



אוניברסיטת בן-גוריון בנגב  
Ben-Gurion University  
of the Negev  
The Faculty of Engineering Sciences

## בימת דיקן הפקולטה למדעי ההנדסה

פרופ' יוסף קוסט, דיקן הפקולטה למדעי ההנדסה  
מתכבד להזמין להרצאת אורח בימת הדיקן



### **Prof. Daniel Weihs**

Distinguished Professor, Faculty of Aerospace Engineering  
Technion, Israel

#### ירצה בנושא:

### **Aerodynamics In The Biological Realm**

The utilization of aerodynamics in the evolution of flight in the biological realm is reviewed, starting from gliding motion in plants (seeds) and animals, through the various modes of steady and periodic powered flight in the different Reynolds number domains. The High Reynolds number modes include gliding in still air, autorotation, coasting in currents, both horizontal (wind), and vertical (thermals), and flapping flight. Specialized modes of powered flight, such as bounding by passerine birds and wind-gradient riding by the albatross, as well as hovering flight by hummingbirds are also discussed. Several novel unsteady mechanisms resolving the old dilemma of "how does the bumblebee fly?" Finally several recent applications of the unusual phenomena of small ( $<1\text{cm}$ ) flyers and swimmers, moving at very low Reynolds numbers are shown.

**יום רביעי, ט' בטבת תשע"ב, 4 בינואר 2012**  
**ההרצאה תחל בשעה 10:30**  
**אודיטוריום בניין היי-טק (בניין 37 חדר 202) קומה 2**  
**לפני ההרצאה יוגש כיבוד קל (10:00)**