

# Course: Food and Biorefinery Enzymology (FBE)



Programme of the 6<sup>th</sup> edition, 2017

Week 39: 25-29 September

Graduate School VLAG, Wageningen University and Research, The Netherlands in co-operation with ESSIB 4<sup>th</sup> edition

Course Directors: Dr. Mirjam Kabel, Prof. Willem van Berkel,

Scientific Committee: Prof. John van der Oost, Prof. Harry Gruppen, Prof. Jürgen Pleiss, Prof. Marina Lotti, Dr. Pau Ferrer

## Monday, 25 September 2017

### ENZYMES AND INDUSTRIAL FOOD APPLICATIONS

09:30	Registration	
10:00-10:15	Welcome, short introduction to the programme	<b>Prof. Willem van Berkel / Dr. Mirjam Kabel (WUR)</b>
10:15-11:00	An overview of the industrial applications of the six classes of enzymes	<b>Dr. Margot Schooneveld (DSM)</b>
11:00-11:15	<i>Break</i>	
11:15-12:15	Protein hydrolysis & analysis	<b>Prof. Harry Gruppen (WUR)</b>
12:15-12:30	<i>Group Photo</i>	
12:30-13:30	<i>Lunch</i>	
13:30-14:15	Proteases - classification, mode of action and industrial use	<b>Dr. Margot Schooneveld (DSM)</b>
14:15-15:00	Lipid hydrolysis	<b>Prof. Maarten Egmond (UU)</b>
15:00-15:30	<i>Break</i>	
15:30-16:15	Food and non-food applications of lipases	<b>Prof. Marina Lotti (Univ. of Milano-Bicocca)</b>
16:15-17:15	Oxido-reductases in the food industry	<b>Dr. Harry van der Hijden (Unilever Research)</b>
17:45-19:15	<i>Dinner at Hof van Wageningen</i>	
19:15-20:30	Poster presentations and drinks	

## Tuesday, 26 September 2017

### PRACTICALS

**Food Chemistry: Study Case Proteases**

**Biochemistry: Watching Enzyme Stability**

## Wednesday, 27 September 2017

### BIOREFINERY ENZYMES

08:30-09:15	LPMOs for biomass degradation	<b>Dr. Roland Ludwig (BOKU, Vienna)</b>
09:15-10:15	Hemicellulases for plant biomass conversion	<b>Dr. Mirjam Kabel (WUR)</b>
10:15-10:45	<i>Break</i>	
10:45-11:45	Diversity of plant biomass degrading enzymes in fungi	<b>Prof. Ronald de Vries (UU /CBS-KNAW)</b>
11:45-12:30	Enzymes in biorefinery applications	<b>Dr. Sandra Hinz (DuPont)</b>
12:30-13:30	<i>Lunch</i>	
13:30-14:30	Fungal oxidoreductases for food production and analysis	<b>Dr. Roland Ludwig (BOKU, Vienna)</b>
14:30-15:30	Control of enzymatic browning by polyphenol oxidases	<b>Dr. Jean-Paul Vincken (WUR)</b>
15:30-16:00	<i>Break</i>	
16:00-17:00	Aryl-alcohol oxidases: enzymes with taste	<b>Prof. Willem van Berkel (WUR)</b>

## Thursday, 28 September 2017

### CARBOHYDRATE DEGRADING ENZYMES, CLASSIFICATION AND PRODUCTS

08:30-09:15	Glycoside hydrolases: sequences, families, structures and catalytic mechanisms	<b>Dr. Marco Moracci (CNR, Naples)</b>
09:15-09:30	<i>Break</i>	

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10:15-10:30	<i>Break</i>	
10:30-11:30	Analytical approaches for enzyme products	<b>Prof. Henk Schols</b> (WUR)
<b>EXCURSION TO DSM</b>		
11:45	Departure to Delft	
14:00-17:30	Excursion DSM	
18:00-20:30	Course dinner in Delft	
20:30	Departure to Wageningen	

### **Friday, 29 September 2017**

#### **Enzymes and Biotechnology**

09:00-09:45	Can CRISPR/Cas be applied for food and biorefinery applications?	<b>Prof. John van der Oost</b> (WUR)
09:45-10:30	Laccases and DyP-type peroxidases: enzymological properties and added-value products formation	<b>Dr. Lgia Martins</b> (Univ. of Lisbon)
10:30-11:00	<i>Break</i>	
11:00-11:45	Engineering the ligninolytic enzyme consortium using directed evolution	<b>Dr. Lgia Martins</b> (Univ. of Lisbon)
11:45-12:30	Enzymes in malting and brewing	<b>Dr. August Bekkers</b> (Heineken)
12:30-12:45	Closing remarks and certificates	<b>Dr. Mirjam Kabel &amp; Prof. Willem van Berkel</b> (WUR)
12:45-13:30	<i>Farewell Lunch</i>	