Schedule

The 2019 Fall Program of Low-Dimensional Dynamics

Week 8(Oct. 28- Nov. 1)

Monday (Oct. 28)	**102, SCMS**
9:30 – 17:00	Free Discussion
Tuesday (Oct. 29)	**102, SCMS**
9:30 – 11:30	Free Discussion
14:30 – 16:30	Michael Benedicks
16:40 – 17:40	Shucheng Yu
Wednesday (Oct. 30)	**102, SCMS**
9:30 –11:30	Michael Benedicks
Thursday (Oct. 31)	**102, SCMS**
14:30 – 16:30	Michael Benedicks
Friday (Nov. 1)	**102, SCMS**
9:30 –17:00	Free Discussion

(1) Lecture series by Michael Benedicks

Title: Parameter selection for Hénon maps and the coexistence of sinks and attractors

Abstract: The aim of the lecture series is initially to go through the selection of parameters by Carleson and myself to construct quadratic maps with absolutely continuous invariant measures and dissipative Hénon maps with Sinai-Ruelle-Bowen measures (strange attractors). I will then describe the modification of the constructions (joint work with Liviana Palmisano) to prove the coexistence (for the same parameters) of finitely many sinks and a strange attractor. We also obtain parameters in the Hénon family with two coexisting strange attractors.

(2) Lecture by Shucheng Yu

Title: Values of random quadratic forms in shrinking targets

Abstract: Let Q be a non-degenerate and non-definite quadratic form in more than two variables. The Oppenheim Conjecture, proved by Margulis, states that if Q is not proportional to a rational quadratic form, then its values at integer points form a dense subset of the real number line. Since Margulis' proof, there have been many attempts in quantifying the density of values of quadratic forms. In this talk we will present a quantitative Oppenheim Conjecture which holds for random quadratic forms. This result verifies a prediction made by Ghosh, Gorodnik and Nevo on the optimal density of values of random quadratic forms. Our proof relies on an explicit volume estimate and a mean square bound for certain discrepancy functions which follows from Rogers' second moment formula for the Siegel transform. This is joint work with Dubi Kelmer.