

**“INTRODUCTION TO ERGODIC OPTIMIZATION”
COURSE, 13–14 NOVEMBER 2006**

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This intensive course serves as preparation for the subsequent Workshop, and will (hopefully) give a hands-on feel for ergodic optimization, including plenty of concrete examples.

The only pre-requisite is some familiarity with dynamical systems and ergodic theory.

The exact syllabus will be adapted according to the audience, but expected topics are:

- History of the subject
- Explicit examples: $\times 2$ map, barycentres, maximum hitting frequencies
- Symbolic dynamics: Sturmian sequences, Sturmian measures, flowers and their measures
- Sub-actions, normal forms, subordination principle, Mañé lemma, positive Livsic theorem, calibration
- Generic properties of maximizing measures
- The inverse problem: Which invariant measures are (uniquely) maximizing measures?
- Connections to thermodynamic formalism: transfer operators, equilibrium measures, the zero temperature problem
- Connections with: dynamic programming, Aubry-Mather theory