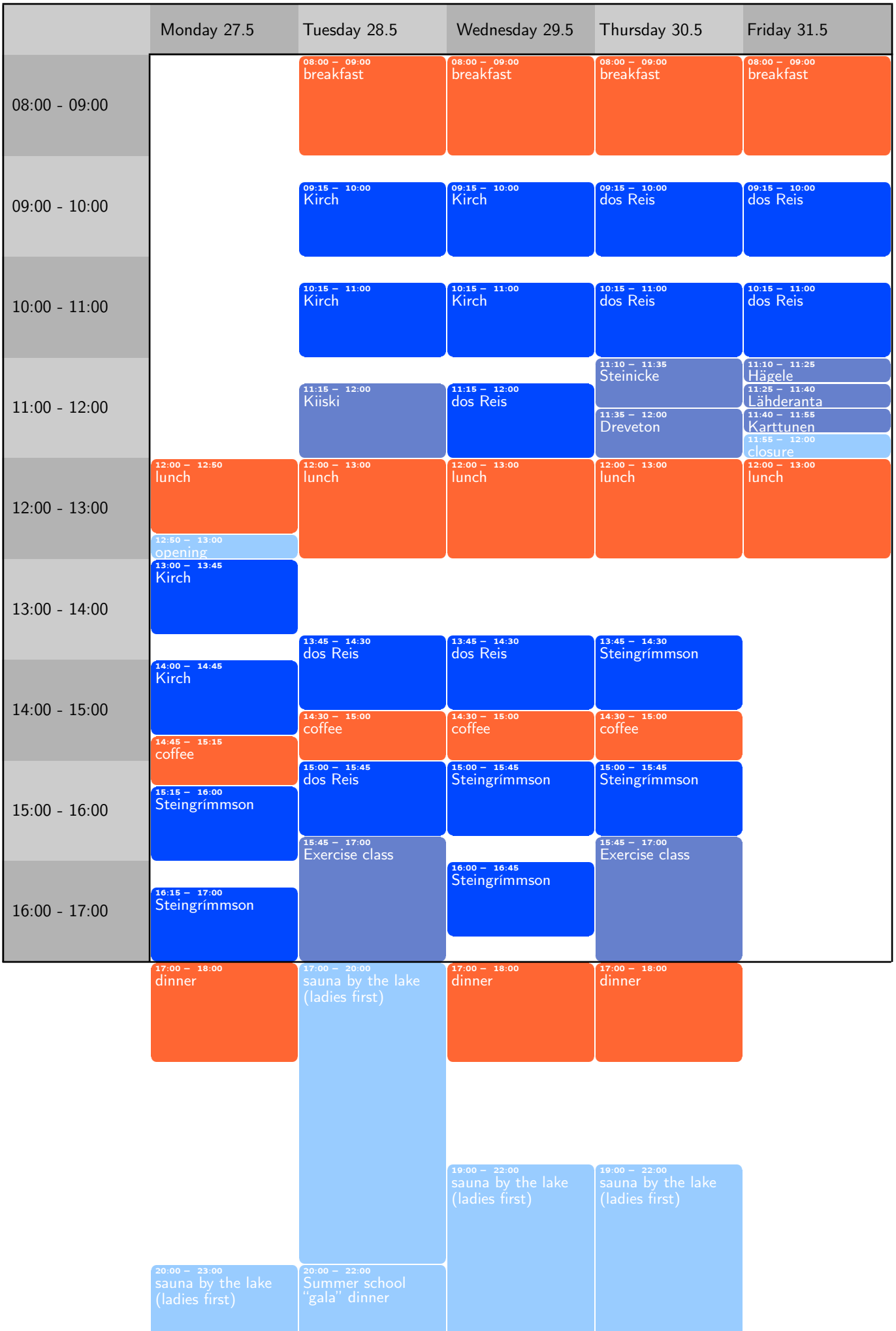
39^{th} Finnish Summer School on Probability and Statistics, Lammi Biological Station



1. Minicourses

Introduction to Change Point Analysis.

Claudia Kirch

University of Magdeburg

Mean Field Equations.

Gonçalo dos Reis

University of Edinburgh

Algebraic Combinatorics and Probability.

Einar Steingrímsson

Strathclyde University

2. Contributed talks

Almost Exact Recovery in Label Spreading

Maximilien Dreveton

INRIA

Abstract In semi-supervised graph clustering setting, an expert provides cluster membership of few nodes. This little amount of information allows one to achieve high accuracy clustering using efficient computational procedures. Our main goal is to provide a theoretical justification why the graph-based semi-supervised learning works very well. Specifically, for the Stochastic Block Model in the moderately sparse regime, we prove that popular semi-supervised clustering methods like Label Spreading achieve asymptotically almost exact recovery as long as the fraction of labeled points does not go to zero and the average degree goes to infinity.

Multivariate Ruin Problem

Miriam Hägele

University of Helsinki

Abstract In this talk, we introduce the concept of subexponentiality and examine the ruin probabilities for multivariate random walks with subexponentially distributed increments. We model the yearly net payout by a random walk and study the asymptotic behavior of its ruin probability. Finally, we extend the discrete time model to a model with continuous time and derive a similar result for the asymptotic behavior of the ruin probability.

TBA

Tero Lähderanta

University of Oulu

An ARMA process with conditionally heteroscedastic generalized hyperbolic errors

Henri Karttunen

University of Helsinki

Martingale transport duality

Matti Kiiski

ETH Zürich

Abstract We introduce a topological structure on the Skorohod space which allows a functional analytic approach to the martingale optimal transport. Under the structure, the martingale transport duality coincides with the general convex conjugate duality of locally convex spaces and the class of martingales can be identified with the subgradients of the objective functional. We deploy the structure to prove the martingale transport duality for measurable cost functions on the Skorokhod space.

A comparison theorem for BSDEs with Lévy jumps and infinite growth in y

Alexander Steinicke

Montanuniversität Leoben

Abstract We study the existence and uniqueness of solutions to backward stochastic differential equations driven by a Lévy process. In the L^p-setting, $p > 1$, we find a positive answer, assuming generators that satisfy an extended monotonicity condition but which are not restricted to linear growth in the y-variable. For such solutions, if the behavior of the generator's jump variable meets an additional, natural condition, then a comparison theorem holds. Further, we present an example of non-existence of a solution for $p = 1$.

3. Participation and Accommodation fees

The participation fee (20 €) is to be paid on location in cash.

The accommodation fee depends on the number of nights the participant is staying and the type of room. The participants who have been awarded on their request a FDNSS-travel grant from the summer school organization do not need to pay the accommodation fee.

You are also very welcome to bring your family, don't need to pay for children under 4 years, and 4-10 old children years pay half of the lodging price.

The participants who are visiting the summer school for the day and do not need accommodation, can pay on place their lunch or dinner directly to the biological station cantine.

The accommodation fee for each night is

- 76.75 € in single room with WC and shower
- 68,75 € in single room
- 61 € in double room with WC and shower
- 55,75 € in double room

which includes also breakfast, lunch, coffee and dinner (and the summer school "gala"-dinner on tuesday)

The accommodation fee (depending on the number of nights and type of room) can be paid by the participants or their supporting institutions by bank transfer to the University of Helsinki, with the following information:

Bank account IBAN: FI58 5000 0120 3778 32
SWIFT (BIC): OKOYFIHH
Recipient: Helsingin Yliopisto
Payment: First-name Family-name 39th Probability Summer School
Reference Number: H516/75160014
Amount: ? €× number of nights

Please don't forget the reference number !

4. Useful Information

VENUE:

Lammi Biological Station
Pääjärventie 320
16900 Lammi, Finland
phone +358-(0)9 191 40733
fax +358-(0)9 191 40746

The nearest towns are Hämeenlinna (about 45 km) and Lahti (about 40 km), from which there are frequent bus connections to Lammi, see matkahuolto, onnibus. When you reach the bus stop in Lammi, please feel free to call Dario (the organizer) at the phone numbers +358503754069 , +358294151407, so that hopefully we can pick you up by car from the bus-stop.

Free time activities The biological research station is surrounded by forest and it is next to a lake. Many activities are possible to relax during the free time, cycling, rowing , swimming in the lake (bring your swim suit!), fishing, sauna, walking / jogging in the forest, and there is also a volleyball court and a frisbee-golf course.

Let's hope that we will have nice summer weather, you can check the weather forecast here.

Welcome to Lammi !

5. Participants

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