



Mathematisches
Forschungsinstitut
Oberwolfach

Member of



Oberwolfach Seminar

Control and Machine Learning

Organizers: Borjan Geshkovski, Cambridge
Domènec Ruiz-Balet, London
Enrique Zuazua, Erlangen
Date (ID): 24 – 29 November 2024 (2448b)
Deadline: 1 September 2024

This seminar will provide an overview of the recent developments and new horizons of the burgeoning field found at the intersection of control theory and machine learning. This perspective, in which deep neural networks are viewed as controlled flow maps, has shown to be fruitful in analyzing a myriad of problems of interest in machine learning, including interpolation and generalization properties of deep neural networks, or normalizing flows for generative modeling, as well as clustering properties for Transformers – to name a few.

The week-long Oberwolfach Seminar 2448b will address the topic from different points of view taking in particular recent developments in machine learning into account. The target audience is PhD students and post-doctoral researchers wishing to be quickly immersed in this modern, active research area. Priority will be given to young, motivated researchers.

Please see the website of the seminar for detailed information:

www.mfo.de/occasion/2448b

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 title, ID and date of the intended seminar, together with **one pdf-file attached** containing

- 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

should be **sent by e-mail** via seminars@mfo.de until 1 September 2024 to:

Prof. Dr. Matthias Hieber
Mathematisches Forschungsinstitut Oberwolfach
Schwarzwaldstr. 9 – 11
77709 Oberwolfach
Germany

