



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. Gadi Rothenberg**

Van 't Hoff Institute for Molecular Sciences  
University of Amsterdam

#### **ירצה בנושא:**

### **A new type of plastic made from plants**

How often is it that you invent something that can truly change people's lives and make the world a better place? We've been working on catalyst discovery and development for bulk chemicals and sustainable energy for over a decade, and during those years we found efficient catalysts for selective hydrogen combustion, alkane dehydrogenation, hydrocyanation, tandem acid-base catalysed reactions, and Fischer-Tropsch synthesis. We also developed rational methods and models for seeking out such new catalysts, based on multi-parameter response-surface calculations. Everything that a good engineer should have.

And then, three years ago, we discovered by accident a new type of biodegradable polymer made from 100% plant-based materials. It would be nice to say that this involved years of study and preparation, but in fact we were very lucky.

This new plastic is non-toxic, non-hazardous, and cheap enough to replace polyurethane and in some cases polypropylene and PET. We are now scaling up its manufacturing and finding a host of new and exciting things. In the lecture, I will tell you how we discovered this plastic, explain the material properties and the rationale behind them, show examples of the plastics and their applications and discuss the pros and cons of making chemicals and polymers from biomass.

**יום ראשון, ג' בסיון תשע"ג, 12 במאי 2013**  
**ההרצאה תחל בשעה 12:30**  
**מכון אילזה כץ לננוטכנולוגיה (51) אולם 015**  
**לפני ההרצאה יוגש כיבוד קל (12:00)**