

## **Poster Abstract – ISMB / ECCB 2007**

### **Finding genes involved in plants response to drought**

**Ashkenazi M. and Moshelion M.**

During plants life cycle several developmental stages involve the loss of considerable amount of water while keeping the tissue's vitality, such as the formation of seeds and pollen. Some of the genes expressed at these stages are known to be involved in response to other water stress conditions (e.g. drought stress, osmotic stress and salt stress).

Our aim is to identify cliques of genes involved in the acquisition of desiccation tolerance (seeds and pollen) and in response to water stress.

Expression measurements from 450 publicly available ATH1 arrays, representing *Arabidopsis thaliana*'s response to various water deficit conditions (water stress or developmental stages, "states") were sorted into data sets. Each state is represented as a weighted, undirected graph resulting in networks of genes connected according to the degree of their expression correlation. Intersecting networks of two or more states (using Cytoscape) will produce a graph that includes only those genes that share correlation in all the states. This graph will reveal cliques (complete subgraphs) of genes whose expression is correlated in several states – suggesting a common regulation mechanism. Locating cliques enriched with water stress specific genes will enable us to assign functionality for the rest of the unknown genes in the clique and suggest them a role in plants response to drought.