

Seminari Informal de Matemàtiques de Barcelona

Speaker: Eva Philippe.

University: Sorbonne Université and Universitat de Barcelona.

Date: Wednesday, April 24th, 2024.

Schedule: 13:00, *coffee break*; 13:20, talk.

Place: UB (FMI aula IA) and Zoom.

Language: English.

Title: Regular subdivisions and triangulations

Abstract: Subdivisions and triangulations of point configurations in \mathbb{R}^d are a central topic of polyhedral combinatorics and among them regular subdivisions form a particular family which enjoys special geometric properties.

A subdivision is regular if it can be obtained by taking the lower faces of a lifting of its vertices in one dimension higher. This lifting process was central to improve the best known lower bound on the number of combinatorial types of polytopes (joint work with Arnau Padrol and Francisco Santos). Moreover, it happens that among the set of all subdivisions of a fixed point configuration, the regular ones have a particular topological structure. Indeed, they are in correspondence with the faces of a polytope called the secondary polytope.'

About us: *SIMBa* is a mathematics seminar organized by graduate students in the Barcelona area. It is aimed towards graduate and last course undergraduate students. Our goals are disseminating knowledge from different branches of mathematics for those interested and promoting networking between the attendants.

This seminar is backed by the Faculty of Mathematics and Computer Science at Universitat de Barcelona, Faculty of Mathematics and Statistics at Universitat Politècnica de Catalunya, the Department of Mathematics from Univesitat Autònoma de Barcelona, CRM, IMUB and BGSMath.

For more information, visit seminari-simba.github.io/en.

If you have any doubt or comment do not hesitate to contact us by sending an email to seminari.simba@gmail.com.