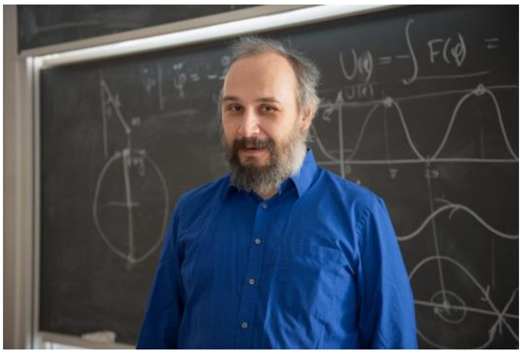
Семинар Лаборатории Алгебраической геометрии и ее приложений

13 августа 2021г (пятница)

<u>в 17:00</u>

На семинаре выступит



Миша Вербицкий (НИУ ВШЭ)

с докладом:

Hyperkahler manifolds with round Kahler cones.

Let M be a hyperkahler manifold, and K its Kahler cone, which is an open, convex subset in the space H^{1,1}(M, R) of real (1,1)-forms. This space is equipped with a canonical bilinear symmetric form of signature (1,n), called the Bogomolov-Beauville-Fujiki form. The set of vectors of positive square in the space of signature (1,n) is a disconnected union of two convex cones. The "positive cone" is the component which contains the Kahler cone. We say that the Kahler cone is "round" if it is equal to the positive cone. The manifolds with round Kahler cones have unique bimeromorphic model and correspond to Hausdorff points in the corresponding Teichmuller space. Also, their group of automorphisms and the holomorphic Lagrangian fibrations (if SYZ condition holds, which is true in all examples) have an easy cohomological description. Jointly with Ekaterina Amerik, we constructed deformations of a given hyperkahler manifold with round Kahler cones and automorphisms of prescribed dynamical type, assuming that b_2 of the manifold is sufficiently big.

I will relate this story and give a proof of a new result, joint with Ljudmila Kamenova: any hyperkahler manifold with b_2 > 4 admits a deformation with round Kahler cone and the Picard lattice of signature (1,1), admitting two integer isotropic classes. This is used to show that all known examples of hyperkahler manifolds admit a deformation with two independent Lagrangian fibrations, and their Kobayashi metric vanishes.

Приглашаются все желающие!