ribet

Thursday, 4:10–5:00pm, 60 Evans

Apr. 23 **Arnaud Beauville**, University of Nice

Riemannian Holonomy and Algebraic Geometry

To any Riemannian manifold of dimension n is associated a closed subgroup of $\mathbf{SO}(n)$, the holonomy group; this is one of the most basic invariants of the metric. A famous theorem of Berger gives a complete (and rather small) list of the groups that can appear. The construction of compact manifolds with holonomy smaller than $\mathbf{SO}(n)$ leads to the study of special algebraic varieties (Calabi–Yau, complex symplectic or complex contact manifolds) for which Riemannian geometry raises interesting questions.