

## Open Ph.D. projects

**Announcer:** Gabor Juhasz

**Doctoral School:** University of Szeged, Faculty of Science and Informatics, Doctoral School of Biology

**Title of the research topic:** Analysis of autophagy and endocytosis

**Description of the research topic:** Eukaryotic cells break down and recycle their own material in lysosomes via autophagy. This catabolic pathway ensures the turnover of cellular organelles and macromolecules and slows down the aging process, and it is required for the organism's survival during starvation. In recent years, important roles for autophagy were identified in various pathologies including cancer, neurodegenerative diseases, and infections. Despite the 2016 Nobel Prize we still know relatively little about the precise role of this process, and the underlying molecular mechanisms are incompletely understood. During endocytosis, the cell takes up material from its environment (such as bacteria, growth factors), which may also be degraded in lysosomes. The aim of the PhD project is to investigate autophagy and endocytosis using molecular genetics, biochemistry, cell and developmental biology in *Drosophila* and mammalian cells. The specific research topics will be developed in consultation with the applicants.