

## **Graduate student wanted for:**

### **Development of an autonomous UAV platform for within-row missions in orchards and vineyards**

There is a growing interest in the use of “drones” (Unmanned Aerial Vehicles) in agriculture. The common feature to all existing platforms is that they fly over the crop. In orchards and vineyards much more information could be obtained using a small UAV operating within the rows of trees/vines. **The proposed project will focus on the development of the sensing capabilities and algorithms required for path planning and guidance of a UAV platform capable of performing scouting and monitoring operations autonomously in orchards and vineyards.** The system will use on-board vision as the primary sensing method for identifying the “flight corridor” defined by tree/vine rows. The information from the vision system will be fused with information obtained from an on-board GPS in order to estimate the UAV pose in the global reference frame. Ultra-sonic proximity sensors will be used together with the vision system for detecting both static and moving obstacles. **The work includes “real life” implementation and testing in orchards and vineyards.**

#### **Contact person:**

**Raphael Linker**  
**Faculty of Civil and Environmental Engineering**  
**linkerr@tx.technion.ac.il**  
**Tel: 04-8295902**

