



הסכניון - מכון טכנולוגי לישראל

הפקולטה להנדסת חשמל

אלקטרוניקה ■■■■■

מחשבים ■■■■■

תקשורת ■■■■■

# סמינר משתלמים

You are invited to attend a lecture by  
**Alla Vichik**

הנכם מוזמנים להרצאתה של  
**אלה ויצ'יק \***

בנושא:

## Self-dual Morphological Methods Using Tree Representations\*

We present a general framework for tree-based morphological image processing. This framework yields a set of new morphological operators (erosion, dilation, opening, etc.), for each given tree representation of images. Because many of the properties of the tree are inherited by the resulting morphological operators, the choice of the tree representation is of high importance. We focus mostly on self-dual trees, which represent dark and bright elements equally. The heart of the proposed approach is a novel complete inf-semilattice of tree representations of images.

The proposed general framework is shown to unify previous schemes, and a new one is obtained by means of a new tree representation, Extrema-Watershed Tree. Following the general framework, we derive self-dual morphological operators from the Extrema-Watershed Tree, and demonstrate its application to denoising. This example stresses the strength of the general framework, as a tool for generating new, useful sets of operators.

\* Masters degree seminar. Research under the supervision of Dr. Renato Keshet and Prof. David Malah.

סטודנטית לתואר שני בהנחיית ד"ר רנטו קשת ופרופסור דוד מלאך.

The lecture will take place  
On Thursday, 16.2.2006 at 13:30  
in Room 1061 Electrical Eng. Building  
Technion City

ההרצאה תתקיים ביום ה' 16.2.2006  
בשעה 13:30 בחדר 1061  
בבניין הפקולטה להנדסת חשמל  
קריית הטכניון

כיבוד קל יוגש לפני ההרצאה

