Mathematisches
Forschungsinstitut
Oberwolfach

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Oberwolfach Seminar

The Cutoff Phenomenon for Finite Markov Chains

Organizers: Charles Bordenave, Toulouse
Persi Diaconis, Stanford
Hubert Lacoin, Rio de Janeiro
Justin Salez, Paris
Date (ID): 21 – 27 November 2021 (2147a)
Deadline: 12 September 2021

The cutoff phenomenon is an abrupt convergence to equilibrium for Markov chains on a large finite state space. It was originally discovered by Aldous, Diaconis and Shahshahani in the context of card shuffling in the eighties.

It is now established for several other chains arising in various settings such as random walks on groups, interacting particle systems or random walks on random graphs. However, despite many efforts, the general conditions underpinning this phase transition are still very far from being understood.

There have been some recent developments which propose new approaches to the cutoff phenomenon. The aim of the seminar is to gather PhD students and young researchers around three leaders of the field: Persi Diaconis (Stanford), Hubert Lacoin (IMPA) and Justin Salez (Paris Dauphine) who will give lectures on three complementary aspects of the cutoff phenomenon.

The three courses will also include exercise sessions and open discussions to encourage new collaborations and new ideas on the topic.

The seminar takes place at the Mathematisches Forschungsinstitut Oberwolfach. The Institute covers board and lodging. By the support of the Carl Friedrich von Siemens Foundation travel expenses can be reimbursed up to 150 EUR in average per person (against copies of travel receipts). The number of participants is restricted to 25.

Applications including

- full name and address, incl. e-mail address
- short CV and publication list
- present position, university
- name of supervisor of Ph.D. thesis
- a short summary of previous work and interest
- title, ID and date of the intended seminar

should be sent preferably by e-mail (with attachments in pdf format) via **seminars@mfo.de** until 12 September 2021 to:

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