

Wednesday, October 9

8:30-8:45 Welcome and Introductory Remarks

Thomas Kroj, Chair of COST Action FA1208 and John Jones, Local Organizer

Pathogen effectors and virulence (WG1) –

Chairs: John Jones and Bart Thomma

8:45-9:15 Mantelin, S.¹, Thorpe, P.^{1,2}, Cock, P.J.¹, Coke, M.², Smith, A., Urwin, P.E.² & Jones, J.T.¹ (James Hutton Institute & University of Leeds)

Identification and functional characterisation of *G. pallida* effectors and their host targets.

9:15-9:35 Mathieu Gourges (INRA/ University of Nice Sophia-Antipolis, FR)

Two penetration specific effectors from *Phytophthora parasitica* modulate hormonal physiology of the host to facilitate infection.

9:35-9:55 Ali Ahmed, Carsten Pedersen & Hans Thordal-Christensen (Department of Plant and Environmental Sciences, Faculty of Science, University of Copenhagen, Denmark)

Functional analysis of barley powdery mildew effector candidates and identification of their barley targets.

9:55-10:15 Hazel McLellan, Petra C. Boevink, Leighton Pritchard, Miles R. Armstrong and Paul R.J. Birch (University of Dundee/ James Hutton Institute, UK)

An RxLR effector from *Phytophthora infestans* prevents nuclear accumulation of two potato NAC transcription factors

10:15-10:45 Break

10:45-11:15 Amey Redkar, Lena Schilling, Alexandra Matei, Christoph Hemetsberger, Ziba Ajami-Rashidi, Virginia Walbot & Gunther Doehlemann (Max-Planck-Institute for Terrestrial Microbiology, Germany)

Formation of plant tumors in the *Ustilago maydis* – maize interaction requires organ-specific activity of secreted effector proteins.

11:15-11:35 Stam R., Motion, G.B., Boevink, P.C. & Huitema, E. (University of Dundee/ James Hutton Institute, UK)

A *Phytophthora capsici* CRN effector targets a tomato TCP transcription factor to affect its function.

11:35-11:55 Kombrink, A., Sánchez-Vallet, A., Faino, L., Valkenburg, D.J., van den Berg, G. & Thomma, B.P.H.J. (Wageningen University, NL)

Suppression of Chitin-Triggered Immunity, and Other Functions of Fungal LysM Effectors.

11:55-12:15 G. Gheysen, L. Bauters, S. Nowak, D. Naalden & A. Haegeman (Ghent University)

Effector analysis of two different types of rice nematodes, the sedentary *Meloidogyne graminicola* and the migratory *Hirschmanniella oryzae*.

12:15-13:45 Lunch

Plant proteins and processes targeted by effectors (WG2)

Chairs: Hans Thordal-Christensen and Nemo Peeters

13:45-14:15 Dionne Turnbull, Susan Breen, Miles Armstrong, Stefan Engelhardt, Licida Giuliani, Ingo Hein, Paul Birch & Eleanor Gilroy (University of Dundee & James Hutton Institute, UK)

Pumped up on (brassinosteroid)s: the late blight pathogen manipulates the BR pathway in potato.

14:15-14:35 Angela Chaparro-Garcia, Tolga Bozkurt, Sebastian Schornack & Sophien Kamoun (The Sainsbury Laboratory, UK)

Phytophthora infestans RXLR effector AVR3a targets a GTPase involved in plant immunity.

14:35-14:55 Du, Y., Bouwmeester, K. & Govers, F (University of Wageningen, NL)

A novel host target of *Phytophthora infestans* RXLR effector.

14:55-15:15 Giska, F., Taube, M., Piechocki, M., Hoser, R., Kozak, M., Hennig, J. & Krzyszowska, M. (Institute of Biochemistry and Biophysics, PL)

Interactions of HopQ1, a type III secretion effector from *Pseudomonas syringae*, with host 14-3-3 proteins.

15:15-15:45 Break

15:45-16:15 Mark Kwaaitaal, Mads Eggert Nielsen & Hans Thordal-Christensen (University of Copenhagen, DK)

Analysis of barley cell vesicle trafficking after powdery mildew invasion reveals the identity of the extrahaustorial membrane

16:15-16:35 Jose L. Lozano-Torres, Ruud H.P. Wilbers, Sonja van Warmerdam, Anna Finkers-Tomczak, Casper C. van Schaik, Hein Overmars, Jaap Bakker, Aska Goverse, Arjen Schots & Geert Smant (University of Wageningen, NL)

Secreted venom allergen-like proteins of plant-parasitic nematodes modulate defence responses in host plants.

16:55-17:15 Streubel, J., Pesce, C., Hutin, M., Koebnik, R., Boch, J. & Szurek, B (University of Halle, IRD Montpellier & U. Louvaine)

Rice SWEETs as virulence targets for *Xanthomonas* TALEs.

17:15-17:35 Teper, D., Salomon, D., Sunitha, S., Mudgett, M.B. & Sessa, G (Tel Aviv University, IL & Stanford University, USA)

Xanthomonas campestris type III effector XopQ interacts with tomato and pepper 14-3-3 isoforms to suppress effector-triggered immunity.

17:35-17:55 Tolga O. Bozkurt, Khaoula Belhaj Angela Chaparro-Garcia & Sophien Kamoun (The Sainsbury Laboratory, UK)

An endocytotic pathway targeting the vacuole is re-routed towards pathogen penetration sites in Plants.

19.30: Dinner at Birnam House Hotel

Thursday, October 10

Effector evolution and diversification (WG3)

Chairs: Eva Stukenbrock and Didier Tharreau

8:30-9:00 **Thierry Rouxel, Jonathan Grandaubert, Isabelle Fudal, Guillaume Daverdin, Marie-Hélène Balesdent (INRA-Grignon, FR)**

Evolutionary dynamics of avirulence genes in *Leptosphaeria maculans*.

9:00-9:20 **Cano, L.M.1, Cooke, D.E.L.2, Raffaele, S.3, Pais, M.1, Oliva, R.F.4, Etherington, G.1, Birch, P.R.J.2, Coffey, M.5 & Kamoun, S. (The Sainsbury Laboratory, James Hutton Institute, University of Dundee, IRRI & U Tolosan)**

Genome sequencing and expression profiling of emerging strains of *P. infestans*.

9:20-9:40 **Helder, Johannes, Van den Elsen, Sven, Mooijman, Paul, Kasia Rybarczyk, Landeweert, Renske & Goverse, Aska (Wageningen Universit, NL)**

Insights into the evolution of plant parasitism within the phylum Nematoda based on neutral and pathogenicity-related genes.

9:40-10:00 **Fournier E, Ortega-Abboud E, Mallet L, Chiapello H., Guérin C., Rodolphe F., Gendrault A., Kreplak J., Amselem J., Philippe N., Lebrun M-H., Kroj T. & Tharreau D. (INRA/CIRAD-Montpellier, FR)**

Evolution of the pan-secretome among lineages of *Magnaporthe oryzae* attacking different host-plants.

10:00-10:30 Break

10:30-11:00: **de Jonge, R., Bolton, M.D., Kombrink, A, van den Berg, G.C., Yadeta, K.A. & Thomma, B.P.H.I (Wageningen University, NL)**

Extensive chromosomal reshuffling drives evolution of virulence in an asexual pathogen.

11:00-11:30 **Cooke DEL, Squires JN, Randall E, Pritchard L, Birch PRJ (James Hutton Institute, UK)**

Tracking effector diversity in *Phytophthora infestans* populations.

11:30-11:50 **Peeters N, Carrere S., Anisimova M., Plener L., Cazalé AC & Genin S**
(CNRS/INRA-Toulouse, FR)

Inventory and evolution of Type III effector proteins in the *Ralstonia solanacearum* species complex.

11:50-12:10 **Pedersen, C., Van Themaat, E. V. L., Bindschedler, L. V., McGuffin, L., Abbott, J. C., Barton, G., Maekawa, T., Cramer, R., Lu, X., Thordal-Christensen, H., Weßling, R.2, Panstruga, R. & Spanu, P. D** (Copenhagen University, DK, Max Planck Institute DE, Royal Holloway University UK, University of Reading UK, Imperial College UK, Aachen University, DE).

The structure and evolution of barley powdery mildew effector candidates.

12:15-13:45 Lunch

13:45-15:00 Thomas Kroj and Aska Goverse

Presentation of COST Action FA1208 and discussion of upcoming events

15:30-18:30 Posters - Birnam House Hotel

15:30-17:00 MC meeting - Birnam Institute

19:00-21.30 Reception & Buffet meal - Birnam Institute

Friday, October 11

R genes and host targets for resistance breeding and engineering (WG4)

Chairs: Vivianne Vleeshouwers & Aska Goverse

- 8:30-9:00** Vivianne G.A.A. Vleeshouwers, Juan Du, Evert Jacobsen, Richard G.F. Visser (Wageningen University, NL)
Exploiting pathogen effectors in breeding for disease resistance
- 9:00-9:20** Bouwmeester, K., Wang, Y., Weide, R., & Govers F. (Wageningen University, NL)
Lectin receptor kinases; novel leads for disease resistance in Solanaceous crops.
- 9:20-9:40** Stella Cesari, Imène Abidi, Véronique Chalvon, Jean-Loup Notteghem, Jean-Benoit Morel, Ryohei Terauchi & Thomas Kroj (INRA-Montpellier, FR, Iwate Biotechnology Research Center)
The *Magnaporthe oryzae* effectors AVR1-CO39 and AVR-Pia are recognized by the rice Nucleotide Binding-Leucine rich repeat (NB-LRR) protein RGA5 through direct interaction
- 9:40-10:00** Morten Lillemo (Norwegian University of Life Sciences, NO)
Breeding for improved resistance to *Stagonospora nodorum* blotch in wheat by elimination of sensitivity to necrotrophic effectors
- 10:00-10:30** Break
- 10:30-10:50** Solé-Castellví, M., Reschke, M., Baufumé, S, Meynard, D., Guiderdoni, E., Koebnik, R. & Boch, J. (University of Halle DE, IRD & CIRAD Montpellier)
Using TALENs for plant genome engineering.
- 10:50-11:10** Urso, S., Biselli, C., Bagnaresi, P., Desiderio, F., Orrù, L., Perrini, R., Crispino, L., Abbruscato, P., Piffanelli, P., Cattivelli, L. & Valè, G. (CRA-GPG Genomic Research Center IT, DRA Rice Research Centre IT, PTP Rice genomics unit IT)
Integration of genetics and RNA-Seq approaches to dissect a durable blast resistance in rice.

11:10-11:30 Andolfo G., Sanseverino W., Rombauts S., Van der Peer Y., Bradeen J., Carputo D., Frusciante L., Ercolano M (University of Naples Federico II IT, VIB Gent BE, University of Minnesota USA)

Overview of tomato candidate pathogen recognition genes

11:30-11:50 Sucher, J., Krattinger, S., Chauhan, H., Selter, S., Risk, J., Lagudah, E. & Keller, B (University of Zürich & CSIRO)

Study of durable disease resistance Lr34 wheat gene into heterologous grass species

11:50-12:00 Concluding remarks and closure

Thomas Kroj & Aska Goverse

12:00-13:30 Lunch