12.07.2013 (Friday), 11.00 3rd amphitheater of the central building Agricultural University of Athens

"Genetically Modified and Histidine-Tagged Enzymes as Recognition Elements of Sensors"

Lecturer:
Dr. Yaroslav I. KORPAN

Vice-Director of the Institute of Molecular Biology and Genetics, NAS of Ukraine,
Leading Research Scientist of the Laboratory of Biomolecular Electronics,
Kyiv, UKRAINE

Summary

Protein engineering and Histidine-tag protein chemistry are emerging as possible strategies to improve the native enzymes performances. The two main strategies in protein engineering are rational design, which combines site-directed mutagenesis with the detailed knowledge of enzyme structures and functions or computational models, and directed evolution, which does not require scientific knowledge since it is based on the random synthesis of a pool of mutated enzymes and the subsequent selection by an iterative process. Despite the fact that Histidine-tag protein chemistry is a well-defined and rather old field of analytical chemistry, its application for production of Histidine-tagged recombinant enzymes became the analytical chemist's modern trend only during last few years.

This presentation will be focused on the recent research and development progress in the field of electrochemical and optical sensors coupled to genetically modified and Hisitdine-tagged enzymes.