



ANNOUNCEMENT

Health and Bioscience Doctoral training course

Study design, Data processing and Epidemiology

Date: 19th, 23rd, 26-29th of November 2018

Course organizer: Dr. Sylvain Sebert and Pr. Jouko Miettunen

Contact Person:

Sylvain Sebert

Center For Life-Course Health Research – Faculty of Medicine

sylvain.sebert@oulu.fi

+358 503 44 08 42

<http://www.oulu.fi/university/researcher/sylvain-sebert>

<http://www.oulu.fi/medicine/elite>

Public: Doctoral students in Health and Biosciences – **Lectures are opened to all**

Registration: <https://doodle.com/poll/k6e9mxfb9ex8eivx>

Course objective:

*Too often not enough attention is paid on **the inevitable bias** to take into account when planning, designing, controlling and interpreting research from big or small data collections. Lacking basic principles and understanding, often lead to speculative or misinterpretation of the results*

The course will be a cross-disciplinary course with lectures by leading experts in longitudinal data collections, analyses and interpretations.

The training intends to bring knowledge and awareness on the following:

- Study design and data collection – *how to reduce bias?*
- Sources of data – how to access the data relevant to **your** question?
- Pre-processing and good practices in data management;
- Estimating and improving your statistical power and precision;
- Dissecting your associations for interpretation

The course will combine lecture in English by University of Oulu researchers and International teachers and will be validated by a practical session.

The practical session will be a 15 minutes presentation of students' projects covering:

- Study question,
- Study design and potential bias,
- Data management plan,
- Directed acyclic diagram of the research question

Confirmed lecturers:

- **Dr. Marianne Haapea** - University of Oulu;
- **Pr. Eero Kajantie** - THL and University of Oulu;
- **Pr. Johannes Kettunen** - University of Oulu;
- **Pr. Vincent Jaddoe** - Erasmus Medical Center Rotterdam, NL;
- **Pr. Marjo-Riitta Järvelin** - Imperial College London, UK and University of Oulu;
- **Pr. Jouko Miettunen** - University of Oulu;
- **Dr. Nina Rautio** - University of Oulu;
- **Dr. Sylvain Sebert** - University of Oulu and Imperial College London;
- **Dr. Mimmi Tolvanen** - University of Oulu;
- **Pr. Nicholas Timpson** - University of Bristol, UK
- **Pr. Seppo Vainio** - University of Oulu;

Course program (tentative)

Monday 19.11.18 – [Joint program with the Biobank course](#)

Theme 1 - Longitudinal birth cohort studies in Europe – tools for open sciences - **Session I**

Time	Title	Who
14:00	The European Birth Cohort Network	Vincent Jaddoe

Friday 23.11.18

Theme 1 - Longitudinal birth cohort studies in Europe – tools for open sciences - **Session I**

Time	Title	Who
10:00 - 10:45	Welcome and introduction	Sylvain Sebert
11:00 – 11:45	Study designs in Epidemiology - Why does it matter?	Marjo-Riitta Järvelin

Theme 1 - Longitudinal birth cohort studies in Europe – tools for open sciences - **Session III**

Time	Title	Who
13:00 - 13:45	The FinnGedi project	Eero Kajantie
14:00 - 14: 45	The Generation NFBC studies a tool-box to study the molecular and environment determinants of life-long health	Marjo-Riitta Järvelin and Sylvain Sebert

Monday 26.11.18

Theme 1 - Longitudinal birth cohort studies in Europe – tools for open sciences - **Session I**

Time	Title	Who
11:00 - 11:45	Finnish health data - opportunity and challenges	Johannes Kettunen
13:00 - 13:45	The ALSPAC study	Nicholas Timpson

Theme 2 - Planning, managing, optimising, combining your data - **Session I**

14:00 - 14:45	From confounding to causality basic principle and assumption	Nicholas Timpson
---------------	--	------------------

Tuesday 27.11.18

Theme 2 - Planning, managing, optimising, combining your data - **Session II**

Time	Title	Who
10:00 - 10:45	Introduction to causation and causal models	Sylvain Sebert
11:00 - 11:45	Power and Attrition analysis	Marianne Hapea
13:00 - 13:45	Building your structural equation models – The do(s) and don't(s)	Mimmi Tolvanen
14:00 - 14:45	Meta-analysis	Jouko Miettunen

Theme 3 - Practical - Session I

Time	Title	Who
15:00 - 15:45	Tutorial and recommendation	Sylvain Sebert, Jouko Miettunen, Nina Rautio, Mimmi Tolvanen

Thursday and Friday 28.11 - 29.11 of November

The practical will consist of a 10 + 10 min presentation of one of your research project, targeted to a **lay audience** including:

- The aim and hypothesis of your research;
- The source of data;
- Data management according to the FAIR principle;
- A flowchart of the study identifying the design of your study and the source of attrition;
- A graphical representation of the associations to be tested;
- The model(s) to be tested;
- The strengths of your approach;
- The opportunities to complement your prospect.

Theme 3 - Practical - Session II

Time	Title	Who
9:00		Student 1
9:20		Student 2
9:40		Student 3
10:00		Student 4
10:20		Student 5
10:40		Student 6
Break		
11:20		Student 7
11:40		Student 8
Lunch break		
13:00		Student 9
13:20		Student 10
13:40		Student 11
14:00		Student 12
9:00		Student 13
9:20		Student 14
9:40		Student 15
10:00		Student 16
10:20		Student 17
10:40		Student 18
Break		
11:20		Student 19
11:40		Student 20
Lunch break		
13:00		Student 21
13:20		Student 22
13:40		Student 23
14:00		Student 24