



## DoNuTS Technical Meeting

**Time:** 1600 Wednesday, 30 January 2008

**Place:** NE Conference Room, 4101 Etcheverry

**Speaker:** Barak Fishbain, Tel Aviv University

**Subject:** Real-Time Video Enhancement

Recent advances in sensor technologies have made it feasible to build low-cost observation systems. Such systems are increasingly used in the civilian market for industrial and scientific applications. While a great deal of effort has been expended on enhancement of the visual output of such single and multi-sensor systems, a large variety of well-known image processing problems are still lacking real-time solutions. Three novel real-time video enhancement techniques are presented. The first method proposes real-time local 3-D (spatial-temporal) noise filtering without introducing significant computational load. The second method suggests compensating turbulence induced geometrical distortions in real-time, while keeping the real moving objects in the video unharmed. Finally, the third method utilizes the features offered to the user by the family of ITU and MPEG video compression standards for real-time super-resolution. The availability of real-time solutions for those problems will enable the integration of those solutions into hardware modules. Eventually, this will result in processing in the field, as the methods can be incorporated into the acquisition systems.