



THE WEIZMANN INSTITUTE OF SCIENCE
FACULTY OF MATHEMATICS AND COMPUTER SCIENCE

Vision and Robotics Seminar

Room 1 ,Ziskind Building
on Thursday, Nov 13, 2014
at 12:00

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Imaging through turbulence a long quest of innovative computational photography
in astronomy

Abstract:

The astronomical community's largest technical challenge is coping with the earth's atmosphere. In this talk, I will present the popular methods for performing scientific measurement from the ground, coping with the time dependant distortions generated by the earth's atmosphere. We will talk about the following topics:

- 1) Scientific motivation for eliminating the effect of the atmosphere.
- 2) The statistics of turbulence - the basis for all methods is in deep understanding of the atmospheric turbulence
- 3) wave-front sensing + adaptive optics - A way to correct it in hardware.
- 4) lucky imaging + speckle Interferometry - Ways to computationally extract scientifically valuable data despite the turbulent atmosphere.