TOPOLOGY SEMINAR

Lines generate the Picard group of a Fermat surface -II

By

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Abstract: I will explain a purely topological solution of a long standing algebra-geometric problem, viz. the so-called Shioda conjecture. After a brief introduction to the subject, I will state the problem and reduce it to the computation of the fundamental group (or, rather, properly understood Alexander module) of a certain arrangement of lines in the plane. Then, in the bulk of the talk, I will try to explain this computation in detail: we will discuss the braid monodromy, Zariski--van Kampen theorem (with its pros and contras) computing the fundamental group of a plane curve, and, essentially, Fox' free calculus explained via cellular complexes.
The talk will largely be accessible to graduate and senior undergraduate students. At the end of the talk I am planning to discuss the generalizations to the so-called Delsarte surfaces and state a few open problems that may constitute a master or Ph.D. project.

Date: December 2, 2019 Monday
Time: 13:40 – 14:40
Place: SA141 Mathematics Seminar Room

* Tea and cookies will be served after the talk. All are most cordially invited.