

Evaluation of CEEPUS Intensive Course 2024

BIO- AND SINGLE MOLECULAR ANALYSIS FROM BASICS TO PRACTICE

Jolan Harsfalvi



Semmelweis University
Faculty of Medicine
Institute of Biophysics and Radiation
Biology
Tuzolto str 37-47, 1094, Budapest,
Hungary

harsfalvi.jolan@semmelweis.hu

2023/24 New grant for Intensive Course

- personal visit and proposal at the Hungarian NCO, April 2023 (Donath Nagy Gabriella, Jolan Harsfalvi)
- call December 2023
<https://tka.hu/palyazatok/607/palyazati-dokumentumok>
- **Inquiry letters** to coordinators, December 2023 – May 2024
- completed Grant application sent for check to NCO at 24th December 2023
- Submission of the corrected Grant application, 10th February 2024

Structure of the form – questions to answer

National Application form international requirement (I translated to English. NCO)

Administrative data (University and organizing Unit)

A. Body of the Course:

1. planned # of participants (students and teachers national and international);
2. from which countries the guests are expected;
3. which partners will be involved;
4. how and where the course will be advertised;
5. how the participants will be selected;

ATTACH the CALL for THE COURSE in ENGLISH.

Structure of the form – questions to answer, Cont.

B. Content of the Course

1. Aims, 1000-2000 characters (**Hungarian**)
2. international dimensions (list of partners involved)
3. how the tasks will be shared among the involved partners;
4. Why the number of students and teachers is necessary for the realization of the course, and what is the ratio between students and teachers;
5. Why the number of the days are necessary for the course

Structure of the form – questions to answer, Cont.

B. Content of the Course, Cont.

6. how the interactivity of the course is ensured;
7. what kind of innovative pedagogical methods will be utilized;
8. how the not CEEPUS teachers will be donated;
9. how the achievement of the participants will be measured;
10. how many credit points can be given;
11. how the course will be evaluated; how the result of the course will be distributed.

ATTACH the DETAILED PROGRAM of THE
COURSE
in English

Structure of the form – questions to answer, Cont.

C. Financial plan

D. Attachments

a) CALL for THE COURSE in English

b) DETAILED PROGRAM of THE COURSE in English

E. Earlier courses in Hungary during the existence of the Network:

a) when

b) where (2020 Semmelweis, 2022 Pécs)

c) how many was the donation

04.23.2024 awarded
CEEPUS Intensive Course

Administration **22-31.05.2024**

1. Letter to the Rector
2. Supporting documentation
3. Informal institutional data form, statements
4. Instruction
5. Anonym review1
6. Anonym review2

My information and call to our Network's coordinators,
Teachers, BSc, MSc, PhD students **examination**
period

Realization

CEEPUS Intensive Course

22-31.05.2024

Aim is to learn bioanalysis in an overall aspect from separation/isolation, and identification to visualization of molecules; from basic knowledge to innovation; with a focus on combining classical and new single molecular techniques.

Lectures, hands-on training and “depth over breadth” way of teaching.

Encourage PhD students to continue their studies at the partner Doctoral Schools of the partner Universities and obtain joint PhD degree.

BIO- AND SINGLE MOLECULAR ANALYSIS FROM BASICS TO PRACTICE

Semmelweis University **Basic Medical Science Center**, Room 1.205, Intensive Course 2024 BIFI 22-31 May 2024 CEEPUS, In the frame of RO-0010-18-2324 network, Teaching, and Learning Bioanalysis CEEPUS Network (coordinator Jolán Hársfalvi)

***HOUR** scheduled for the beginning of the daily teaching programs.

2024						
Days were ended with quizzes of the lecturers and demonstrators - the student gave the most good answer awarded a Semmelweis flask- and closed at 5 pm.						
May	9 -10	10--11	11 -12	12 – 13 - 14	14 -15	15-16
22	ARRIVAL to Budapest					
23	Welcome Gabriella Donath Nagy, Jolán Hársfalvi , Introduction of the Students	Periodic phenomena and pattern formation in chemical and biological systems (Gabriella Donath-Nagy)	Protein structure determination in solution with X-ray and neutron small-angle scattering. Hands-on experience in interpreting structural biology data (Bence Fehér)	Nanomanipulation of single viruses (Bálint Kiss)		
24	From single molecules to the living organism. Passion for discovery and value-driven leadership (Miklós Kellermayer)	Semmelweis Budapest (Bálint Budavári)	Resonance theory and practice in small groups at 7 working places (Ádám Zolcsák)	Békésy György Reserach Center Atomic force microscopy (AFM) (Ádám Zolcsák) Practice: preparation of a multimer protein and its AFM analysis (Jolán Hársfalvi)		
25	Explore links between bioanalysis and biophysics, force sensing during primary hemostasis. Practice: preparation of a multimer protein and its AFM analysis (Jolán Hársfalvi), Atomic force microscopy (AFM) (Ádám Zolcsák)			Universal method for synthesis of artificial gel antibodies by the imprinting approach combined with a unique electrophoresis technique for detection of minute structural differences of proteins, viruses, and bacteria (Anikó Takátsy)		
26	Visiting museums: Natural History Museum; Semmelweis History of Medicine; Hospital in The Rock Nuclear Bunker. (Show contexts of the Course and science in Hungary.)					
27	All atom simulation of biological macromolecules (Erika Balog)	In silico biophysics of transmembrane proteins (Tamás Hegedűs)	Analytical and biomedical applications of molecularly imprinted polymers (Ede Bodoki)	Demonstration of electrochemical sensing using a portable electrochemical system (Bogdan Cezar Iacob)	Békésy György Reserach Center, Demonstrations and measurement options (Optical tweezers, Optical microscopy, Optical spectroscopy (Balázs Kretzer))	
28	Phosphorylation-dependent structure of titin (Zsolt Martonfalvi)	Nanochemistry and its medical applications (Angéla Jedlovszky-Hajdu) <i>Laboratory visit & work Bálint Budavári, Kristóf Molnár, Sarolta Halmóczy, Veronika Pálos, Ákos Juhász</i>			**How to develop an HPLC separation method for pharmaceutical quality control (Martin Schmid)	**Live demonstration of analysis results of real Viagra samples with fakes (Martin Schmid)
29	**Recent advances in chiral analysis (Gergő Tóth) HPLC measurement by students in 4 groups in the laboratory (Gergő Tóth)			**Practical method development in capillary electrophoresis (Tomas Krizek)	Showing quantitative <i>in vivo</i> molecular imaging center with explanation of the Instruments and presentation of an animal experiment (Noémi Kovács),	
30	Békésy György Reserach Center Fluorescent- and Optical microscopy, Spectroscopy (Jolán Hársfalvi)					
31	LEAVE for home					

*To meet the students' requirements, the duration of the lectures and demonstrations are not limited strictly, but a short lunchtime before 2 pm is obligatory.

** ALL IN **Department** of Pharmaceutical Chemistry, Faculty of Pharmacy, Semmelweis University, 1092 Budapest, Högyes Endre u. 9

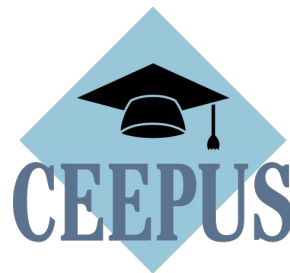
Certificate of attendance

Name's of the Student

for participation at the Intensive Course on Bio- and Single Molecule Analysis from Basics to Practice, organised in Budapest, between 22th and 31th of May 2024, by Institute of Biophysics and Radiation Biology, Semmelweis University in the frame of CEEPUS RO-0010-18-2324.



Kellermayer Miklós
Head of the institute



Thanks for all the contributors!

Links to the program and lectures

Questions of teachers & students:

Same **Time**, Next year? Same Place? Same

