

Trieste Algebraic Geometry Summer School (TAGSS) 2021 - Hyperkähler and Prym varieties: classical and new results



19 - 23 July 2021
An ICTP Virtual Meeting
Trieste, Italy

Further information:
<http://indico.ictp.it/event/9610/>
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Hyperkähler manifolds are a class of manifolds with vanishing first Chern class, constituting an active area of current research. Another fundamental problem concerns moduli space of polarized abelian varieties, studied via Prym varieties and the Prym map to the moduli of abelian varieties.

Description:

Hyperkähler manifolds, an overview and some open problems

Hyperkähler manifolds are mainly characterized by their second cohomology. The period maps from the moduli spaces of hyperkähler manifolds to the period domains of their second cohomology are surjective, which is a rare phenomenon happening almost exclusively in weight 1 and weight 2.

The course will give an introduction to hyperkähler manifolds and their known examples, survey some of the known results, and present some open problems. In the examples, interesting connections between hyperkähler manifolds, Fano manifolds and abelian varieties will be shown.

Prym varieties

The course will review the classical theory and recent advances on Prym varieties and the Prym map, with special focus on the low genera cases which display beautiful geometry. The moduli aspect and the appearances of Prym varieties in other mathematical contexts will also be discussed.

Contributed talks:

Participants interested in giving a short communication are invited to submit an abstract.

How to apply:

Online application:
<http://indico.ictp.it/event/9610/>

Female scientists are encouraged to apply.

Topics:

- Characterization of hyperkähler manifolds via their cohomology
- Period maps from the moduli spaces of hyperkähler manifolds to the period domains of their second cohomology
- Connections between hyperkähler manifolds, Fano manifolds and abelian varieties
- Fano manifolds
- Abelian varieties and Polarized abelian varieties
- Prym varieties and the Prym map: classical theory and applications

Grants:

There is no registration fee.

Directors:

V. BEORCHIA, University of Trieste, Italy
A. BORALEVI, Politecnico di Torino, Italy
B. FANTECHI, SISSA, Italy

Local Organiser:

L. GOETTSCHIE, ICTP, ITALY

Speakers:

E. IZADI, University of California, San Diego, USA
A. ORTEGA, Humboldt-Universität zu Berlin, Germany

Deadline:

11 June 2021



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