
sysmedicine-phd2018 Documentation

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CHAPTER 1

Course Name

Systems Biology of Human Metabolism and Gut Microbiome

CHAPTER 2

Lecturers

Adil Mardinoglu, Saeed Shoaie, Rui Benfeitas, Gholamreza Bidkhor, Sunjae Lee & Cheng Zhang

CHAPTER 3

Keynote Speakers

Jan Boren (UGOT), AK (Bert) Groen (UMCG, Groningen) & Mathias Uhlen (KTH-Scilifelab)

CHAPTER 4

Aim

The aim of the course is to give students a fundamental understanding of:

1. how high-throughput omics data including proteomics, transcriptomics, metabolomics and metagenomics data can be analysed
2. how mathematical modelling of biological systems can be used to gain novel biological insight through integration of multi-omics data.

A number of examples from analysis of data from different studies of mouse, rat and human tissues in different physiological conditions will be introduced. Students will further get hands-on experience with analysis of raw data from transcriptome, metabolome, metagenome data and will be introduced to how such data can be analysed using different statistical techniques. Methods for reconstruction of metabolic network models, analysis and use of these for simulation of biological functions in different cells/tissues will be presented. Finally, the students will learn about integrated data analysis through a number of different examples. The overall objective is that each PhD student attending this course should be able to work independently in the field of systems biology.

CHAPTER 5

Course organization

Guest lecturers will also attend the course. It will be a 4 days PhD course with lectures and workshops. There will be a mini symposium on one day where leaders in the field will have keynote lectures

CHAPTER 6

Course Credits

3 ECTS. Certificate will be given by the end of the course.

7.1 Welcome to Sysmedicine PhD Course 2018 Page

7.1.1 Course Name

Systems Biology of Human Metabolism and Gut Microbiome

7.1.2 Lecturers

Adil Mardinoglu, Saeed Shoaie, Rui Benfeitas, Gholamreza Bidkhor, Sunjae Lee & Cheng Zhang

7.1.3 Keynote Speakers

Jan Boren (UGOT), AK (Bert) Groen (UMCG, Groningen) & Mathias Uhlen (KTH-Scilifelab)

7.1.4 Aim

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7.1.6 Course Credits

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7.2 Travel Information

7.2.1 Transportation to Stockholm

Stockholm is a very well connected city to visit. It has 3 airports (Arlanda, Bromma and Skavsta) and 1 main station (Stockholm Centralstationen). To reach the city from the airports, there's always bus and/or train services available.

7.2.2 Transportation inside Stockholm

The provider of public transport is managed by Storstockholms Lokaltrafik (SL). Buses, trains, metros, trams and some boats can be accessed with SL-Access Card. For information regarding the prices, refer to SL [website](#)

7.2.3 Transport to the course place

Course Location: Room FP21, Roslagstullbacken 33, Byggnad 1, Albanova University Center Closest Bus Stop: Ruddamen (Right in front of the place) Closest Metro Stop: Tekniska Högskolan (15 mins walk) Closest Commuter Train Stop: Odenplan (20 mins walk)

Bus Line 61 will stop directly in front of the building. You can take bus 61 from Tekniska Högskolan metro station (via Odengatan exit) or Odenplan metro and commuter trains stop.

7.2.4 Hotel

We don't have any specific hotel booked for this course. Our suggestion is to book hotel around KTH or Odenplan area. If you need help on finding the hotel, let us know.

7.3 UPPMAX Registration

In order to ensure that the course will run smoothly, please do the following steps:

1. Apply for an account at SUPR/UPPMAX. Please follow this [link](#) for the registration.
2. Once you have the account, you must apply to project "g2018024" in order to get access to course resources
3. Send email to muhammad.arif@scilifelab.se to confirm that you have done all the steps above and get the confirmation (and note if the email that you use for applying to UPPMAX

If you have any problem in doing so, please email muhammad.arif@scilifelab.se