

## SYSTEMS OF LOW COMPLEXITY

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The first decades of the theory of dynamical systems put a particular emphasis on hyperbolic and chaotic systems; but recent years have seen many progresses on their opposite, the systems of low complexity (in the sense of symbolic dynamics). These systems are of entropy zero, hence deterministic : their past, almost surely, determines their future.

The paradigmatic example is of course the family of rotations, and its symbolic translation, the sturmian sequences. They have been studied for a long time, but interesting new properties are still being discovered, for example the properties of a random sturmian system, which are deeply linked to the continued fraction expansion of the angle of the rotation.

This family has several interesting generalizations: Toral translations in higher dimensions, interval exchange transformation, exchanges of pieces, flows on tiling spaces, symbolic systems of low complexity and adic systems, billiards,  $\mathbb{Z}^d$ -actions and multidimensional words... In most cases, generalised continued fractions can be associated, by induction and renormalisation, to such families (in the case of interval exchanges, this is the Rauzy induction, related to the Teichmüller flow).

Session speakers :

- Nicolas Bédaride (université d'Aix-Marseille)\*
- Sylvain Bonnot (USP)\*
- Alexander Bufetov (université d'Aix-Marseille)\*
- Patricia Cirilo (universidade federal de São Paulo)\*
- Diana Davis (swarthmore college)
- Vincent Delecroix (université de Bordeaux)\*
- Albert Fisher (USP)
- Eduardo Garibaldi (Universidade de Campinas)\*
- Pascal Hubert (université d'Aix-Marseille)
- Renaud Leplaideur (université de Nouméa)\*
- Isabelle Liousse (université de Lille) \*
- Luna Anna Lomonaco (USP)\*
- Charles Fougeron (Max-Planck Institute, Bonn)
- Selim Ghazouani (Warwick University)
- Ali Messaoudi (Universidade estadual de São Paulo) \*
- Marcelo Sobotka (Universidade Federal de Santa Catarina)\*

\* confirmed speakers