

Sunday, June 17

16:00 - 19:00

Registration

18:00 - 19:00

Welcome reception and registration at Bella Center

Monday, June 18

08:00 - 18:00

Registration

09:00 - 09:30

Welcome Address

09:30 - 10:15

Plenary: Genome Based Breeding - New Breeding Technologies

Genome Editing with programmable nucleases in crop plants

Caixia Gao, Chinese Academy of Sciences, China

Chair: Fabio Fornara, University of Milan, Italy



10:15 - 11:00

Plenary: Niche Crops

Amazonia biodiversity, a source of fine cocoa flavour niches

Claire Lanaud, CIRAD-AGAP, France

Chair: Robbie Waugh, The James Hutton Institute, UK

11:00 - 11:45

Exhibition and Refreshments



Subsession 1: Genome Based Breeding - NBT

Chair: Fabio Fornara, University of Milan, Italy

Keynote: *Genome editing in cereal and brassica crops - Progress and Prospects*

Wendy Harwood, John Innes Centre, UK

Selected talks:

Trans-species synthetic gene design allows resistance pyramiding and broad spectrum engineering of virus resistance in plants

Anna Bastet

Genetic engineering of γ -aminobutyric acid (GABA) content in tomato fruits by targeted mutagenesis, and its use in hybrid breeding

Hiroshi Ezura

Optimized CRISPR/Cas9 for Engineering Starch Quality in Potato Tubers

Bent Larsen Petersen

Subsession 2: Niche Crops

Chair: Robbie Waugh, The James Hutton Institute, UK

Keynote: *Faba bean: from gene to plate and back again*

Fred Stoddard, University of Helsinki, Finland

Selected talks:

*Unlocking the genetic potential of an underutilized legume species, bambara groundnut (*Vigna subterranea* L.) for a changing climate*

Presidor Kendabie

Grain amaranths: Developing an ancient crop for modern agricultural systems

Karl Schmid

Rhodiola rosea - growth and production - effects of abiotic and biotic factors

Mette Goul Thomsen

13:15 - 14:15

Lunch Break & Exhibition

Science Communication workshop
(EPSO)

14:15- 15:00

Plenary: Phenotyping at different scales

Revealing photosynthetic regulatory paradigms using natural variations and massive field measurements

David Kramer, Michigan State University, USA

Chair: Christian Bachem, Wageningen University, Netherlands



15:00 - 15:30

EPSO award talk: *A new tool for sensitive detection of phosphorus deficiency in plants under field conditions*

Andreas Carstensen, University of Copenhagen, Denmark

15:30 - 16:30

Poster session: *Phenotyping on different scales and Photosynthetic diversity*

16:30 - 18:00

Concurrent Sessions

Subsession 1: Phenotyping on different scales - Methodologies

Chair: Christian Bachem, Wageningen University, Netherlands

Keynote: *Integrating multi-scale phenotypic information into prediction models for genotype by environment interaction by a synthesis of statistical-genetic and physiological models*

Fred Van Eeuwijk, Wageningen University, Holland

Selected talks:

Phenotyping methodologies for anatomical changes of roots traits under impedance

Dorien Vanhees

Analysis of metal metabolism in plants by X-ray spectroscopic methods

Hendrik Küpper

Leaf surface chemical and optical properties reflect variation based on the genotype and provenance of origin in silver birch

Maya Deepak

16:30 - 18:00

Subsession 2: Photosynthetic Diversity

Chair: Jeremy Harbinson, University of Wageningen, Netherlands

Keynote: *Photosynthetic diversity: are we concentrating too much on carbon?*

Howard Griffiths, University of Cambridge, UK

Selected talks:

Bryopsis hypnoides and Codium tomentosum accumulate all-trans-neoxanthin and violaxanthin as a photoacclimation mechanism under high light

Luca Morelli

Genome wide association analysis of photosynthesis efficiency in Arabidopsis

Mark Aarts

Sulfur metabolism in C4 dicots and monocots

Timothy Jobe

19:00

City Welcome at Copenhagen City Hall

Tuesday, June 19

08:30 - 18:00

Registration

08:30 - 09:15

Plenary: Photosynthetic Diversity

Strategies for improving C4 photosynthesis

Susanne von Caemmerer, Australian National University, Australia

Chair: Jeremy Harbinson, University of Wageningen, Netherlands

09:15 - 09:45

FESPB award talk : *A molecular switch for regulation of photosynthetic light use efficiency in mosses and green algae, named LHCSR*

Alberta Pinnola, Italian Society of Plant Biology, Italy

09:45 - 10:45

Poster Session: *New breeding technologies/Genome based breeding and Seeds for the future*

10:45 - 12:15

Concurrent Sessions

Subsession 1: Photosynthetic Diversity - Resource Use Efficiency

Chair: Jeremy Harbinson, University of Wageningen, Netherlands

Keynote: *Redirecting photosynthetic reducing power*

Poul Erik Jensen, University of Copenhagen, Denmark

Selected talks:

The alga that never read the literature - Fastest growing photodamage tolerant alga isolated from desert crust

Haim Treves

Thylakoid membrane plasticity is required for fine-tuning photosynthesis and plant fitness

Mathias Pribil

Stomata acclimation to low CO₂ and low light in C₃ and C₄ grasses representing different photosynthetic subtypes

Walther Krystler Israel

10:45 - 12:15

Subsession 2: Phenotyping at different scales - Traits

Chair: Christian Bachem, Wageningen University, Netherlands

Keynote: *Advanced phenotyping in a breeding setup*
Christian Sig Jensen, DLF Seed and Science, Denmark

Selected talks:

Unravelling internal rhythms in the bryophyte Porella platyphylla
Raquel Esteban

Phenotyping of different winter wheat varieties in a free air CO₂ enrichment (FACE) experiment. Assessing physiological parameters by active and passive chlorophyll fluorescence techniques
Andre Krause

Characterization of Carbohydrate Metabolism During the Transition from Primary Root Growth to Taproot Development in Sugar Beet by Physiological Phenotyping
Alexandra Jammer

12:15 - 13:15

Lunch Break & Exhibition

Open Science: Inspirational notes and discussion with high profile experts

Chair: Karin Metzloff, EPSO, Germany

Open Science is the movement to make scientific research and data accessible to all during and after the research process. It includes practices such as publishing open scientific research, campaigning for open access and generally making it easier to publish and communicate scientific knowledge.

- *Open Science - basis for science, innovation and our societies today and in future. How can plant scientists contribute?*, Alan Schulman, Research Professor, LUKE, Finland
- Niels Goetke, Member of the Bioeconomy Panel of the European Commission
- *Openness and connectivity go hand in hand*, Peter Olesen, Chairman of the European Institute of Innovation and Technology (EIT)
- *The European Research Council (ERC) supports the principle of open access to research results as a fundamental part of its mission*, Nils Stenseth, Member of the Scientific Council of the European Research Council (ERC)
- John BELL, Director Bioeconomy, European Commission, DG RTD
- Pekka Pesonen, Director General CopaCogeca
- Annette Schneegans, European Commission - Senior Expert in DG Agriculture and Rural Development

Each panel expert will have 5 min to give an inspirational note on “Open Science” and then the audience will engage in an open discussion with the panel experts.

15:00 - 15:45

Plenary: Genome Evolution

Adaptive evolution of meiosis in Arabidopsis arenosa

Kirsten Bomblies, John Innes Centre, UK

Chair: Alan Schulman, LUKE, Finland

15:45 - 16:30

Refreshment Break & Exhibition

16:30 - 18:00

Concurrent Sessions

Subsession 1: Genome Evolution - Computational

Chair: Alan Schulman, LUKE, Finland

Keynote: *Omics for plant breeding*

Sanwen Huang, Chinese Academy of Agricultural Sciences, China

Selected talks:

Conservation and diversification of the CONSTANS gene family in photoperiod-mediated flowering

Darshan Young

Characterisation of the pan-genome of Vitis vinifera using Next Generation Sequencing

Gabriele Magris

Respiratory type II NAD(P)H dehydrogenases in plants - NDB type

Mengshu Hao

16:30 - 18:00

Subsession 2: Plant Microbiome - Biotic Interactions

Chair: Jens Stougaard, Aarhus University, Denmark

Keynote: *A central role of multivesicular bodies in plant immunity*

Hans Thordal-Christensen, University of Copenhagen, Denmark

Selected talks:

Sesquiterpenes produced in roots of Medicago truncatula play a role in defense mechanism against Aphanomyces euteiches

Heena Yadav

Yr15 (WTK1) encodes a tandem kinase conferring broad-spectrum resistance to wheat stripe rust

Alan Schulman

Unravelling the epigenetic basis of plant immunity

Ana Lopez Sanchez

16:30 - 18:00

Subsession 3: Beyond the scope of session themes

Chair: Urte Schlüter, University of Düsseldorf, Germany

Selected talks:

Root proliferation in response to neighbors in wheat (Triticum aestivum)
Jacob Weiner

Implication of hybrid necrosis in Petunia speciation
Mathieu Hanemian

How do defence compounds accumulate in phloem-cap cells for vascular protection?
Deyang Xu

18:30 - 22:00

Informal Social gathering at Toldboden



Wednesday, June 20

08:30 - 18:00

Registration

08:30 - 09:15

Plenary: Plant Microbiome

Lotus japonicus and rhizobia interactions; from simple to complex associations

Simona Radutoiu, Aarhus University, Denmark

Chair: Jens Stougaard, Aarhus University, Denmark



09:15 - 09:45

EPSO award talk: *The Delivery of Cytoplasmic Effector in P. infestans Mediated by Secreted Exosomes*

Shumei Wang, The James Hutton Institute, United Kingdom

09:45 - 10:45

Poster Session: *Niche Crops and Plant Microbiome*

10:45 - 12:15

Concurrent Sessions

Subsession 1: Plant Microbiome

Chair: Christian Bachem, Wageningen University, Netherlands

Keynote: *The role of plant host rhizosphere signalling in root microbiome recruitment*

Harro Bouwmeester, University of Amsterdam, Holland

Selected talks:

Breeding for microbiome-mediated disease resistance
Gwendolin Wehner

Understanding the Rhizosheath: Opportunities for Manipulating the Soil Root Interface
Timothy George

Identification of novel priming agents by monitoring the expression of defence genes in rice cell suspension cultures
Tina Kyndt

10:45 - 12:15

Subsession 2: Genome Evolution - Epigenetics

Chair: Robbie Waugh, The James Hutton Institute, UK

Keynote: *Epigenetic regulation of transposable elements drives plant speciation*

Claudia Köhler, Swedish University of Agricultural Sciences, Sweden

Selected talks:

DNA repair in plant mitochondria - A complete base excision repair pathway in potato tuber mitochondria

Ian Max Møller

*Molecular regulator mechanisms associated with bud dormancy in *Quercus suber**

Helena Silva

Identification and characterization of regulatory elements in grapevine

Rachel Schwope

12:15 - 13:15

Lunch Break & Exhibition

13:15 - 14:00

Plenary: Seeds For The Future

How do seeds prepare for their future?

Wim Soppe, Rijk Zwaan Breeding B.V, Netherlands

Chair: Ilse Kranner, University of Innsbruck,



14:15 - 15:00

Plenary: Natural Products

Production of high value natural plant products: from the laboratory bench to the drugstore shelf.

Massimo Maffei, University of Turin, Italy

Chair: Cathie Martin, John Innes Centre, UK

15:00 - 16:00

Poster Session: *Environmental Resilience and Genome evolution*

Authors Workshop - How to publish in a scientific journal

16:00 - 17:30

Concurrent Sessions

Subsession 1: Natural Products

Chair: Cathie Martin, John Innes Centre, UK

Keynote: *The place to be for metabolic engineering: the ER*
Alain Goossens, VIB life sciences research institute, Belgium

Selected talks:

Novel Plantago mucilages for health and industrial uses
Rachel Burton

The enzymes OSC1, LUP and CYP716A263 produce a high variety of triterpenoids in the latex of the dandelion species Taraxacum koksaghyz
Katharina Pütter

NPF - A long-sought family of specialized metabolite transporters
Hussam H. Nour-Eldin

16:00 - 17:30

Subsession 2: Seeds for the Future - Seeds & Nutrition

Chair: Christian Bachem, Wageningen University, Netherlands

Keynote: *Ionome to Genome: Tales of gene discovery*
Mary Lou Guerinot, Dartmouth University, US

Selected talks:

The Highs and Lows of Wheat Phytase Activity
Claus Krogh Madsen

Combating Hidden Hunger: Zinc Localization and Speciation in Barley Grains
Amelie Detterbeck

Affinity capture and MS identification of barley (Hordeum vulgare L.) and wheat (Triticum aestivum L.) grain proteinaceous inhibitors of bacterial subtilisin and GH11 xylanase
Giuseppe Dionisio

16:00 - 17:30

Subsession 3: Environmental Resilience: Climate Change

Chair: Torgny Näsholm, Umeå Plant Science Center, Sweden

Keynote: *Global change and the questions for which we have no answer (yet)*

Hendrick Poorter, Research Center Juelich, Germany

Selected talks:

Impacts of elevated temperature and CO₂ concentration on growth and phenolics in the sexually dimorphic Populus tremula (L.)

Norul Sobuj

Transcript, lipid and metabolite changes contribute to low temperature memory in Arabidopsis

Ellen Zuther

Solanum and Vitis SPCH, MUTE and FAMA bHLHs as tools to modify stomatal abundance-related physiology

Carmen Fenoll

19:00 - 23:00

Conference dinner & dance at Langelinie Pavillion

Thursday, June 21

08:30 - 18:00

Registration

09:00 - 9:45

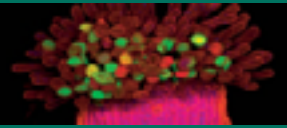
Plenary: Environmental Resilience

Functional biodiversity and biogeochemistry: linking plant traits and processes in a globally changing environment.

Peter Reich, University of Minnesota, USA

Chair: Torgny Näsholm, Umeå Plant Science Center, Sweden

plant biology



09:45 - 10:15

FESPB award Talk: *Plant vulnerability to cavitation: recent advances and perspectives in one of the key mechanisms of vegetation shifts and forest decline.*

Josè M Torres Ruiz, Sociedad Espanola de Fisiologia vegetal, Spain

10:15 - 11:15

Poster Session: *Natural Products and Beyond the scope of sessions*

Subsession 1: Seeds for the Future - Seeds Biology

Chair: Ilse Kranner, University of Innsbruck, Austria

Keynote: *Safeguarding genome integrity in germination and seed longevity*
Wanda Waterworth, University of Leeds, UK

Selected talks:

Functional divergence of DOG1 and DOG1-LIKE4 in the seed maturation program

Hiroyuki Nonogaki

Selective modification of the wheat seed microbiota affects hydrogen peroxide production in wheat seedlings

Davide Gerna

*Activation of auxin biosynthesis by trehalose 6-phosphate is required for normal seed filling in pea (*Pisum sativum*)*

Tobias Meitzel

Subsession 2: Environmental Resilience - Abiotic Stress

Chair: Michael Palmgren, University of Copenhagen, Denmark

Keynote: *Genetic characterization of salinity tolerance traits to increase salinity tolerance in crops*

Mark Tester, King Abdullah University of Science and Technology, Saudi Arabia

Selected talks:

*Regulation of sulfur deprivation responses in *Chlamydomonas* and dual role of truncated hemoglobin 1*

Elena Ermilova

Identification of novel players in rice salt-stress responses using CRISPR/Cas genome editing

Raquel Carvalho

The Endodermal Passage Cell Just Another Brick In The Wall?

Tonni Andersen

12:45 - 13:15

Closing ceremony & Awards

13:15 - 18:15

Technical Tours and Social Activities :

Career Workshop in Copenhagen Plant Science Centre (CPSC)

Copenhagen City and Harbour tour

Friday, June 22

08:30 - 18:15

Technical Tours and Social Activities:

Royal Copenhagen Tour

Technical tour to the Radimax phenotyping facility at University of Copenhagen (Just outside Copenhagen)