

## 3<sup>rd</sup> ISPMF Congress, 11.-13.6.2018, Paasitorni Conference Center, Helsinki, Finland

### SCIENTIFIC PROGRAMME

Updated program 23.4.2018 - changes in the schedule still possible

#### Monday 11.6.2018

09:30 - 14:00 Optional pre-conference excursion to Suomenlinna (trip and lunch)

12:00 Registration opens

#### Opening

14:30 - 15:00 Welcome and Opening the 3<sup>rd</sup> ISPMF Congress  
Anneli Ritala-Nurmi (VTT, Espoo, Finland) and George Lomonossoff (John Innes Centre, Norwich, UK)

15:00 - 15:10 Launching a Research Topic article collection for Frontiers in Plant Science  
Kirsi-Marja Oksman-Caldentey (VTT, Espoo, Finland)

15:10 - 15:30 Video presenting the biodiversity of Finnish nature  
Eija Lehmuskallio (Naturegate, Helsinki, Finland)

#### Session 1

15:30 - 16:10 Keynote  
Kirsi-Marja Oksman-Caldentey (VTT, Espoo, Finland)  
Plant biotechnology beyond genome era in the dawn of synthetic biology

16:10 - 16:40 Refreshments

16:40 - 17:00 Franziska Kellner (Leaf Expression Systems, Norwich UK)  
Rift Valley Fever Virus – A case study

17:00 - 17:20: Teresa Capell Capell (University of Lleida, Spain)  
A triple combination microbicide against HIV-1 expressed in rice

17:20 - 17:40 Efraim Lewinsohn (The Volkani Centre, Ramat Yishay, Israel)  
Modulation of sesquiterpene biosynthesis in Khat (*Catha edulis*) leaves upon harvesting

17:40 - 18:00 Lauri Reuter (VTT, Espoo, Finland)  
Future of disruptive technologies and plant molecular farming

19:00 - 21:00 Get-together in Old Town Hall, Empire Room, Aleksanterinkatu 20, Helsinki

#### Tuesday 12.6.2018

#### Session 2

09:00 - 09:40 Keynote  
Stefan Schillberg (Fraunhofer IME, Aachen, Germany)  
A critical view on the business potential of recombinant protein production in plants

- 09:40 - 10:00 Andreas Schaaf (Greenovation Biotech GmbH, Freiburg, Germany)  
Pharmacokinetics, pharmacodynamics, and safety of moss- $\alpha$ Galactosidase A in patients with Fabry disease
- 10:00 - 10:20 Cornelius Gunter (University of Cape Town, Rodenbosch, South Africa)  
Immunogenicity of plant-produced porcine circovirus-like particles
- 10:20 - 10:45 Five elevator talks for selected posters (to be announced later)
- 10:45 - 11:15 Posters with refreshments
- 11:15 - 11:55 Keynote  
Kazuki Saito (Chiba University and RIKEN, Japan)  
Phytochemical genomics: from *Arabidopsis* to medicinal plants
- 11:55 - 12:15 Hadrien Peyret (John Innes Centre, Norwich, UK)  
Using a synthetic biology approach to develop a novel, easy to use, and open access transient expression system
- 12:15 - 12:35 Christina Dickmeis (RWTH Aachen University, Germany)  
Small, smaller, nano: New applications for Potato Virus X in bionanotechnology
- 12:35 - 12:55 Katja Härtl (Technical University of Munich, Freising, Germany)  
Tailoring bioactive natural products with glycosyltransferases
- 13:00 - 14:00 Lunch
- Session 3
- 14:00 - 14:40 Keynote  
Paul Christou (University of Lleida, Spain)  
From genes to products: A plant biotechnology product portfolio for human and animal health and nutrition
- 14:40 - 15:00 Heribert Warzecha (Technische Universität Darmstadt, Germany)  
Toward engineering of cannabinoid biosynthesis: *In-planta* characterization of enzymes involved in the synthesis of THCA and derivatives
- 15:00 - 15:20 Somen Nandi (University of California, Davis, USA)  
Supporting explorers on Mars: A biomanufacturing solution for producing biologics during deep space exploration
- 15:20 - 16:00 Keynote  
Dominik Mojzita (VTT, Espoo, Finland)  
On-demand gene expression in plants: New frontiers set by the new synthetic expression system
- 16:00 - 16:30 Posters with refreshments
- 16:30 - 16:50 Kaewta Rattanasit (Chulalongkorn University, Bangkok, Thailand)  
Recombinant human osteopontin expressed in *Nicotiana benthamiana* stimulates osteogenesis related genes in human periodontal ligament cells

- 16:50 - 17:10 Ani Barbulova (Arterra Bioscience srl, Naples, Italy)  
Plant somatic embryo cultures are a profitable source of compounds with skin rejuvenating activity
- 17:10 - 17:30 Sara Selma García (IBMCP, CSIC-UPV, Valencia, Spain)  
Combinatorial design of modular and programmable transcriptional regulators in plants
- 17:30 - 17:45 Julia Jansing (RWTH Aachen University, Germany)  
Molecular Farming 6.0: Hexa-mutant *Nicotiana benthamiana* plants lacking plant-specific N-glycans for transient expression
- 17:45 - 18:15 Keynote  
Jochen Schiemann (Julius Kühn Institute, Quedlinburg, Germany)  
Genome Editing: challenging our views and interpretation of the current regulatory systems
- 18:30 - 19:30 ISPMF General assembly (members only)

### Wednesday 13.6.2018

#### Session 4

- 09:00 - 09:45 Keynote  
Marc-André D'Aoust (Medicago Inc., Quebec, Canada)  
Development of the next generation influenza vaccine
- 09:45 - 10:05 Sebastian Mercx (Université catholique de Louvain, Louvain-la-Neuve, Belgium)  
Genome editing of *Nicotiana tabacum* suspension cells by a multiplex CRISPR/Cas9 strategy results in humanized pharmaceutical glycoproteins without plant specific glycans
- 10:05 - 10:25 Ingo Appelhagen (John Innes Centre, Norwich, UK)  
Colour bio-factories: Scale-up production of anthocyanins in plant cell culture
- 10:25 - 10:45 Philippe Varennes-Jutras (Université Laval, Québec, Canada)  
pH gradient mitigation in the leaf cell secretory pathway – One goal, several effects
- 10:45 - 11:20 Posters with refreshments
- 11:20 - 12:00 Keynote  
Frank Petersen (Novartis Pharma AG, Basel, Switzerland)  
Natural products based molecules for target and drug discovery in pharmaceutical research
- 12:00 - 12:20 Audrey Teh (St. George's University of London, UK)  
Prolonging serum half-life of plant-made anti-HIV broadly neutralising antibodies (bNAbs) by improving binding to human neonatal Fc receptor (hFcRn) and reducing binding to human macrophage receptor (hMR)
- 12:20 - 12:40 David Ullisch (Phyton Biotech GmbH, Ahrensburg, Germany)  
Green chemistry? Environmental performance evaluation of commercial plant cell culture-derived paclitaxel production
- 12:40 - 13:00 Rima Menassa (Agriculture and AgriFood Canada, London, Canada)  
Developing an IgA biobetter antibody against *E. coli* O157:H7 with enhanced stability by rational design of a bovine Fc chain

13:00 - 14:00 Lunch

14:00 - 14:40 Keynote

Jennifer Bromley (British American Tobacco, Cambridge, UK)  
A multi-omics approach to harness tobacco biochemistry

14:40 - 15:00 Benjamin Gengenbach (Fraunhofer IME, Aachen, Germany)

Recombinant production of the toxic anti-cancer lectin viscumin in tobacco plants and microbial cells. A comparative analysis of yield, process costs and toxicity

15:00 - 15:20 Anatoli Giritch (Nomad Bioscience GmbH, Halle, Germany)

Plant-made antimicrobial proteins for food safety

15:20 - 15:40 Mark A Jackson (University of Queensland, Brisbane, Australia)

Co-expression of a cyclizing asparaginyl endopeptidase enables efficient production of cyclic peptides *in planta*

15:40 - 16:10 Posters with refreshments

16:10 - 16:30 Muriel Bardor (University of Rouen, France)

Understanding the regulation of the N-glycosylation pathway is a prerequisite to optimize microalgae as a cell factory for the production of biopharmaceuticals

16:30 - 16:50 George Lomonosoff (John Innes Centre, UK)

Global food security – Plant-made Virus-Like Particles as a candidate vaccine against Nervous Necrosis Virus

16:50 - 17:10 Ann Meyers (University of Cape Town, Rondebosch, South Africa)

Immunogenicity of a virus-like particle (VLP) vaccine against African horse sickness

17:10 - 17:30 Luis Matias Hernández (Sequentia Biotech, Barcelona, Spain)

From *TricoPharming* to *Artennua*: From medicinal trichomes research to business

Closing

17:30 - 18:00 Closing remarks Kirsi-Marja Oksman-Caldentey and George Lomonosoff  
and announcing the 4<sup>th</sup> ISPMF

19:30 - 22:00 Conference Dinner at Meripaviljonki, Helsinki