The organizing team from the Faculty of Pharmacy of Masaryk University (FaF MU) was the first to organize a week-long internship for students, young researchers and academic staff from the co-research Bratislava and Lublin teams. Already in the initial preparation phase of the whole project in Brno, it was planned that the implemented activities would focus on drug design, drug synthesis, drug analysis and biological evaluation.

The participants were scheduled to arrive on Monday, the first day of the internship. After accommodation, a tour of the departments of the FaF MU followed. But what was the most important part on the first day? Well of course the social part. During a joint dinner in the centre of Brno, next to the City Hall in the Srdcovka Jalta restaurant, Polish, Slovak and Czech participants discussed together education, activities and possibilities for future cooperation in connection with the V4 project.

On the second day, Tuesday, the practical part of the internship started. We prepared the synthesis of the drug paracetamol in the organic chemistry laboratories. Students were divided into Slovak-Polish pairs. Each pair cooperated in the synthesis when the preparation of the white crystals of this commonly used drug was the main goal. The students were to find out what is the real chemical structure and in what purity it was prepared. In the evening, we met again for dinner at the restaurant Šelepka, which is in the same district of Brno as the Faculty of Pharmacy, i.e. Královo Pole.

On Wednesday, all the participants of the internship met in the analytical laboratories of the Department of Chemical Drugs FaF MU. A demonstration of selected instrumental analytical methods was held and students could confirm the structure and purity of their products from the previous day. The analysis of compounds using infrared spectroscopy (IR) was assisted by Mgr. David Švestka, spectrophotometry by assoc. prof. Radka Opatřilová, nuclear magnetic resonance (NMR) by assoc. prof. Oldřich Farsa and high performance liquid chromatography (HPLC) by Dr. Michaela Kuchynka. The principle of the method and the instrument handling were briefly explained to the trainees. They could measure the UV/VIS spectrum of their product and verify the quality of the prepared drug in comparison with the paracetamol standard. The chemical structure of the compound was verified using further IR and NMR spectrometric methods. Dr. Kuchynka prepared an interactive quiz on the HPLC and to our pleasant surprise, a discussion regarding the problems and pitfalls of each method in the analysis of chemicals and pharmaceuticals started. After lunch, the afternoon programme continued with a visit to the SIMU Centre (The Simulation Centre of the Faculty of Medicine of Masaryk University) located on the Bohunice University Campus. The Simulation Centre is the most modern simulation centre in Central Europe. It is equipped similarly to a real hospital. There is a heliport on the roof, operating rooms, intensive care units, medical equipment and simulators on the hospital floor. It offers future physicians and clinical pharmacists the opportunity to try all the processes involved in saving human lives. After the SIMU tour, the participants met at the Campus River restaurant located on the University Campus.

On Thursday, the participants from both partner countries were introduced to the procedures and methods of biological evaluation of potential drugs in the laboratories of the Department of Pharmacology and Toxicology. "In vitro testing of biological effects of new substances using molecular biology methods" was the main day topic. In the first theoretical part of the course, the participants were led by assoc. prof. Peter Kollár, who explained the general

strategy and the processes of a new molecule that must be done to understand biological and toxic effects on living cells. He explained the differences between cell lines and primary cells that are used in research. He also mentioned culture techniques and care of cell lines and finally explained the most commonly used methods of working with cells, such as EL-FO, Western blotting, and flow cytometry. Young colleagues then had the opportunity to visit the Biochemistry Laboratory and see spectrophotometer-based instruments (ELISA, reader), and the Laboratory of histology with microtomes and staining apparatus. In the practical part of the course, Dr. Tereza Kauerová introduced the participants to various *in vitro* methods of evaluation, such as the preparation of cells for observation under the microscope, and methods of staining with dyes (erythrosin B), or methods of cell counting and determination of their viability. The participants also practically tried to evaluate the antiproliferative effects of the tested substances by the WST-1 analysis method. A networking event was also planned for this day, during which Polish and Slovak students could meet their Czech colleagues.

On Friday, there were presented the common research activities of the Department of Pharmacology and Toxicology FaF MU with FNUSA-ICRC (International Clinical Research Centre of St. Anne's University Hospital in Brno). Preclinical research - testing of antiarrhythmic and antihypertensive effects of newly synthesized potential β-adrenergic receptor antagonists. As the second point of the program, direct monitoring of thrombolysis of radiolabeled artificial clots embolized into the abdominal aorta of laboratory rats was presented.

Finally, we would like to thank all the Slovak and Polish participants for allowing us to spend five amazing days with them and for the opportunity to present our department and show what we ourselves are fully dedicated to. We also hope that they themselves were satisfied with our organization and will visit us in Brno again.