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# 10<sup>th</sup> International Conference on Bio-based Materials

10–11 May 2017, Maternushaus, Cologne, Germany

Focus: ++ Bio-based Building Blocks & Platform Chemicals ++ Polymers ++ Innovation Award ++ Start-ups ++



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## HIGHLIGHTS OF THE WORLDWIDE BIOECONOMY

- Policy and Markets
- Standardisation, Labelling and Certifications
- Innovation Award “Bio-based Material of the Year 2017”
- Bio-based Building Blocks and Platform Chemicals
- Oleochemicals and Bio-based Polymers
- Start-Ups

The 10<sup>th</sup> International Conference on Bio-based Materials is aimed at providing international major players from the bio-based building blocks, polymers and industrial biotechnology industries with an opportunity to present and discuss their latest developments and strategies. The conference builds on successful previous conferences: 250 participants and 30 exhibitors mainly from industry are expected.



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## Programme of Day 1

9:30 nova-Institut GmbH 

**Michael Carus**  
Conference Opening

### POLICY AND MARKETS



9:40 Bio-Based Industries Joint Undertaking (BBI JU) 

**Pilar Llorente**  
Public-Private Cooperation to Support the Transition to a Bio-based Economy: the Bio-based Industries Joint Undertaking



**CHAIRMAN**

**Jan Ravenstijn**  
Jan Ravenstijn Consulting 



10:00 Deloitte 

**Dr. Willem Sederel**  
People-Planet-Profit: The Societal Return on Investment in Bio-based Chemicals and Materials



10:30 Neste SA 

**Lars Börger**  
From Renewable Feedstock to Bio-based Solutions



11:00 Backcasting SAS 

**Pierre-Alain Schieb**  
Policy Updates for the Bioeconomy – Highlights and Future Prospects Around the World



11:30 nova-Institut GmbH 

**Michael Carus**  
Production Capacities of Bio-based Polymers and Their Precursors



11:40 Tecnon OrbiChem 

**Philippa Davies**  
Overview on Markets of Bio-based Building Blocks

12:10 LUNCH BREAK



13:50 Wobalt Expedition Consultancy 

**Wolfgang Baltus**  
Emerging Bio-based Economies in Asia - Challenges and Opportunities



14:10 narocon Innovation Consulting 

**Dr. Harald Kaeb**  
“Bagislation” in Italy and France: Market Motor for Bio-based Plastics?



14:40 nova-Institut GmbH 

**Michael Carus**  
Highlights from nova Research in 2016

15:10 COFFEE BREAK

### STANDARDISATION, LABELLING AND CERTIFICATIONS



15:40 nova-Institut GmbH 

**Lara Dammer**  
News from Standardisation, Labelling and Public Procurement of Bio-based Products



16:00 Roundtable on Sustainable Biomaterials (RSB) 

**Marcelle Peuckert**  
Driving the Development of the Bioeconomy



16:20 ISCC System GmbH 

**Norbert Schmitz**  
Sustainable Supply Chains and Certification 4.0 – Core Building Block for Bio-based Materials

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## INNOVATION AWARD "BIO-BASED MATERIAL OF THE YEAR 2017"



**CHAIRMAN**  
**Michael Carus**  
nova-Institut GmbH



**16:40 AWARD SPONSOR**  
**Gordana Hofmann-Jovic**  
InfraServ GmbH & Co. Knapsack KG



**16:50 BIO-LUTIONS GmbH**   
**Eduardo Gordillo**  
BIO-LUTIONS Fibres



**17:00 Cooper Tire Ltd**   
**Chuck Yurkovich**  
Guayule Natural Rubber for Tire Application



**17:10 HEXPOL TPE**   
**Dr.-Ing. Thomas Köppel**  
Dryflex® Green



**17:20 Paptic Ltd**   
**Tuomas Mustonen**  
PAPTIC® – The Next Generation of Paper



**17:30 Patagonia Inc.**   
**Gabriel Davies**  
Patagonia Yulex R3 wetsuit



**17:40 Phytowelt Green Technologies GmbH**   
**Janin Wascinski**  
Chiral Raspberry Fragrance

**18:00 Voting**

**20:00 Dinner Buffet and Innovation Award Ceremony**

## Advisory Board



**Wobalt Expedition Consultancy**   
**Wolfgang Baltus**



**Wageningen University**   
**Christiaan Bolck**



**Flemish Institute for Technological Research (MITO)**   
**Prof. Dr. Ludo Diels**



**Tecnon OrbiChem Ltd.**   
**Doris de Guzman**



**Hochschule Bremen – City University of Applied Sciences**   
**Prof. Dr.-Ing. Jörg Müssig**



**Jan Ravenstijn Consulting**   
**Prof. Jan Ravenstijn**



**CLIB2021**   
**Dr. Thomas Schwarz**





**IBB Netzwerk**   
**Prof. Dr. Haralabos Zorbas**

## Programme of Day 2

### BIO-BASED BUILDING BLOCKS AND PLATFORM CHEMICALS



**Chairmen: Christiaan Bolck,**  
Wageningen UR   
& **Ludo Diels,** VITO 



**9:00 MetGen** 

**Matti Heikkilä**

Industrial Enzymes for Cellulosic Sugars and Beyond – the Power and Speed of Tailored Solutions



**9:20 AVALON Industries** 

**Thomas Kläusli**

Everything from Sugar – 5-HMF as Key Enabler in Bio-based Chemistry



**9:40 Reverdia** 

**Alexander Krapivin**

Biosuccinium® – Unlocking the Bio-based Polymers of Tomorrow



**10:00 GFB Europe BV** 

**Marcel van Berkel**

Levulinic Acid based Super Solvents



**10:20 Green Biologics** 

**Tim Davies**

A Chemical Reaction: Changing Commodities Into High Value Specialty Products

### 10:40 COFFEE BREAK



**11:10 Borregaard** 

**Gudbrand Rødstrud**

Established and New Applications for Lignin, Hemicellulose and Cellulose



**11:40 Avantium** 

**Ed de Jong**

Renewable Chemicals into Bio-based Materials: From Lignocellulose to PEF



**12:10 DuPont** 

**Christian Lenges**

Enzymatic Polymerization: Biotechnology Enabled PolySaccharides & Applications

### 12:30 LUNCH BREAK



**14:00 Ynsect** 

**Nathalie Berezina**

Insects – Novel Source of Biomaterials



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## OLEOCHEMICALS AND BIO-BASED POLYMERS



### CHAIRMAN

**Prof. Dr.-Ing. Jörg Müssig**  
Hochschule Bremen – City University of Applied Sciences



### 14:20 Cathay Industrial Biotech Ltd.

**Alex Kedo**

Developments in 1,5-Pentanediamine based Polyamides as an Innovative Next-Generation Bio-based and Renewable Polymer



### 14:40 PolyLabs

**Kristians Grundštoks**

Bio-based Polyols for the Polyurethane Industry from Tall Oil and Rape Seed Oil



### 15:00 Corbion

**Francois de Bie**

Total and Corbion Join Forces to Bring Innovation to the PLA Market



### 15:20 Peter Greven GmbH & Co. KG

**Peter Greven**

Innovative and Sustainable Solutions from the Oleochemical Industry

## 15:40 COFFEE BREAK



### 16:10 FORESA

**Antonio Touriño Couso**

Bio-Solutions and Actual Alternatives in the Wood Based Industry to Obtain a Greener Foot Print

## START-UPS



### CHAIRWOMAN

**Dr. Eva Waldvogel-Mohr**  
Forschungs-zentrum Jülich GmbH, Projektträger Jülich



Federal Ministry of Education and Research

The following two start-ups have been selected by the Bundesministerium für Bildung und Forschung (BMBF), Federal Ministry of Education and Research



### 16:30 HPX Polymers GmbH

**Dr. Dr. Uwe Bölz**

Development of New Bio-degradable Materials Based on Waste Materials from Industrial Processing of Renewable Resources



### 16:45 Autodisplay Biotech GmbH

**Martin Bellof**

Utilisation of Empty Fruit Bunches – a Step Towards a More Sustainable Production of Palm Oil



### 17:00 Anellotech Inc.

**David Sudolsky**

Moving Towards 100% Bio-based w/Bio-TCat BTX & Olefins



### CHAIRMAN

**Prof. Dr. Haralabos Zorbas**  
IBB Netzwerk



### 17:15 Dust BioSolutions GmbH

**Martin Spitznagel**

Turning Dust into Stone (with the Help of Bacteria)



### 17:30 AEP Polymers Sri

**Elena Benedetti**

Bio-based Phenolics: Development of New Industrial Polymers for Fiber-Reinforced Composites and Polyurethane Foams



### 17:45 Syngulon

**Guy Hélin**

Synthetic Biology Technology to Boost Green Chemicals Production

## 18:00 NETWORKING & SNACKS

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## Innovation Award “Bio-based Material of the Year 2017” “Top 6” candidates nominated!

For the tenth year in a row, the Innovation Award “Bio-based Material of the Year” will be awarded to the young, innovative bio-based material industry, finding suitable applications and markets for bio-based products. The competition focuses on new developments in these areas, which have had (or will have) a market launch in 2016 or 2017.

This year, six bio-based materials and products have been nominated for the Award by the advisory board – out of more than 20 submitted products. The nominated companies are from the Belgium, Finland, Germany and the United States.

In a short 10-minute presentation, each of the six companies will introduce its innovation. The three winners will be elected by the participants of the International Conference on Bio-based

Materials, 10–11 May 2017 in Cologne, Germany, and awarded with a prize, sponsored by InfraServ GmbH & Co. Knapsack KG at the dinner buffet.



## Nominees for the Innovation Award “Bio-based Material of the Year 2017”



HEXPOL TPE (BE/SE): Dryflex® Green



Phytowelt Green Technologies (DE): Chiral Raspberry Fragrance



Cooper Tire (US): Guayule Natural Rubber For Tire Application



Paptic (FI): PAPTIC® – The Next Generation of Paper



Patagonia (US): Patagonia Yulex R3 wetsuit



BIO-LUTIONS (DE): BIO-LUTIONS Fibres

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## The “Top 6” candidates are:

### 1) BIO-LUTIONS GmbH

**BIO-LUTIONS fibres (up-cycled agricultural residuals)**

Guayule is a shrub that grows in regions such as the Southwestern U.S. It holds promise as a source of rubber for the tire industry – a possible alternative to Hevea rubber, which could be in short supply in the future and is subject to dramatic price fluctuations. This year, Cooper and its consortium partners completed a five-year bio-material study to assess how guayule rubber could be used in modern passenger car tires. Key wins include among others the creation of the first ever concept tire where all of the natural and synthetic rubber has been replaced with guayule.

### 2) Cooper Tire Ltd

**Guayule natural rubber for tire application  
(guayule polymer - polyisoprene)**

Sustainability has an increasing impact on the product and raw-material purchasing decisions of consumers and brand owners. Covestro has developed a technology to raise the content of renewable resources in polyurethane dispersions (PUDs) up to 65%. This makes new levels of sustainability possible for PU synthetic materials (footwear, garment, accessories...). Thanks to this development, it is now possible to produce coated textiles with high performance and low content of fossil-based raw materials in each layer. The key benefits are: 43%–65% renewable carbon content, not in direct competition with the food chain; can be used in every layer of the production of synthetic materials or coated textiles; drop-in of existing Impranil PUD types, i.e. low reformulation efforts.

### 3) Hexpol TPE

**Dryflex® Green (bio-based thermoplastic elastomer)**

Dryflex® Green is a family of bio-based thermoplastic elastomers (TPE). They are opening up previously unreachable solutions to the bio-based thermoplastic market by covering a wider range of hardnesses, including softer grades, while incorporating high levels of renewable content to over 90%. Hexpol has also developed compounds using organic fillers from plants, crops or trees; these give additional organic appearance and haptics. Dryflex® Green TPEs are highly customisable, with grades tailored to meet specific application requirements to give manufacturers of household goods, sports equipment, toys, infant care and packaging new opportunities for sustainability.

### 4) Paptic Ltd

**PAPTIC® – the next generation of paper  
(novel renewable, recyclable and reusable material)**

Paptic is replacing oil based plastics with bio-based, recyclable and reusable PAPTIC® material, which uses a novel wood fibre for a bioplastic composite paper combining the benefits of paper, plastics and textiles. First application of PAPTIC® is carrier bags, addressing the EU directive target for 55% reduction of plastic bag use by 2019. PAPTIC® bags have been launched to market in June 2016. The patented PAPTIC® technology is based on foam forming technology which is using 30% less energy and enabling up to 50% light weighting of products, when compared to traditional papermaking.

### 5) Patagonia Inc.

**Yulex R3 wetsuit (85% natural rubber/15% synthetic rubber  
by polymer content, recycled polyester content in linings)**

Wetsuits have always relied on neoprene (polychloroprene), which is non-renewable with energy-intensive manufacturing process. For eight years, Patagonia has been pioneering natural rubbers and sharing R&D with the surf/wetsuit industry to encourage a shift towards cleaner materials. In 2016, Patagonia launched the world's first neoprene-free wetsuit, reducing their CO<sub>2</sub> emitted in the polymer manufacturing by up to ~80% compared to conventional neoprene. The new plant-based material pioneered by Yulex Corp is sourced from Hevea rubber that is independently certified to the FSC® standard by the Rainforest Alliance, uses ambient rainfall and recycled water in manufacturing.

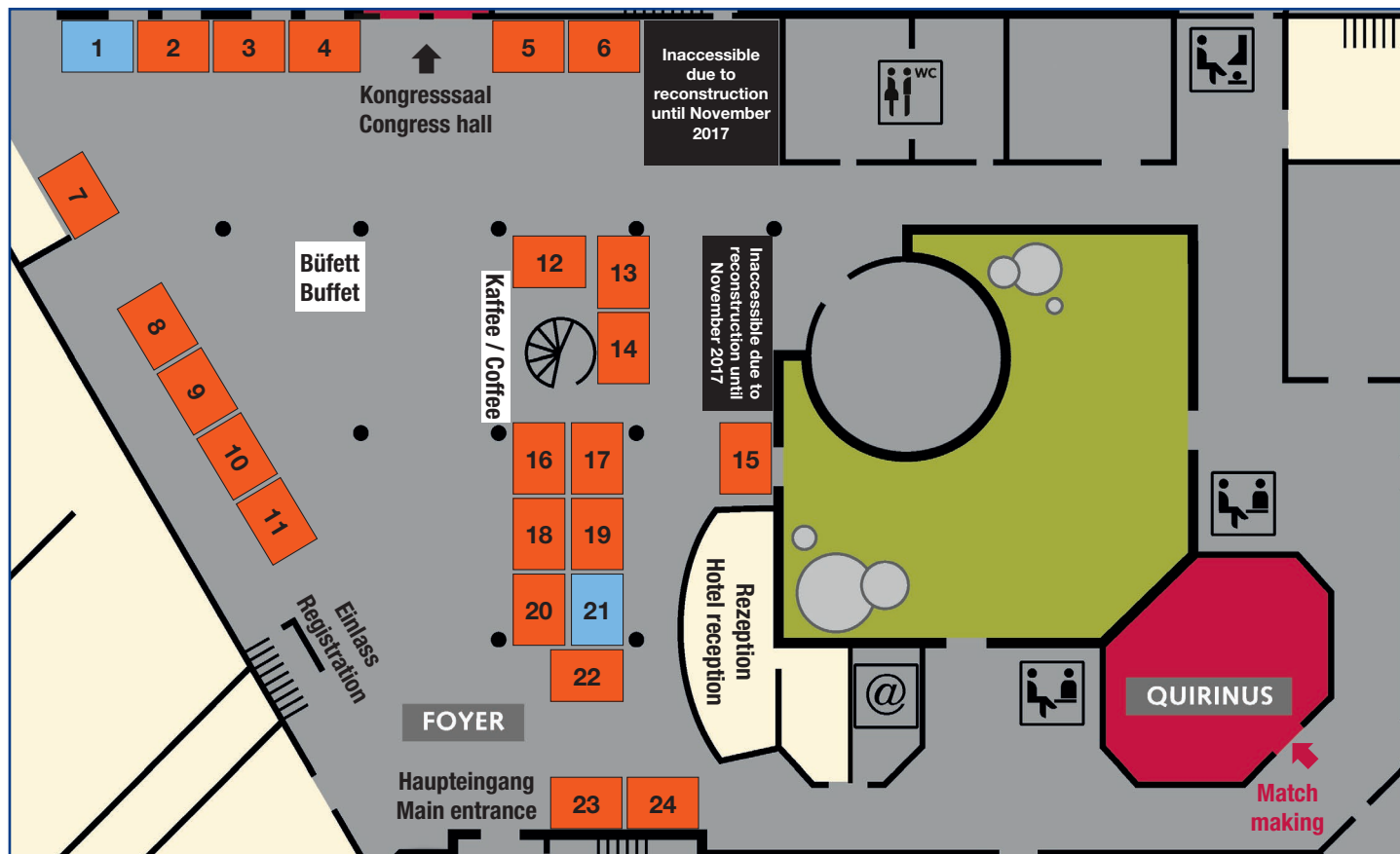
### 6) Phytowelt GreenTechnologies GmbH

**Chiral raspberry fragrance ((R)-alpha-Ionone)**

The (R)-alpha-Ionone is the main component of raspberry fragrance. Usually it is synthesized chemically as a racemate which contains the enantiomer (R)-alpha-Ionone as well as the diastomer (S)-alpha-Ionone. The (S)-form has a woody and musty flavour which gives the chemical racemate a different and impure fragrance. However, it is complex and uneconomic to separate enantiomers and diastomers. With its patented process, Phytowelt is not producing any of the diastomers but only the enantiomer. Therefore, the raspberry fragrance is chiral pure, smells intensive and is, because of the biotechnological production, a natural flavour component. This raspberry fragrance is the first natural in the market which can be produced in high quantity as well as quality resulting in a high competitive advantage.

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## Exhibitors


No. 1: Available


No. 2: Flanders Investment & Trade 


No. 3: Addiplast Group 

No. 4: DIN CERTCO GmbH 


No. 5: Buss AG 


No. 6: Fraunhofer UMSICHT 


No. 7: InfraServ GmbH & Co. Knapsack KG 


No. 8: Jäckering Mühlen- und Nahrungsmittelwerke GmbH 


No. 9: ZENIT GmbH 


No. 10: Forschungszentrum Jülich GmbH 


No. 11: nova-Institut GmbH 


No. 12: Borregaard 


No. 13: Superbio 


No. 14: Bio Base Europe Pilot Plant 

No. 16: ISCC System GmbH 


No. 17: Biobased Press 

No. 18: LAT Labor -und Analysen-Technik GmbH 

No. 19: m2p-labs GmbH 

No. 20: NOVAMONT S.P.A. 

No. 21: Available

No. 22: VTT Technical Research Centre of Finland 

No. 23 & 24: Bio-based Material of the Year 2017

The exhibition hall plan can be found at:

[www.bio-based-conference.com/exhibitorinfo](http://www.bio-based-conference.com/exhibitorinfo)



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## Award Sponsor

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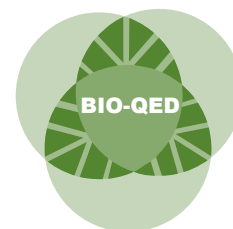


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## BIO-QED Stakeholder Workshop, May 10<sup>th</sup>, 2017

Workshop starts at 14:00, Maternushaus, Cologne, Germany

Fee: 80€ (excl. 19% VAT)



### What is the project about?

Opening new industrial routes for the production of the important chemicals BDO and IA from renewable sources rather than petrochemical sources is, in summary, the aim of the BioQED project. In this EU FP7 project, 13 partners from 7 countries (Italy, Belgium, Germany, the Netherlands, Croatia, Spain and the USA) bundled their strengths to successfully create value chains starting from the renewable resource all the way to the finished product such as latex polymers from alkyl itaconates. BioQED is on its way to successfully bring products from industrial biotechnology laboratories to the market by scaling up its production to demo plant level. So join this workshop to get involved.

For more information about the project, please visit <http://bio-qed.eu>

### What is the workshop about?

This workshop will be organized in conjunction with the 10th International Conference on Bio-based Materials. Both high-level events will focus on bio-based building blocks and platform chemicals. After a short overview of the project and the market for the BioQED platform chemicals BDO and IA, the rest of the workshop will focus on the applications of these value chains. Workshop participants will have the chance to network and discuss at the workshop coffee break together with the BMC-participants. At the end of the workshop they will also have the possibility to get to know other promising technologies and innovative ideas at the presentations for and the election of the “Bio-based Material of the Year”. At the BMC-conference dinner the workshop participants will have another networking opportunity with the other BMC-participants.

Don't miss this opportunity to learn, discuss and network with the leading players in the bioeconomy!

Find the programme on <http://bio-qed.eu/workshop/programme>

Register now at <http://bio-qed.eu/workshop>



BIO-QED receives funding from the European Community's Seventh Programme for research, technological development and demonstration under grant agreement No. FP7-613941.

**Discount offer for workshop participants: 10% discount for the conference on 10 – 11 May 2017**

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## Your Conference Team



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## Venue & Accommodation

**Maternushaus Cologne**  
Kardinal-Frings-Str. 1–3  
50668 Cologne, Germany  
+49 (0)221 16 31-0  
info@maternushaus.de

## Entrance Fee

Conference incl. Catering,  
plus 19 % VAT

10 May 2017	11 May 2017
490 €	440 €
790 €	

## Your booth

The fee of a booth (6 sqm) is 400 EUR (excl. 19% VAT). We provide you a table, table cloths, a pin board, a chair and a power connections. You are welcome to use your own booth system.

Please submit your preferred booth number, a printable logo and a company profile to: [dominik.vogt@nova-institut.de](mailto:dominik.vogt@nova-institut.de)

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**Policies impacting bio-based plastics market development**

published 2017-03 / 57 pages / 400 €



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**Asian markets for bio-based chemical building blocks and polymers**

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