EAA School in Genetics aims to offer the high-quality state-of-the-art level training to physicians and biomedical researchers interested in medical genetics with the specific focus on the genetics of andrological conditions. This will increase the knowhow and broader application of genetic testing among the andrologists, speed up the transfer of knowledge concerning recent advances in genetics and standardization of the utility and interpretation of novel genetic tools in the clinical practice. The course is also expected to promote genetic research in European andrology centres.

Organization and core local faculty:

Prof. Maris Laan, professor in human genetics, University of Tartu
Prof. Margus Punab, Andrology Centre, Tartu University Hospital

Other local faculty: Drs. Laura Kasak, Triin Laisk, Triin Kikas, Rain Inno

Course manager: Mrs. Mailis Sütt, mailis.sutt@kliinikum.ee; phone: +372-7319323

International faculty on-site training:
Dr. Kristian Almstrup (Copenhagen, Denmark)
Dr. Liina Nagirnaja (Portland, USA)

International faculty for virtual training:
Prof. Csilla Krausz (Florence, Italy)
Prof. Frank Tüttelmann (Münster, Germany)
Prof. Joris Veltman (Newcastle, UK)
Dr. Don F Conrad (Portland, USA)
COURSE PROGRAMME

Wednesday, May 4th “Basic principles in medical genetics”
15:00 Maris Laan, Opening remarks
15:00 – 16:30 Maris Laan, Laura Kasak “Human genome and its variation. From cytogenetics defects to Mendelian inheritance of genetic disease”
16:30 – 17:30 Practical course 1 (in two parallel groups), based on pre-course homework.
“Reading genetics – revisiting basic terminology in medical genetics. The utility of pedigree information.”
17:30 – 18:00 Coffee break
18:00 – 18:30 Joris Veltman (online lecture) “Genomic technologies and advances in molecular diagnostics and understanding the etiology of human diseases”
18:30 – 19:15 Kristian Almstrup “Small non-coding RNAs in andrology and its potential importance in clinical practice”
Welcome reception

Thursday, May 5th “Androgenetics – clinical aspects, utility and novel etiologies”
9:00 – 9:30 Maris Laan “Clinical considerations and genetic testing in andrology research and clinic”
9:30 – 10:15 Margus Punab “Genetic findings and prospectives of patients’ general health”
10:15 – 11:00 Liina Nagirnaja “Genetics in Male Infertility Initiative (GEMINI)”
11:00 – 11:30 Coffee break
11:30 – 13:00 Practical course 2 (in two parallel groups)
Interactive discussion on ethical aspects in genetic testing. JClub discussions of selected interesting andrology cases with a genetic cause, and their clinical assessment; based on pre-course homework
13:00 – 14:00 lunch
14:00 – 15:00 Csilla Krausz (online lectures)
“Diagnostic Y-chromosome testing and external quality control of the EMQN/EAA”
“Genetic alterations versus TESE outcome”
15:00 – 16:00 Frank Tüttelmann (online lecture) “Multidisciplinary approach towards male infertility - project 'Male Germ Cells: from Genes to Function”
16:00 – 16:30 Coffee break
16:30 – 17:00 Kristian Almstrup “Involvement of long non-coding RNAs in the pathogenesis of the Klinefelter testicular phenotype.”
17:00 – 17:45 Don Conrad (online lecture) “Single-cell analysis to understand the pathogenic mechanisms in Klinefelter Syndrome and other genetic forms of male infertility”

Friday, May 6th “Beyond androgenetics”
09:00 – 10:15 Practical course 3 (optional)
Hands-on learning of human medical genetics databases and their utility in clinical practice (optional, but this knowledge is required for the completion of the post-course homework)
10:15 – 10:45 Coffee break
10:45 – 12:45 Practical course 4 (in two parallel groups), based on pre-course homework.
Interactive presentation and discussion on clinical cases with a suspected or diagnosed genetic cause, and their clinical assessment; *Every participant will bring along one case for a brief presentation*

12:45-13:30 Joris Veltmann (online lecture) “Added value of trio analysis in male infertility genetics and beyond”

13:30 – 14:30 lunch

14:30 –15:30 Triin Laisk (Estonian Genome Biobank, visiting lecture) “Novel discoveries in female reproductive genetics”

15:30 – 16:30 Maris Laan, Laura Kasak “The benefit of screening programmes of genetic diseases. The role of secondary genetic findings in andrology.”

16.30 – 17:00 Wrap-up discussion on the actions needed to promote advanced genetic testing in European andrology centres; the challenges in test standardization, data interpretation and counselling of patients.

19.00 Course dinner

**ADMINISTRATIVE INFORMATION OF THE COURSE**


*Who should apply:* clinical andrologists and infertility specialists; clinical geneticists counselling in reproductive medicine; gynecologists; basic researchers in reproductive biomedicine; all other attendees interested in male reproductive genetics

*Number of participants:* 30 (priority to EAA junior members!)

*Language:* English

*Number of EAA credits:* 2

**DEADLINE for application:** March 6th, 2022

Completed application forms are to be emailed to the course manager Ms Mailis Sütt.

*Contact:* mailis.sutt@kliinikum.ee, phone: +372-7319323

Please attach also curriculum vitae and a brief description of your current interests

*The applicants selected for the course will receive the confirmation by March 22nd, 2022.*

**Registration fee (incl. lunch, coffee breaks, welcome reception, and course dinner):**

- EAA In-training Students 120€
- EAA members 180€
- Others 250€

**EAA Travel grants available to five participants (max. €350 each).**

The grants are reserved to EAA members. Priority is given to junior researchers.

Application form for the EAA travel grant: [https://www.andrologyacademy.net/application-forms](https://www.andrologyacademy.net/application-forms)

Applications for the travel grants to the EAA School Tartu must be submitted by 6 March 2022.

**Course fee** is to be paid by April 15th, 2022

Tartu University Hospital
AS SEB Pank
IBAN: EE641010220001585019
SWIFT/BIC: EEUHEE2X
Reference upon payment: Andrology Centre, EAA 2nd School in Genetics 2022