



COURSE II.



LEARNING
BY DOING

BIOSTATISTICS



SUMMER SCHOOL PROGRAM

OF THE TRANSLATIONAL EDUCATION PROGRAMS

Join our high quality educational program to learn the methods of translational medicine.



tmalapitvany



TMFoundationHQ



transmedkozpont

TM-CENTRE.ORG

SEMMELWEIS UNIVERSITY
CENTRE FOR TRANSLATIONAL MEDICINE

PROGRAM SUMMARY

BASIC INFORMATION ABOUT THE PROGRAM

AT THE END OF THIS SUMMER SCHOOL, THE PARTICIPANTS WILL BE ABLE TO

- Acquire knowledge in translational medicine
- Critically appraise the scientific literature
- Understand the main modern clinical scientific methodologies
- Perform healthcare delivery science
- Conduct independent research work

ONE SCHOOL
FOUR COURSES

MAY
12

Deadline for
application

MAY
18-19

Interview
period

MAY
22

Acceptance by

JUN
2

Course fee
payment by

JUL
3-27

Course period
(4 weeks)

COURSE DIRECTOR

Péter Hegyi, MD, PhD, DSc, MAE

ORGANISERS

The **GATE PROGRAM** is organized jointly by the **Centre for Translational Medicine**, Semmelweis University and the Translational Medicine Foundation.

TUITION FEES

Application fee: **75 EUR** / person or **750 EUR** / group

Course fee: **2000 EUR** or **600 EUR** each course



FOR MORE INFORMATION,
PLEASE VISIT OUR WEBSITE



WHO WE ARE

ABOUT OUR INSTITUTE



SEMMEWEIS UNIVERSITY

Simmelweis University's history started more than 250 years ago in 1769. Today SU is one of the leading institutions of higher education in Hungary and the Central European Region in the field of medicine and health sciences. At SU, our core commitment is based on the integrity of education, research and medicine that makes the University an internationally recognised centre of excellence.

TRANSLATIONAL MEDICINE FOUNDATION

The Translational Medicine Foundation was established in 2016 to

- a)** promote the practical application of scientific results and innovations in health care
- b)** stimulate and unify the exchange of information and data flow between universities, hospitals and research centres, and to help their quality control, which can significantly improve the quality of multicenter research projects and reduce the amount of resources needed for research projects
- c)** help all members of the population (including healthy individuals, patients, doctors, etc.) to understand and implement evidence-based knowledge in everyday life through various platforms (web, printed materials, videos, etc.)
- d)** participate in the organization of conferences and trainings, in procuring research-related services and in providing financial aid in the search and selection of human resources





THE HISTORY

OF TRANSLATIONAL MEDICINE IN HUNGARY

The Translational Medicine (TM) “learning by doing” education model was launched in Hungary, University of Pécs in 2016 under the leadership of Péter Hegyi, who is the course director of this uniquely developed **SUMMER SCHOOL**. In the past five years, almost 50 PhD students and residents have participated in our programs. In this period, more than 300 high quality publications have been published through scientific research and translational patient care initiated and supported by the Translational Medicine Foundation, the University of Pécs, the University of Szeged and the Semmelweis University (*Nature Medicine*). The results have made it possible to develop and supplement a number of treatment guidelines and to immediately apply scientific results in patient care. The results have made it possible to develop and supplement a number of treatment guidelines and to immediately apply scientific results in patient care.

Semmelweis University aims to rank among the best universities in the world and recognized the importance and the high potential in the translational medicine. Therefore, in 2021 this programme was invited to function in a much bigger scale than before, now under the umbrella of Semmelweis University. As a results, the training at SU already enrolled more than 160 PhD students, and almost 100 undergraduate research students.

FIND MORE INFORMATION ABOUT THE CENTRE
FOR TRANSLATIONAL MEDICINE HERE



THE IMPORTANCE OF TRANSLATIONAL MEDICINE

The major goal of TM is to turn scientific results for community benefits. Why is this necessary? It is very simple: we currently use scientific findings in everyday medicine with very poor efficiency. The European Statistical Office of the European Commission has recently reported that 1.7 million people under 75 years of age died in Europe in 2016, with around 1.2 million of those deaths being avoidable through effective primary prevention and public health intervention. Therefore, Academia Europaea, one of the five Pan-European networks that form SAPEA (Science Advice for Policy by European Academies), a key element of the European Commission's Scientific Advice Mechanism (SAM), has launched a project in 2018 to develop a model to facilitate and accelerate the utilisation of scientific knowledge for public and community benefit. During the process, leaders in the field, including prominent basic and clinical researchers, editors-in-chief of high-impact journals publishing translational research articles, TM centre leaders, media representatives, academics and university leaders, developed the TM cycle, a new model that we believe could significantly advance the development of TM. This model focuses equally on the acquisition of new scientific results healthcare, understandable and digestible summation of results, and their communication to all participants. The authors, including senior officers of Academia Europaea, produced an important paper to serve as a basis for revising thinking on TM with the end result of enabling more efficient and cost-effective healthcare.



YOU CAN FIND FURTHER INFORMATION
ON OUR YOUTUBE CHANEL AS WELL



THE SUMMER SCHOOL PROGRAM

WHAT WE OFFER

The **SUMMER SCHOOL** mainly focuses on the second and third step of the TM cycle. The program helps students to become critical consumers of medical research papers, to gather primary data on health issues through questioning and observation, and to conduct biomedical research. Students will gain an understanding of the planning of clinical research, including systematic reviews, patient registries and clinical trials, by designing an extended project in study groups, which are led by experienced members of the TM Centre.



THE SUMMER SCHOOL FOCUSES ON THE MAIN MODERN HEALTHCARE DELIVERY SCIENTIFIC METHODOLOGIES OF TM

- 1. Systematic reviews and meta-analysis** – we aim to introduce the essentials of meta-analyses, focusing on their role in the evidence-based medicine and the main steps leading to a meta-analysis. Questions will cover key topics, such as how to design systematic search strategies, how to read forest plots, and how to assess the validity of the findings. By attending the series of lectures, participants will learn how to read and understand reports from meta-analyses.
- 2. Patient registries** – in this part we aim to introduce patient registries with their role in science, focusing on practical questions. Topics will embrace the entire process from planning a registry to publication. The general built of a registry, the role of the patient registry coordinator and the contributors in the phase of registry development will be discussed. The course will include presentations on the IT background, details on how to develop an electronic case report form, data management, ethical approval, and other roles, such as biostatisticians and clinical research administrators.
- 3. Clinical trials** – this part of the school aims to overview the main features of experimental study designs and their role in science, focusing on practical questions. Topics will embrace the entire process from study planning to conclusions from result. Questions will cover key topics, such as the identification of study designs, the role of randomization, the effects of bias, and the judgement of cause-effect relationship

4. Biostatistics - aim of this lecture is to make the participants familiar with the basics of statistical methods used in the medical/biological sciences. Furthermore, to help the participants to interpret the results of statistical analysis more easily and to recognize possible biases in scientific literature. The lecture introduces the most commonly used statistical methods, thus the participants get acquainted with the most important elements of descriptive statistics, basic principles of hypothesis testing, parametric and non-parametric statistical methods and risks of decision errors. Furthermore, topics such as survival analysis, adaptation of questionnaires, sensitivity and specificity of diagnostic tests, and Receiver Operating Characteristic (ROC) Curve analysis will also be covered during the course.

PRIMARY OUTCOME OF THE FOUR-WEEK TRAINING

- Participants will be able to understand the concept of the healthcare delivery science as part of the translational medicine cycle.
- At the end of the training, participants will learn the main points of setting up a patient registry, initiating a clinical trial, or conducting a comprehensive systematic review with meta-analysis.
- Formulate a clinical question using the PICO model and identify relevant evidence from appropriate databases.
- Critically appraise clinical research studies using a systematic approach.
- Define the basic knowledges and skills required in translational research.
- Grow the professional international network of translational researchers.

The above mentioned topics will be covered in this school in a four-week training session. Please see the schedule for a more detailed program.

SCHEDULE AND CLASSES

BIOSTATISTICS					
GMT+1	MON	TUE	WED	THU	
8:00	Course and e-learning introduction	Data types	Statistics in meta-analysis	Data types and extraction	
9:00		Probability			
10:00	E-learning	Descriptive statistics	E-learning	Data analysis	
11:00		Parametric and non-parametric tests			
12:00		Comparing qualitative data		Interpreting results	
13:00		Correlation analysis			
14:00		Q&A		Q&A	
15:00					

APPLICATION

HOW TO JOIN OUR PROGRAM

CLICK HERE
OR SCAN THE
CODE TO APPLY



TARGET AUDIENCE

- Degree/ studies in health sciences (Candidate, BSc, MSc, MD, DMD, etc.) is preferred.
- Good english communication skills are recommended (minimum B2 level, see details [here](#)).

PARTICIPANT LIMIT

- To preserve efficacy, a **minimum of 10** and **maximum of 40** attendees can take part.

STUDY LOAD

- 8 hours per day. Please note we start on **Monday, July 10th, 2023 at 8 am** (GMT+1).

COSTS

Application fee: **75 €** / person,

in case of group registration larger than 10 participants **750 €** / group

Course fee:

Option 1. **600 EUR** each course separately

Option 2. **2000 EUR** for the 4 trainings

REQUIRED DOCUMENTS

For this course you are required to upload the following documents when applying:

- Motivation Letter
- CV

Application with the proof of application fee payment must be submitted until June 2, 2023. In case of transfer difficulties electronic certificate is acceptable.



PAYMENT

You should send the application and course fee to the following bank account:

- *Account holder:* Semmelweis University
- *Account number (IBAN):* HU51 1176 3842 0088 0888 0000 0000
- *Bank name:* OTP Bank Nyrt.
- *Bank address:* Nádor u. 16., 1051 Budapest, Hungary
- *SWIFT Code (BIC):* OTPVHUHB

Please put the information stated below into the subject field:

Name, Title of the course, Semmelweis University Centre for Translational Medicine

IMPORTANT DATES

Interviews will be organized in the spring between **May 18-19, 2023**

Notification of acceptance will be sent until **May 22, 2023**

Course fee must be transferred until **June 2, 2023**

RESPONSIBILITIES OF THE CENTRE

The Centre will provide access to the training materials in case of successful recruitment, but this does not cover the technical requirements for access, in particular a stable internet connection and computer equipment. The application fee covers the costs of the application procedure, and the Centre does not undertake to reimburse the costs of unsuccessful applications. Students who are successfully admitted will be offered a training contract by the Centre. Hungarian law will apply to the application process and the training as a whole.



APPLY TODAY

IT ASSISTANCE

IMPORTANT HELP



DOWNLOAD
ZOOM CLIENT

Zoom will serve as our online communication platform. To ease the use of the software, our admin will be there to provide help where needed.

What you are going to need:

- Zoom account
- stable internet connection

Please arrive to the Zoom meetings **20 minutes prior** to the session time.

Security is a key aspect of Zoom meetings, so for your safety a passcode will be sent alongside the classes' link. Also, there will be other measurements adding an additional layer of security, for example preventing you from unmuting or renaming yourselves during a lesson, in order to limit distractions.

Never share your meeting ID or passcode publicly (such as on social media).



MORE INFORMATION

Should you need any further information, please do not hesitate to contact us:

tmk@semmelweis-univ.hu

SU, Centre for Translational Medicine | HU-1085 Üllői út, nr. 26, 3rd floor, Office T7

[Our website](#)





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