Introduction to birational anabelian geometry

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Timetable: 12 hrs, First Lecture on May 23, 09:00 (dates already fixed, see the calendar), Torre Archimede, Room 2AB/45.

SSD: MAT/03 Geometry

Aim: The course will be divided into eight two-hour lectures. There will be a problem set.

Course contents:

- Galois correspondences, fundamental groups, and Galois groups.
- Structures on fundamental groups of varieties: Hodge structures and Galois representations.
- Ètale cohomology and the comparison theorem. Curves.
- Valuation theory, Kümmer theory; decomposition and inertia groups.
- Pre-history: Mostow rigidity, Faltings, Neukirch-Uchida-İkeda-Iwasawa.
- Birational anabelian geometry I: recipes for decomposition and inertia, finitely-generated fields.
- Birational anabelian geometry II: Bogomolov's Program.
- Birational anabelian geometry III: Anabelian Intersection Theory.