

# Detailed Program

A star (★) indicate that the presenter is a Junior researcher and that the presentation is eligible for an award.

## Day1, May 18

- 14:00 Registration
- 16:30 Welcome
- 17:00 Keynote1 **José Manuel Gualberto**  
There and Back Again: A Personal Journey Through Recombination and Repair in Plant Mitochondria.
- 18:00 Keynote2 **Kinya Toriyama**  
Cytoplasmic male sterility/fertility restoration systems in rice
- 19:15 Opening Reception

## Day2, May 19

### 8:30–10:00 Mitochondrial Genome Evolution and Inheritance

*Chairs: José Manuel Gualberto / Jeff Mower*

- L1 **Luis Gabriel Brieba de Castro**  
New and Old DNA Repair Pathways in Plant Mitochondria
- L2 **Daniel Sloan**  
DNA repair and the exceptionally low mutation rates in plant mitochondrial genomes
- L3 **Kin Pan Chung**  
Unsolved puzzles of mitochondrial inheritance
- L4★ **Yuta Aoyagi**  
How did the mitochondrial genome of *Pelargonium inquinans* become so complex? Sequencing data analyses focusing on DNA repair and replication genes and copy number of mitochondrial DNA

10:00 Coffee Break

### 10:20–12:10 Mitochondrial RNA splicing and processing

*Chairs: Hakim Mireau / Toshiharu Shikanai*

- L5 **Oren Ostersetzer**  
Evolution of RNA Splicing Regulation in Plant Mitochondria: Implications for Eukaryogenesis and Land Plant Adaptation
- L6★ **Roei Matan**  
Bacterial-Like Functions of Moss Mitochondrial Maturases Shed Light on the Evolution of Intron Splicing
- L7 **Catherine Colas des Francs-Small**  
Genome-wide transcript end mapping of mitochondrial transcripts
- L8 **Takashi Hirayama**  
Analysis of *Arabidopsis* AHG2 SUPPRESSOR2 reveals a novel connection between polyadenylation and RNA editing of mitochondrial mRNA for cytochrome c maturation
- L9 **Thalia Salinas**  
Distinct nucleotidyl transferase enzymes adding C or Us to the 3' end orient the fate of mRNA in *Chlamydomonas* mitochondria

• L10 **Kamel Hammani**

Two functionally redundant PPR RNA-binding proteins are jointly required for PEP-dependent gene expression in *Arabidopsis* chloroplasts

12:10 Lunch Break

**13:40–15:15 Mitochondrial RNA Editing**

*Chairs: Ian Small / Philippe Giegé*

• L11 **Takamasa Teramoto**

Crystal structures of a consensus PPR-DYW protein reveal the mechanism of C-to-U RNA editing in plant chloroplasts and mitochondria

• L12★ **Jingchan Xie**

Elucidating the diversity of plant organellar RNA editosome

• L13★ **Frederik Saulich**

Mitochondrial RNA editing in a biomolecular condensate?

• L14 **Helena Storchova**

The subfunctionalization of PPR editing factors in the genus *Silene*

• L15★ **Blake Fauskee**

Evolutionary Dynamics of Mitochondrial RNA Editing Across Ferns

• L16★ **Nils Rugen**

Deep Proteomics Reveals the Impact of RNA Editing on Complex I Assembly and Identifies the Elusive OrfX Protein

15:15 Coffee Break

**15:35–17:20 Mitochondrial Homeostasis, Genome Exchange and Organelle Communication**

*Chairs: Markus Schwarzländer / Toshihiro Obata*

• L17 **Etienne Meyer**

Biogenesis of the OXPHOS complexes: An evolutionary perspective

• L18★ **Helene Röhrich**

Fight age, engage!

• L19 **Monika Weronika Murcha**

Small but mighty: the role of LYRM proteins in mitochondrial biogenesis.

• L20 **Der-Fen Suen**

NADPH Oxidases Orchestrate Mitochondrial Biogenesis–Autophagy Balance and Cell Expansion in Tapetal Development

• L21 **Stefanie Mueller-Schuessle**

Reduced mitochondrial fission results in altered matrix redox state and stress tolerance in *Physcomitrium patens*

• L22★ **Nikolaos Glampedakis**

Unravelling inter-organelle communication during microspore embryogenesis in rapeseed

17:20-19:00 Poster Session (odd numbers)

## Day3, May 20

### 8:30–10:10 Mitochondrial Dynamics, Architecture and Mitophagy

*Chairs: Wataru Sakamoto / Maria Virginia Sanchez-Puerta*

- L23 **Florent Waltz**  
Investigating the Diversity of Mitochondrial Architecture at Molecular Scales
- L24 **Joanna M Chustecki**  
Linking mitochondrial dynamics and genome exchange; revisiting the tentacular cage
- L25 **Xiaohong Zhuang**  
Interplay between mitochondrial dynamics and mitophagosome formation for piecemeal mitophagy
- L26★ **Jan Multhoff**  
Auto-fueling of single mitochondrial motility by a local ATP halo
- L27★ **Eugenia Pitsili**  
Meeting the deadline: What is the role of mitochondrial disintegration in plant cell death?

10:10 Coffee Break

### 10:30–12:00 Mitochondrial Translation

*Chairs: Bernard Gutmann / Florent Waltz*

- L28 **Philippe Giegé**  
Specific features of plant mitochondrial translation, from ribosome assembly to translation initiation
- L29 **Hakim Mireau**  
Translational control in plant mitochondria
- L30 **Maria Virginia Sanchez-Puerta**  
Evolutionary flexibility of plant organellar translation following the loss of photosynthesis and massive horizontal gene transfer
- L31★ **Vasileios Skaltsogiannis**  
Missing steps of mitochondrial translation initiation identified in plants

12:00 Lunch Break

### 13:30–15:10 Mitochondrial Stress Signaling I

*Chairs: Monika Weronika Murcha / Holger Eubel*

- L32 **James Whelan**  
A Holistic Transcriptome View Of Mitochondrial Retrograde Signaling: From Gene to Cell to Organ.
- L33 **Olivier Van Aken**  
The mechanism and evolution of mitochondrial retrograde signalling in plants
- L34 **Markus Schwarzländer**  
A mitochondrial twist to how plants perceive microbes
- L35★ **Kasim Khan**  
Linking mitochondrial retrograde signaling to stress-response networks in plants
- L36★ **Eric Bowels**  
Temporal variation in mitochondrial and peroxisomal stress-responsive genes across bread wheat cultivars

- L37★ **Sara Jalili**  
High-Resolution Multi-Omics of Cell-Type-Specific Mitochondria Reveals Stress-Responsive Mitotypes

15:10 Coffee Break

### 15:30–17:30 Mitochondrial Stress Signaling II and Environmental Responses

*Chairs: Etienne Meyer / Stefanie Mueller-Schuessele*

- L38 **Michela Zottini**  
Decoding mitochondrial unfolded protein response (mtUPR) in abiotic stress tolerance
- L39 **Alexey Shapiguzov**  
Suppressors of methyl viologen tolerance in *rcd1* uncover new mitochondria-chloroplast energy interactions
- L40 **Harvey Millar**  
Role of plant mitochondria in metabolic responses to saline conditions and to salinity tissue tolerance in wheat
- L41 **Anna Kasprowicz-Maluski**  
Mitochondrial homeostasis in long- term stress-adapted tobacco BY-2 cells
- L42★ **Erikan Baluku**  
Mitochondrial Transcriptome Dynamics Reveal Coordinated Genome Regulation During Desiccation and Rehydration in a Resurrection Grass *Sporobolus stapfianus*.
- L43★ **Noah Ditz**  
Static and dynamic protein-protein-interaction landscape revealed by recent advances in complexome profiling

17:30-19:00 Poster Session (even numbers)

## Day4, May 21

### 8:30–9:55 Mitochondrial Metabolism and Environmental Adaptation

*Chairs: Chris Carrie / Olivier Keech*

- L44★ **Xuyen Le**  
Alternative mitochondrial pyruvate carrier complexes regulate respiratory pyruvate flux in *Arabidopsis*
- L45★ **María del Pilar Martinez**  
Mitochondrial malate metabolism acts as a control hub for photosynthesis and carbon-nitrogen balance in *Arabidopsis*
- L46★ **Selin Altintas**  
Unravelling the Role of ENOD93 in Cytochrome c Oxidase Regulation and Organic Nitrogen-dependent Metabolism in Plants
- L47★ **Lucie Schröder**  
Seasonal Regulation of Energy Metabolism in *Viscum album*: A Proteomic Perspective on Life without Complex I
- L48 **Yasuko Ito-Inaba**  
The Role of Alternate Respiration in Cycad Thermogenesis and Its Implications for Plant Thermogenesis
- L49 **Ko Noguchi**  
Effects of the inhibition of the mitochondrial respiratory chain on photosynthetic induction

9:55 Coffee Break

**10:10–11:50 Engineering, Related Organellar Research and Reproduction**

*Kristina Kühn / Olivier Van Aken*

- L50★ **Kosuke Kuwabara**  
Homozygous intronic mutation of nuclear-encoded mitochondrial RNA polymerase induces strong fertility restoration in cytoplasmic male sterile tomato
- L51★ **Ron Mizrahi**  
ISE1 is a plastid, not mitochondrial, DEAD-box RNA helicase essential for rRNA maturation and ribosome biogenesis
- L52★ **Jingxiu Ji**  
Quantitative mapping of the Multiple Transcription Initiation Sites of *Arabidopsis atp9*
- L53★ **Issei Nakazato**  
Random A-to-G base editing in the target gene of the *Arabidopsis* chloroplast genome
- L54★ **Nanami Kosaka**  
Chloroplast- and mitochondrion-specific random C-to-T mutagenesis for forward genetics of organelle genomes in *Arabidopsis*
- L55 **Keiji Numata**  
Peptide-mediated gene delivery system for plant organellar modifications
- L56 **Johannes W Vos**  
Challenges of Cytoplasmic Male Sterility management

11:50 Lunch Break

13:00 Excursions

18:00

**Day5, May 22**

**8:50–10:10 Mitochondrial Engineering and Biotechnology**

*Chairs: Kamel Hammani / Luis Gabriel Briebe de Castro*

- L57 **Farley Kwok van der Giezen**  
Engineering and optimising RNA editing proteins for mitochondrial biotechnology
- L58 **Simon Law**  
Mitochondria-Specific Protein Delivery by Protease-Triggered Release in Plants with Single-Walled Carbon Nanotubes
- L59 **Keisuke Igarashi**  
GFA-GraphDepthViz3D: An Extensible Web-Based Viewer for Interpreting Plant Organelle Genome Graphs Through Read Depth Dynamics
- L60 **Shin-ichi Arimura**  
Genome Editing of Plant Mitochondria and Plastids: Technologies, Applications, and Prospects

10:10 Coffee Break

**10:30-12:10 Mitochondrial Metabolism and Respiration**

*Chairs: Harvey Millar / James Whelan*

- L61 **Olivier Keech**  
What are mitochondria doing during leaf senescence?
- L62 **Toshihiro Obata**  
The functions of the tricarboxylic acid cycle metabolon: Lessons from yeast
- L63 **Huang Li**  
Dissecting Mitochondrial Electron Transport Chain Regulation and Organellar Crosstalk in *Chlamydomonas reinhardtii*
- L64 **Boon Leong Lim**  
Subcellular pyruvate pools in living *Arabidopsis thaliana* revealed by genetically encoded biosensors
- L65 **Franziska Kuhnert**  
Identification and Characterization of Mitochondrial Branched Chain Amino Acid Transporters Enabling Stress Responsive Catabolism in *Arabidopsis thaliana*

12:10 Lunch Break

**13:40–15:20 Mitochondrial Genome Maintenance, Inheritance and Fertility**

*Chairs: Kin Pan Chung / Daniel Sloan*

- L66 **Jeff Mower**  
Extreme mitogenome evolution in *Plantaginaceae* and *Geraniaceae*
- L67 **Wataru Sakamoto**  
From pollen to bryophytes: evolutionary conservation of DPD1-mediated organelle DNA degradation
- L68 **Ian Small**  
Cloning and characterisation of fertility restorer genes for hybrid seed production in wheat
- L69 **Ian Max Møller**  
Exchange through mitochondrial fusion-fission is necessary to overcome stoichiometric challenges in repair of plant mtDNA

15:20 Final remarks, next ICPMB

16:40 Bus to the Gala Venue Departs

18:00 Closing Gala  
Poster Prizes  
Party

22:00