

George Diallinas
Aspergillus genetics & Molecular Biology lab

Research Interests

My lab is established in the Department of Botany (1st floor, left corridor, Microbiology lab) within the Faculty of Biology at the Panepistimioupolis (Kaisariani) of Athens University. The Department is relatively well equipped with major facilities for studies on plant and microbial genetics, biochemistry physiology and molecular biology.

Our group is primarily interested in several aspects concerning the expression, function, cell biology and evolution of transport proteins. Our model organism of choice is the non-pathogenic filamentous fungus *Aspergillus nidulans*, a classic model fungal genetic system since the 1950's. Since the 90's, several *A. nidulans* transporters specific for purine, pyrimidine, nucleoside or amino acid transport have been cloned and studied in respect to their transcriptional, post-translational and cellular control of expression (see CV of George Diallinas). The principal current interest of the lab is to use *A. nidulans* as a model system for:

- a) Genetically and biochemically dissecting the *structure-function relationships* underlying purine transporter topogenesis, function and specificity.
- b) Identifying the pathways and molecular mechanisms involved in the *membrane trafficking and endocytosis* of specific transporters in response to various physiological, developmental and genetic signals

We are also investigating the role of transporters in fungal pathogenicity and use *in silico* modelling of specific purine transporters for rational antifungal drug design.