Modern research and measuring methods in experimental and clinical medicine (selected chapters)

II. Laboratory practices

DI1207-A *- Elective course for PhD students*

Course Director:

- Dr. Habil. László Dézsi, Adjunct Professor of Physiology, Semmelweis University

Deputy Director:

- Dr. Iván Füzes, Dipl. Electrical Engineer, Master Tutor, Semmelweis University

Invited Tutors:

- Prof. Ákos Jobbágy, Professor of Electrical Engineering, Budapest University of Technology and Economics
- Dr. Gábor Szénási, Dipl. Biologist, Scientific Advisor, Semmelweis University

The purpose of the course: To review the theory and practice of modern measuring methods in experimental and clinical medicine. The course is aimed to strengthen the previously delivered theoretical material via laboratory parctices and demonstartions.

Acknowledgement of the course: Prerequisite is the completion of the first 2 years (Theoretical module) and the theoretical part of this course (taken in 1st semester or previously). Regular attendance (max. 2 absences) is required. Signature in the Index and 2 credit points will be awarded after retake of missed practices (in theory) and successful oral exam. Source: material of the practices and demonstrations and their theoretical background.

Time and location: 2nd semester of the 2019/2020 academic year. Every other Mondays (a total of 8*3.5 class) at **4:00-7:00 pm**, in **NET Building**, 1089 Bp., Nagyvárad tér 4.;. ***First lecture:*** 13th of February, 2019. ***Alternative locations:*** Innomed Medical Zrt., 1146 Bp., Szabó József u. 12.; Technical University Budapest (BME), 1117 Bp., Magyar Tudósok krt. 2. Locations are shown in the detailed program!

Applications: Via the Neptun system (PhD) or e-mail (MD-PhD). ***Contact person:*** Dr. László Dézsi (e-mail: dr.dezsi.laszlo@gmail.com).

Detailed Program:

1. **February 10.** Installation and use of computer (A/D converter) based measuring systems (experimental) (DL)
   Location: NET, gnd. floor 18/A (Institute of Translational Medicine**)**
2. **February 24.** Investigation of peripheral circulation via PTT analysis (human) (FI)
   Location: NET, gnd. floor 18/A (Institute of Translational Medicine**)**
3. **March 9.** Learning linear CT equipment (demonstration) (FI)
   Location: INNOMED
4. **March 23.** Cardiovascular monitoring using ECG & PPT (human) (JÁ)
   Location: BME, building I, wing E, 3rd floor, rooms IE320 & IE323
5. **March 30.** Expiratory CO_2 monitoring (capnography) in practice (human) (DL)
   Location: NET, gnd. floor 18/A (Institute of Translational Medicine**)**
6. **April 20.** Surgery and data acquisition using telemetry implants (experimental) (SZG/DL)
   Location: NET, 17th floor, lab. 1710 (Institute of Translational Medicine**)**
7. **April 27.** Experimental study of pseudoallergy (CARPA) (experimental) (SZG)
   Location: NET, 17th floor, lab. 1710 (Institute of Translational Medicine**)**
8. **May 11.** Retake (discussion) and exam (DL & FI)
   Location: NET, gnd. floor 18/A (Institute of Translational Medicine**)**