

# Tight Interactions in Biology



A CONFERENCE CELEBRATING  
ED BAYER'S 70<sup>TH</sup> BIRTHDAY

APRIL 6 | THE DAVID LOPATIE CONFERENCE CENTRE  
2017 | THE WEIZMANN INSTITUTE OF SCIENCE, REHOVOT, ISRAEL

# PROGRAM

08:30-09:00 **Gathering and coffee**

09:00-09:30

## **Israel Energy Perspective Chair: Gideon Schreiber**

- **Avi Levy** - Dean of the Faculty of Biochemistry
- **Eitan Reuveny** - Head of the Department of Biomolecular Sciences
- **Anat Bonshtien** - Acting Chairman and Director of the Fuel Choices and Smart Mobility Initiative, Prime Minister's Office
- **Bracha Halaf** - Chief Scientist, Senior Manager, Oil Replacements, Ministry of National Infrastructure, Energy and Water Resources

## **Biomass to Biofuels**

Chair: **Avi Levy**, Dean of the Faculty of Biochemistry

09:30 - 09:50 **Martin Keller** - Director, National Renewable Energy Laboratory, (NREL), Golden, CO, USA

### **How Ed is saving the world!**

09:50 - 10:10

**Paul Gilna** - Director, US-DOE BioEnergy Science Center (BESC), Oak Ridge National Laboratory (ORNL), Oak Ridge, TN, USA

### **Creating a high-performing collaborative science culture; lessons and outcomes from the BioEnergy Science Center**

10:10 - 10:30

**Art Ragauskas** - Governor's Chair in Biorefining, University of Tennessee, Knoxville, TN, USA

### **Biomass recalcitrance – an odyssey into the plant cell wall structure**

10:30 - 10:50

**Blake Simmons** - Chief Scientific and Technology Officer and Vice President of the Deconstruction Division at the US-DOE Joint BioEnergy Institute (JBEI), Division Director, Biological Systems and Engineering, Berkeley Lab

### **Advances in biomass research and development at the Joint BioEnergy Institute**

10:50 - 11:20

**Coffee break**

## **Cellulases, Cellulosomes and Friends**

Chair: **Henri-Pierre Fierobe** - CNRS, Marseille, France

11:25 - 11:45

**Bernard Henrissat** - Director of Research CNRS, Founder and Curator of the CAZy database and Head of the Glycogenomics Team (Marseille, France)

### **The classification of cellulases and the origins of CAZy**

11:45 - 12:05

**Shi-You Ding** - Michigan State University, East Lansing, MI, USA  
**Visualizing cellulase activity by real-time imaging**

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12:05 - 12:25 **Nicole Koropatkin** - University of Michigan, Ann Arbor, MI, USA  
**Tight interactions drive starch catabolism in the gut:  
assembling the *Ruminococcus bromii* amylosome**

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12:25 - 12:45 **Steve Smith** - Queen's University, Kingston, ON, Canada  
**Structural insights into cellulosome topology and dynamics**

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12:45 - 13:45 **Lunch**

## CellulosomePlus

Chair: **Mariano Carrión-Vázquez**, Cajal Institute, CSIC, Madrid, Spain

13:50 - 14:10 **Hermann Gaub** - Ludwig-Maximilians-Universität (LMU),  
München, Germany  
**Force and function: how biomolecules do it**

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14:10 - 14:30 **Michael Nash** - University of Basel and ETH Zurich, Switzerland  
**Hydrogel-based assays for measuring cellulosome potency**

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14:30 - 14:50 **Damien Thompson** - University of Limerick, Ireland  
**Can computer simulations help us understand the  
cellulosome and engineer designer cellulosomes?**

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14:50 - 15:10 **Mirjam Czjzek** - CNRS and Université Pierre et Marie Curie,  
Roscoff, France  
**Dissect and build: a molecular vision of cellulosomal  
architecture**

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15:10 - 15:40 **Coffee break**

## Microbiology and Biotechnology

Chair: **Dimitris Hatzinikolaou**

National and Kapodistrian University of Athens, Greece

15:45 - 16:05 **Victor de Lorenzo** - Centro Nacional de Biotecnología,  
CSIC, Madrid, Spain  
**The Cell Factory: from analogy to methodology**

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16:05 - 16:25 **Mariano Carrión-Vázquez** - Cajal Institute, CSIC, Madrid, Spain  
**Anchored cellulosomes: sturdy nanomachines that get  
the job done!**

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16:25 - 16:45 **Bryan White** - University of Illinois, Urbana Champaign, IL, USA  
**Adventures in cellulosome Legoland**

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## Ed's Retort

Chair: **Meir Wilchek**, Weizmann Institute of Science

16:50 - 17:10 **Ed Bayer**  
**Finale: Strong bonding in science**

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**Sarah Moraïs and Lior Artzi**  
On behalf of Ed's students  
The Weizmann Institute of Science

**ORGANIZERS**  
**Gideon Schreiber & Lior Artzi**  
Department of Biomolecular Sciences,  
The Weizmann Institute of Science

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**CONFERENCE COORDINATOR & ACCESSIBILITY ISSUES**  
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