

Mission Statement
of ELTE Chemical Kinetics Laboratory
2022

The aim of the Laboratory is to carry out high level research and teaching in the field of chemical kinetics, with applications mainly in combustion chemistry, but also in other fields like atmospheric chemistry, systems biology and sonochemistry.

The main areas include the development of new methods and software for the analysis and improvement of detailed reaction mechanisms. We intend to use modern methods of applied mathematics and computer science. The methods developed are related to the analysis of systematic and random errors of experimental data; importance of rate and thermodynamic parameters; validation, reduction and optimization of large reaction mechanisms.

We have developed a series of tools to serve the international research community. These tools are available free-of-charge on our web sites. We offer computer codes for the testing, analysis, visualization, reduction, and optimization of detailed reaction mechanisms, and also for the study of the errors of the rate parameters of elementary reactions. We offer databases of measured and theoretically calculated rate coefficients, and combustion experimental data.

The members of the Laboratory participate in university teaching in all levels. We are offering 'TDK' project work topics for undergraduate students, topics for BSc and MSc theses, and PhD positions in the fields of Chemistry, Environmental Science and Applied Mathematics.