

# SEMINAR

**Monday, 27/01/2020, 12:00 am**

**Building 211, seminar room**

## SPEAKER:

**Prof. Amit Finkler**

Weizmann Institute

## TOPIC:

### **Nanoscale magnetic resonance using quantum sensors**

#### Abstract:

With the emergence of quantum science and technologies as a driving force in pushing the limits of sensitivity and resolution, new aspects of relatively traditional techniques have consequently appeared in the form of quantum sensors. In this talk I will introduce one such quantum sensor, which is our lab's working horse — the nitrogen-vacancy center in diamond. After explaining the working principle of the sensor and how it can be used to detect small oscillating magnetic fields with high spectral resolution, I will present two of the sensor's modes of operations, which we are using to study magnetic fields of molecules. Finally, I will share with you our vision of how we can use the nitrogen-vacancy center in diamond to perform magnetic resonance studies on nanometer length scales as well as magnetometry of a single-digit number of molecules.