

# COOPERATION IN THE FIELD OF DOCTORAL STUDIES, SCIENTIFIC RESEARCH AND SOLVING RESEARCH PROJECTS



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- My presentation is mainly oriented towards the joint supervision of PhD theses and cooperation in research.
- These two areas of cooperation are very closely related, because the outputs from the final theses must be scientific in nature and must bring new knowledge in the field of science to which the topic of the dissertation belongs.
- New scientific knowledge in the form of original results can only be developed by conducting serious scientific research.

# MY FIRST EXPERIENCE OF CEEPUS MOBILITY

H-81 - Cooperation in Computer Science (even in the previous century which has been operating since 1998).

Later, was changed to HU-0019 International Cooperation in Computer Science

- The CEEPUS network of ELTE, Faculty of Informatics, HU-0019 has been running successfully for over 25 years. Based on remarkable results and reliable background for managing the programme, intention to continue this co-operation in the following years was always evident.
- It was a great honour to win the minister's Prize of Excellence in 2019 for the third time (2004, 2007) under the same leadership ELTE Faculty of Informatics.
- During the 25 years, the network has grown from 5 to 18 participating institutions. CEEPUS partnerships are based on common scientific interest (research works, conference meetings, summer schools...), there is a great demand for teaching mobility as well.

# MY FIRST ACTIVITY WITHIN CEEPUS

- My participation in the first one-month study-research stay as part of Ceepus mobilities took me to Romania to Babes-Bolyai University in Cluj-Napoca.
- It was a really great experience for me and I still remember every single detail from this stay. Until then, I had no experience of a longer study stay abroad.
- It was also interesting that the mobility was not planned for me, but for my doctoral student.
- I prepared my doctoral student for one-month mobility, and developed for him a very intensive and rich program, oriented towards the solution of his dissertation topic.

# MY (REALLY RICH) PROGRAM (FOR EVERY DAY)

- I consulted with my colleagues about the content of lectures and exercises from the subjects that they teach.
- I had chosen from the computer science teaching study program, I was involved in teaching the subject: Didactics of teaching Computer Science subjects (I gave lectures, went on pedagogical practice with students to partners secondary schools, prepared methodical materials, every in the evening I prepared a detailed report of the day's activities, etc.)
- I spent most of my time in the library of the Faculty of Mathematics and Informatics. I was often the only guest in the study room of the library. The librarian willingly prepared all the publications I requested. Surprised by my enthusiasm, he presented me with elaborate research on publications on topics that interested me.

- I mainly studied English original scientific journals, which were unavailable at my university for various reasons (mainly financial). By the end, he lent me some that were intended for full-time study (secretly) for the night to study at home.
- I obtained a lot of useful information by studying the available information resources available in the central library and in the department reference libraries.
- I received many teaching aids, scripts, textbooks as a gift from the authors, or I bought them at a local textbook store. Personal meetings with teachers, researchers and colleagues with the same or similar interests in research and teaching were interesting and informative. Discussions in pairs or in groups were interesting and fruitful.

# EXAMPLES

- I learned a lot from prof. Anna Soos on computer geometry and fractals.
- From prof. Judit Robo received detailed information about international projects in the field of programming and software creation (also within Ceepus).
- In an interview with prof. Zoltán Kása, I received useful information about the possibility of publishing in scientific journals published at the University and about editorial work, about organizing conferences, which they are involved in, etc.

This first mobility of mine decisively marked my approach to international mutually beneficial cooperation - both in teaching and in research.

I was lucky to be able to participate in the work of such a Ceepus network, which has been continuously flourishing since its foundation and whose activities reach all areas and all forms and types of activities that the ceepus program supports and enables.

In addition to standard teacher and student short-term and long-term study mobilities, other less frequent examples of activities and cooperation can be mentioned here.

**Such as:**

- organizing conferences, thematically oriented summer universities and summer schools,
- joint doctoral and study programs, online lectures and labs, workshops,
- obtaining special scholarships, creating joint study materials, Joint programs, Joint practical training,
- Joint and double degrees. I am proud that I could contribute to these activities.

**The H-019 network can be a model for how to build Ceepus networks and how to plan activities and implement useful activities that help both ELTE and partner universities.**



When I moved to the J. Selye University in Komárno, I tried and supported the expansion of the number of partners by this newly founded university in Slovakia, and I became the coordinator of the activities of the partner university.

My proposal to involve the Palacký University in Olomouc in this network was successfully implemented, thereby expanding the HU-019 network not only by another partner but also by another country – the Czech Republic.

When I ended my employment with UJS in 2015, I tried to be in contact with ELTE, which is the coordinator of this network, and I continued to regularly participate in the activities of the network using FreeMover mobilities.

Since 2016, I have been the coordinator of a partner university in the network PL-0701-00-2526 Engineering as Communication Language in Europe.

## CONCLUSION

I consider the benefit and possibilities of effective cooperation in the field of science and research and the training of qualified experts and specialists within the Ceepus program, or I recommend:

- In the case of study stays, it is important that the participant, whether a student or a doctoral student, obtains credits for his activities, which he applies through credit-transfer in his studies at the home university.
- The student usually chooses subjects that are also included in his study program at home. I suggest choosing, rather, specific subjects that are not in the home study program, or subjects that are well developed (based on own research results of teacher/researcher) and are taught at a high level.

# CONCLUSION

- As part of short-term teacher or student mobility, focus on consulting the topics of the final theses and choose a partner university where the same research issues are addressed, or related topics.
- It seems to assume that the student will find the right expert researcher who will guide and advise him.
- The supervisor who has a better overview of the issue and the experts in the field should help here.
- The supervisor should also intervene and help in the recovery of the student's program at the foreign partner university.

# CONCLUSION

- In the area of joint study programs, whether bachelor's, master's or doctoral, to compile flexible and modular study programs tied to the technical and personnel equipment of the participating universities.
- To use well-built and well-equipped workplaces of partners within the study programs.
- In this way, it is possible to ensure higher efficiency in the use of expensive equipment and also ensure the alignment of moral and physical obsolescence of equipment.

# CONCLUSION

- It is the same when using the software equipment of universities. Multi-licensing of many software tools is financially very demanding and a small university, where Computer Science is not among the main study and research areas, can hardly afford it. (For example MatLab.)
- The situation is the same when it comes to using the equipment of excellent laboratories and research institutes.
- We will never forget to include our Ceepus partners in the solution of our national projects (VEGA, KEGA) in the part of international cooperation, which is always beneficial, fulfilling and real.

Thank You for your attention

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