

The Faculty of Pharmacy of RSU offers exchange students the opportunity to acquire experience in laboratory **Research Work** in Rīga, the capital of Latvia.

- Chromatography laboratory: work with HPLC; HPLC/MS, UPLC, GH – 1 student
- Quality control laboratory: work with Potentiometric titration (HCl, NaOH, HClO₄, AgNO₃ etc.), Karl Fischer titration, UV/VIS, IS/FTIR, dissolution testing, disintegration testing, TOS, melting point etc. – 1 student
- Laboratory of Pharmaceutical Pharmacology, [Latvian Institute of Organic Synthesis](#)
Students will be introduced to the experimental methods of drug research in the fields of diabetes, cardiovascular and CNS pharmacology. This will include demonstrations of both in vivo and in vitro models (cell culture). Biochemical analysis of enzyme activity, as well as techniques for determination of protein expression (RT-PCR, Western blot) will be included in the project plan. The study project will be related to the investigation of molecular mechanisms of late complications of diabetes and regulation of glyoxalase activity as a part of cellular defence system against toxic glycation products.
Supervisor: Dr. pharm. Maija Dambrova, associate professor at Rīga Stradiņš University; e-mail md@biomed.lu.lv.
- Detection of persistent organic pollutants in blood serum (polychlorinated biphenyls PCB's and polybrominated biphenylethers PBDE's) by gas chromatography with an electron capture detector and a massspectrometer.
Toxicological air samples analyses from industrial and non-industrial areas. Air can be measured for volatile organic compound, metals, and non-metal oxides, asbestos etc. The results will be compared by occupational exposure level and toxic effect will be calculated. Usage of laboratory data base with a collection of measurements since 2007.