UNIVERSITÀ DI PARMA

DIPARTIMENTO DI SCIENZE MATEMATICHE, FISICHE E INFORMATICHE

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Notizie **SEMINARIO di GEOMETRIA**

Relatore: Prof.ssa **Simona Settepanella**, Università di Hokkaido

Luogo: **Plesso di Matematica, Sala della Riunioni**

Data e ora: **12 settembre** 2019, ore **11:00.**

Titolo: **Discriminantal Arrangement: a combinatorics way to encode special geometric configurations**

Tutti gli interessati sono invitati a partecipare.

Organizzatore: Prof. Alberto Saracco

Abstract: *The Discriminantal arrangement has been introduced by Manin and Schechtman in 1989. It is an arrangement of hyperplanes generalizing classical braid arrangement. Fixed a generic arrangement A of n hyperplanes in complex space of dimension k, the Discriminantal arrangement B(n, k, A) (k=1 corresponds to Braid arrangement), consists of parallel translates of A which fail to form a generic arrangement. The combinatorics of B(n, k, A) depends on A when A is outside an open Zariski set Z (such arrangements are called NON very generic). In 2016, Libgober and Settepanella gave a sufficient geometric condition for an arrangement A not to be in Z.*

More recently Sawada, Settepanella and Yamagata, using the condition introduced by Libgober and Settepanella, showed that Pappus's and Hesse configurations are in correspondence with arrangements A not in Z and such that theirs associated Discriminantal arrangements B(n, k, A) have a very specific intersection lattice.

This lead to an alternative statement and proof of Pappus's Theorem retrieving Pappus's and Hesse configurations of lines as special points in the complex projective Grassmannian.

This result enlightens a new connection between special configurations of points (lines) in the projective plane and combinatorics of Discriminantal arrangements.