



博士生论坛：可数马尔可夫转移映射

Time: September 18 – September 21, 2026

(Arrival: September 18, 2026; Departure: September 21, 2026)

Venue: Room 1801, Guanghua East Main Building (Handan Campus)

Organizer: Guohua Zhang (Fudan University)

Doctoral Student Coordinator: Xinyao He (Fudan University)

Time	Workshop Course	Instructor
Room 1801, Guanghua East Main Building		
September 19, 2026 (with Afternoon Tea Break)		
Start: 9:00 (3 学时)	Sarig's Variational Principle for Countable Markov Shifts	Xinyao He
Start: 14:00 (4 学时)	Symbolic Dynamics for Homoclinic Classes of Hyperbolic Measures	Dawei Yang
September 20, 2026 (with Afternoon Tea Break)		
Start: 9:00 (3 学时)	Sarig's Variational Principle for Countable Markov Shifts	Xinyao He
Start: 14:00 (4 学时)	Recurrence for Countable Markov Shifts	Chiyi Luo
September 21, 2026		
Start: 9:00 (2 学时)	Q&A and Free Discussion	Xinyao He

Workshop Course: Symbolic Dynamics for Homoclinic Classes of Hyperbolic Measures

Instructor: Dawei Yang (Soochow University)

Abstract: In this course, we consider surface diffeomorphisms. In 2011, Sarig constructed a countable Markov shift that codes the dynamics of such diffeomorphisms and used this construction to show that there are at most countably many ergodic measures of maximal entropy. In 2022, Buzzi-Crovisier-Sarig introduced the notion of a Borel homoclinic class of an ergodic measure. In this course, we focus on a single Borel homoclinic class and show that any such class with positive entropy can be coded by a transitive countable Markov shift. As a consequence, there is a unique measure of maximal entropy within this homoclinic class.

Workshop Course: Recurrence for Countable Markov Shifts

Instructor: Chiyi Luo (Jiangxi Normal University)

Abstract: In this course, we mainly consider a mixing countable Markov shift together with a potential of summable variations and finite Gurevich pressure. We show that if the potential is recurrent, then it admits an ergodic conformal measure, while if it is positive recurrent, then it admits an ergodic conformal probability measure. Moreover, positive recurrence is equivalent to the existence of an equilibrium measure.

Workshop Course: Sarig's Variational Principle for Countable Markov Shifts

Instructor: Xinyao He (Fudan University)

Abstract: In this course, we will focus on Sarig's thermodynamic formalism for countable Markov shifts, with particular emphasis on the variational principle for Gurevič pressure. After recalling the relevant notions of pressure and regularity of potentials, the main part will be devoted to the formulation of Sarig's variational principle and the principal ingredients of its proof, with emphasis on the ideas needed to handle the non-compact setting.