

*“(...) in this world nothing can be said to be certain, except death and taxes.”*

Benjamin Franklin

(A letter to Jean-Baptiste Leroy, 1789)

Death affects all people worldwide. Even this fact should make research about death so universal, so widely applicative. Besides the fact, that death accompanies humanity from ages, our knowledge about death it is still very limited. Lack of information about stages of death and postmortem time establishment was noticed some time ago by American forensic anthropologists. In the Department of Anthropology at the University of Tennessee was created a project called “The body farm”, when anthropologists can learn about decomposition of the body during the time and about factors which affect this process. This idea not only strongly contributed to the development of forensic anthropology but also for the general development of forensic sciences. Unfortunately, there is not created any model which could be used to study this kind of modulations on molecular level till now. The great tool which can be used to perform this kind of research is relatively young science discipline - metabolomics. It allows to following even the smallest numerous molecular modulations at the same time. Using this kind of sciences is bringing us a lot of valuable knowledge about molecular bases of physiological as well as pathological conditions.

The main aim of the proposed project is the application of metabolomics to evaluate and understand modulations of small metabolites which take place after death, especially in different time intervals.