



INNOVATION
& BUSINESS

16 – 18 April 2023

Venue: Royal Tropical Institute (KIT)

Amsterdam • the Netherlands

PROGRAM OVERVIEW

Update April 13, 2023

***‘Crop Innovation in a Changing Environment:
Accelerated Implementation of Breakthrough AgBio Innovations’***

Conference day 1 - Sunday April 16, 2023

14:00 **Registration desk open**

14:00-17:00 **Welcome reception and social event**

15:15 **Departure for guided tour at Amsterdam zoo ARTIS**

*The conference addresses how crop innovation in a changing environment could be accelerated. Good leadership and collaboration throughout the value chain is needed to accelerate the implementation of the AgBio innovations. The conference will kick-off with a guided tour at the **Amsterdam zoo ARTIS** where we will learn from nature how to collaborate.*

*Living together can be dangerous. Animals suffer more competition in groups and stand out more to predators. So, why do animals live together? And who is the leader of the group? We often think that leaders in the animal kingdom must be big, strong and male, as in the western lowland gorilla. But what about in other animal species? On this **guided tour ‘Leadership & Collaboration’**, you will learn more about leadership and the importance of cooperation in the animal kingdom.*

17:00-17:05 **Welcome** by chair **An Michiels**, Director AgKnowledge Partnering (Belgium)

17:05-17:15 **Opening**

17:15-19:00 **Plenary program**

Current global trends suggest that food production is unlikely to satisfy future demand under predicted climate change scenarios unless rates of crop improvement are accelerated. Next to climate change there are also major political and societal developments that will have a great impact on the agriculture system in general. In order to maintain food security in the face of these challenges, a holistic approach that includes stress-tolerant germplasm, sustainable crop and natural resource management, and sound policy interventions for instance on the regulatory landscape will be needed. The Crop Innovation and Business conference will kick-off with a plenary Sunday afternoon program in which these development and challenges are being presented and how the breeding industry will adapt to this changing environment with innovations and sustainable crops.

Continue Plenary program

- 'Crops in an age of geopolitical tensions and war'
by **Dr. Louise van Schaik**, Head of Unit EU & Global Affairs/Senior Research Fellow at the Clingendael Institute (NL)

How can Crop techniques help to address the current food security and cost of living crisis? What can Europe do to brace for more aggression by Russia and rising tensions between the EU and China.

Europe has wakened up from its geopolitical holiday. With a war raging on the European continent, security concerns are top of mind for politicians and citizens. Dr. Louise van Schaik of the Clingendael Institute will address how food security, and crop innovation more specifically, are affected by the war, climate impacts hitting increasingly hard and the rising geopolitical tensions with China. Seeds have become strategic assets, but new breeding techniques can also be part of the solution by fostering food production and thereby reduce hunger and the cost of living crisis.

- 'An update on CRISPR global patent landscape'
by **Tianran Yan**, Intellectual Property Lawyer, Partner at Foley & Lardner LLP (US)

A decade after the invention of the revolutionary CRISPR-Cas9 gene editing technology, there remain many questions about its patent landscape, in particular for companies and research institutions interested in editing plant genomes and commercializing CRISPR-edited plants. Presented here is the current CRISPR patent landscape, including the latest updates on the patent proceedings in the US and Europe, for Cas9 and beyond.

- 'Agricultural Crop Licensing Platform (ACLP)'
by **Szonja Csörgő**, Agricultural Crop Licensing Platform (Belgium)

The presentation will explain the reasons why the ACLP negotiations started and what the platform wishes to achieve. It will provide information on the founding members of the association as well as on the set up and basic principles of the ACLP. The presentation will also provide insights into details about membership, procedure for getting a license under the ACLP and other key features of the association that is currently under incorporation.

19:00-20:00 **Conference buffet**

20:00-20:45 **Closing keynote lecture**

'The trends and behavior of the consumers and the reaction of the retailers'
by **Saïd Belhassan**, Chief Procurement Officer at C.I.V. Superunie B.A. (NL)

Everything is about taste and transparency.

20.45-21:30 **Dessert and coffee/tea buffet**

08:30 **Registration desk open**

09:00-09:45 **Plenary program** – keynote opening lecture
by **Clive Brown**, CTO Oxford Nanopore Technologies (UK)

Oxford Nanopore is at the forefront of long read DNA sequencing. Clive Brown will talk about the latest developments and applications in this area. Amongst other he will introduce the new Duplex Seq technology putting ONT in a very special place in the de novo genome sequencing area.

09:45-10:30 **Break**

10:30-12:30 **PARALLEL SESSIONS PART 1**

1A. Which breakthrough DNA technologies will contribute to the development of sustainable crops

Hosted by



Chair: **Niels Kruize**, CEO MolGen (Netherlands)

This session will focus on the latest breakthrough DNA technologies and their contribution to the development of sustainable crops. Innovations in Oxford Nanopore long-read sequencing, MGI sequencing technology, spatial transcriptomics and gene editing used for the genetic improvement of resilient crops, higher crop yields and nutritional value and decrease the use of synthetic inputs. The session will also provide a platform for discussions on the potential challenges and opportunities that these technologies can bring to sustainable agriculture.

Presentations:

- **Prof. Dr. Holger Puchta**, Head of Institute and Chair Molecular Biology at Karlsruhe Institute of Technology (KIT) (Germany)
- **Hilde Nelissen**, Group Leader VIB/Ugent (Belgium)
- **Dr. Xiaodong Fang**, Deputy Dean at BGI (China)
- **Yoori Kim**, Chief Legal Officer, Executive VP at ToolGen Co., Ltd. (Korea)

1B. What are the major advancements in high-throughput phenotyping technologies

Hosted by



Chair: **Laurent Tits**, Team leader Agricultural applications at VITO Remote Sensing (Belgium)

This session will explore the latest advancements in high-throughput phenotyping technologies for plant breeding. Robotics, drones and lab-on-a-chip cameras as powerful tools for characterizing and quantifying traits in a high-throughput manner. An overview of the current state-of-the-art, highlighting the advantages and limitations of each technology, and the challenges that need to be overcome. It will also look at the future directions of these technologies and the impact they can have on plant breeding, crop production and food security.

Presentations:

- **Dr. Kerstin Neumann**, IPK-Gatersleben (Germany)
- **Dr. Basten Snoek**, Assistant Professor / PI at Utrecht University / NPEC (NL)
- **Dr. Maarten Vanderstukken**, Business Development manager Agro-biotech at Iristick (Belgium)
- **Jürgen Decloedt**, International Business Development at VITO Remote Sensing (Belgium)

Conference day 2 - Monday April 17, 2023

12.30-13.30 **Lunch, networking and exhibition**13.30-15.30 **PARALLEL SESSIONS PART 2****2A. What are the greatest benefits of artificial intelligence and data sciences for plant breeding?**

Hosted by

Chair: **Erik van der Biezen PhD**, Strategic Partnering at BASF Agricultural Solutions (Belgium)

What are the benefits of artificial intelligence (AI) and data science for plant breeding? How could these technologies be used to analyse and interpret large amounts of data, making it possible to identify the genetic basis of complex traits, predict the performance of new varieties, and optimize breeding programs? The session will also discuss the ethical and regulatory issues surrounding the use of AI and data science in plant breeding and the potential challenges that need to be overcome for commercial applications to drive sustainable agriculture in the future.

Presentations:

- **Dr. Aalt-Jan van Dijk**, Associate Professor Plant Systems Biology at Wageningen University & Research Center (NL)
- **Prof. Dr. Ir. Steven Maere**, Group leader VIB-UGent Center for Plant Systems Biology (Belgium)
- **Prof. Dr. Björn Usadel**, Director at Forschungszentrum Jülich (Germany)
- **Prof. Dr. Kirsten ten Tusscher**, Chair Theoretical Biology and Bioinformatics at Utrecht University (NL)
- **Dr. Issa Coulibaly**, Sr. Scientist, BASF Agricultural Solutions (US)

2B. How to unlock the genetic potential of plants to accelerate the development of resilient crops adapted to increased biotic and abiotic stresses?

Hosted by

Chair: **Luc Mathis**, CEO Meiogenix (France)

What are the latest developments in unlocking the genetic potential of plants to accelerate the development of resilient crops adapted to biotic and abiotic stresses. The session will explore the use of various techniques such as genomic selection, precision breeding, and gene editing to develop crops with enhanced resistance to pests and plagues, drought and heat tolerance, and adaptation to climate change.

Presentations:

- **Carrol Plummer**, CEO and co-founder Vivent SA (Switzerland)
- **Prof. H.A. Henrik Aronsson**, Technology Development Director OlsAro Crop Biotech AB (Sweden)
- **Dr. William (BJ) Haun**, Head of Business Development-Technologies at Tropic Biosciences (UK)
- **Dr. Jeroen Rouppe van der Voort**, Research Manager IP & External Projects at Enza Zaden Research & Development B.V. (NL)

15.30-16.15 **Break**

16:15-17:45 Plenary Pitch program

*The pitch program is supported by **biotope** ^{by VIB}, **CEPLAS** and **StartLife**.*

Hosted by **Jan Meiling**, Managing Director StartLife (NL)

Early stage companies will get the possibility to pitch their innovative technology, -service or -product to an international audience from the international agri-food industry.

Pitching companies - *Curated by StartLife, the leading agrifoodtech accelerator in Europe:*

1. phenoLytics GmbH (Germany)
2. Resurrect bio (United Kingdom)
3. Voltiris (Switzerland)
4. Aurea Imaging (Netherlands)
5. Pestevene (Latvia)

17:45-18:30 Reception**19:00-22:00 Conference dinner**

In the iconic, monumental and beautiful chapel of Hotel Arena, located next to the Royal Institute for the Tropics (KIT), we will enjoy a culinary delightful dinner.

08:30 Registration desk open

09:00-09:45 **Plenary program – keynote lecture**

'By all means: crafting breakthrough innovation for crop improvement'

by **Prof. Dr. Roeland van Ham**, CEO at KeyGene (NL)

Four decades of innovation in agro biotechnology and breeding have contributed to the creation of a wide variety of new, improved, and fortified crops. In these years, we moved from the first explorations of genetic modification to the wide adoption of molecular assisted breeding; from the serial revolutions in genome sequencing to the omics analyses of genes and pathways; we have seen the development of mutagenesis methods for random and targeted induction of genetic variation and the automation of digital phenotyping; we see the emergence of new innovation in grafting and in breeding assistance that is made artificially intelligent. And yet, we are not done. Constant and rapid changes in the world's natural environments, socio-economic context, and embodiment of our crops and food chain continue to demand equally constant and rapid innovations in the technologies with which we improve our crops. KeyGene has been at the forefront of this development for much of the last four decades. We will look forward from this rich past and discuss new areas, demands and opportunities for breakthrough innovation and the need for both diversity and focus in technological developments.

09:45-10:30 **Break**

10:30-12:30 **PARALLEL SESSIONS PART 3**

Hosted by



Chair: **Dr. Arjen van Tunen**, KeyGene (NL)

3A. How to breed for better plant protein crops to support the protein transition?

The global plant-based protein market is projected to reach \$40.58 billion by 2025. This growth is driven by dietary changes, plant-protein utilization by food manufactures, and plant protein in livestock and pet feed. To meet the higher demand of plant proteins there is a need to develop resilience crops with increased proteins in seeds and vegetative tissues. In this session different biotechnology technologies and molecular breeding approaches are being discussed for the development of innovative protein crops like Soybean, Fababean and Canola.

Presentations by:

- **Prof. dr. Hans De Steur**, Assistant Professor (Docent) at Ghent University (Belgium)
- **Dr. Mendel Perkins**, Lead Scientist at AgGene Inc. (Canada)
- **Dr. Diana Rigola**, Scientist at KeyGene (NL)
- **Dr. Maarten Bekaert**, Data Scientist at Protealis (Belgium)

10:30-12:30 Continue PARALLEL SESSIONS PART 3

3B. What are the latest developments in plant breeding of Vegetables and Field crops to adapt to the changing environments and (consumer) markets?

Hosted by

Chair: **Dr. Mathias Müller**, Biotechnology Strategy Director at Corteva Agriscience (US)

In this session some of the key market developments in arable and horticulture crops will be presented. We will touch upon shifts and changes from farmer to consumer, discussing farmers' challenges, retailers' sustainability targets, (changed) consumer behaviour, the end of some hypes in the current economic environment, and other topical issues. Besides Europe these developments will also be discussed from a sub Saharan Africa region perspective where population growth and climate change has great impact on food security. The new 2S1 graft hybridization technology will be presented allowing new unexplored ways to make use of natural variation for the improvement of varieties like potato, tomato and pepper.

Presentations by:

- **Marc Heijde PhD**, Program manager at VIB-UGent International Plant Biotechnology Outreach (IPBO) (Belgium)
- **Cindy van Rijswijk**, Global Strategist Fresh Produce at RaboResearch Food & Agribusiness (NL)
- **Dr. Jeroen Stuurman**, Distinguished Scientist at KeyGene (NL)
- **Dr. Tom Greene**, Sr. Director, External Innovation Investment at Corteva Agriscience

12:30-13:30 Lunch, networking and exhibition

13:30-15:30 PARALLEL SESSIONS PART 4

4A. What are sustainable traits and how to implement these in commercial varieties?

Hosted by

Chair: **Prof.Dr. Guido Grossmann**, CEPLAS Cluster of Excellence in Plant Sciences (Germany)

The genetic traits important for sustainability, the role of genomics in improving these traits and linking these genetic traits to different farming systems are discussed in this session. How could plant breeding contribute to sustainable yield enhancement, which Carbon mitigation strategies are being used and how to improve the productivity and performance of trees and wood properties for forestry, fibre and biomass related industries. Besides breeding approaches also value chain strategies from seeds to consumer products will be discussed.

Presentations by:

- **Prof. Dr. Andreas Weber**, Professor of Plant Biochemistry at Heinrich-Heine-Universität (Germany)
- **Magnus Hertzberg PhD**, CTO and Business Area Manager at SweTree Technologies AB (Sweden)
- **Dr. Ross Hendron**, CEO & Co-Founder Wild Bioscience Ltd (UK)
- **Dr. Younouss Saïdi**, Public & Governmental Affairs Manager - Agricultural Solutions at BASF (Belgium)

Conference day 3 - Tuesday April 18, 2023

13:30-15:30 **Continue PARALLEL SESSIONS PART 4**

Hosted by



Chair: **Sofie Coelus**, Business Development Manager – VIB Innovation & Business (Belgium)

4B. How to speed up knowledge valorisation from academic research in AgBio?

In this session the best practices of making knowledge suitable and available for societal and/or economic application and by transforming it into products, services, processes and new business will be discussed. The focus is on the topics open innovation strategies, public-private partnerships by which academic research and the crop breeding sector are connected and stimulating entrepreneurship in AgBio.

Presentations by:

- **Dr. Patrick Rose**, Innovation Manager SPRIND - Federal Agency for Disruptive Innovation (Germany)
- **Dr. Jan Chojecki**, Managing Director at PBL Technology (UK)
- **Dr. Apolonio Huerta**, Business Development Manager at 2Blades (CH)
- **Kathy Munkvold PhD**, Leader, Open Innovation at Corteva Agriscience (US)

15:30-16:15 Break

16:15-17:00 Closing keynote lecture

‘Building an ecosystem of Agrobiotech Innovation’

by **Jérôme Van Biervliet**, Managing Director VIB (Belgium)

VIB has an entrepreneurial approach to translating scientific breakthroughs into innovations in Agbiotech. VIB was the founding institute of many well known startups in the field, for example Devgen (now Syngenta), Cropdesign (now BASF), Biotalys, Apha.Bio and Protealis. In addition, VIB has built a strong ecosystem of innovative companies through a multifaceted approach, including collaborations, strategic partnerships, co-creation, high-end research infrastructure, technology developments and its incubator program biotopeby VIB.

17:00-17:15 Closing ceremony and announcement

17:15-18:30 Closing conference reception

Note: the organisation keeps the right to make changes to the programme at any time.