

# **Resistance 2024 Programme**

## **Monday 23rd September**

Coach transport from Premier Inn, Luton (7.45), Luton Hoo (8.00) and Aubrey Park (8.00) to Rothamsted Research

8.15 Registration and refreshments

### **Session 1 Chair: Julian Smith**

9:00 Welcome and introduction: Angela Karp, Director, Rothamsted Research

9.15 Gideon Henderson, Chief Scientific Adviser, Defra

10.00 Andy Ward, CropLife RMPT

10.30 12 x 2 min Poster Previews

11.00 Refreshments

### **Session 2 Chair: Lin Field**

Molecular Mechanisms and Genomics

11.30 Invited Speaker: Bartłomiej Troczka, University of Exeter, UK: *Organophosphate resistance in Myzus persicae: exploring new discoveries in the genomic era*

12.00 Daniel Swale, University of Florida: *The K<sup>+</sup>/Cl<sup>-</sup> Cotransporter Represents a Putative Target to Reduce Resistance to Dieldrin (rdl)*

12.20 Yuichi Matsuzaki, Sumitomo: *The delay in confirming QoI-resistance in Puccinia horiana in Japan: overlooking risks beyond the G143A and F129L mutations*

12.40 Nawaporn Onkokesung, Newcastle University/Bayer AG Germany: *Counteract Herbicide Resistance through Herbicide Selectivity: A Case Study on Selective Herbicide Safening in Arabidopsis thaliana*

13.00 Lunch

### **Session 3 Chair: David Comont**

Molecular Mechanisms and Genomics

14.00 Invited speaker: Dana MacGregor, Rothamsted Research, UK: *Exploring the Resilience and Adaptability of Agricultural Weeds*

14.30 Sabine Fillinger, INRAE, France: *Multi-drug resistance in the fungal wheat pathogen Zymoseptoria tritici: a hint to complex mechanisms*

14.50 David Heckel, Max Planck Institute for Chemical Ecology, Jena, Germany: *Genetics of insect resistance to Vip3Aa*

15.10 Satoshi Iwakami, Tokyo University of Agriculture and Technology, Japan: *A new player involved in metabolic resistance in Echinochloa crus-galli*

15.30 Refreshments

#### **Session 4 Chair: Kevin King**

Molecular Mechanisms and Genomics

16.00 Invited speaker: Dolores Fernández-Ortuño, Universidad de Málaga, Spain: *Searching for new “biofungicides” based on oligonucleotides for the control of fungal diseases*

16.30 Ben Hunt, University of Exeter, UK: *Sub-lethal insecticide stress alters epimutation rate and transposable element expression, but not mutation rate, in Myzus persicae*

16.50 Katherine Zulack, Curtin University, Australia: *Tiny tech, big impact: Long read sequencing in the fight against fungicide resistance*

17.10 Deepak Kaundun, Syngenta, UK: *Identification of a single glutathione-S-transferase gene associated with atrazine resistance in Amaranthus palmeri*

17.30 Poster viewing and wine reception

18.45 Hot buffet dinner

20.15 Coach transport from Rothamsted to Luton Hoo, Aubrey Park and Premier Inn

#### **Tuesday 24th September**

Coach transport from Premier Inn, Luton (7.45), Luton Hoo (8.00) and Aubrey Park (8.15) to Rothamsted Research

8.30 Refreshments

#### **Session 5 Chair: Steve Foster**

Evolution, Selection and Monitoring

9.15 Invited speaker: Leena Lindström, University of Jyväskylä, Finland: *Sublethal exposure to pesticides and transgenerational plasticity in insect pest Leptinotarsa decemlineata*

9.45 Andreas Mehl, Bayer AG, Germany: *Multiple Resistance of Important Oomycetes - An increasing threat for Resistance Management in times of Limited Chemical Options*

10.05 Ulrich Lutz, Max Planck Institute for Biology Tübingen, Germany: *Target-site resistance diagnosis reimaged: a new high-throughput method and its application to analyze hundreds of weed populations*

10.25 Joshua Thia, University of Melbourne, Australia: *Genetic architecture of pesticide resistance in the mite, *Halotydeus destructor*, from its invasive Australian range*

10.45 Refreshments and poster viewing

### **Session 6 Chair: Richard Hull**

Evolution, Selection and Monitoring

11.10 Invited speaker: Julia Kriener, University of Chicago/the University of British Columbia

11.40 Phil Madgwick, Syngenta, UK: *Moderation, Saturation, Redundancy, Suppression and Elimination: Updating the principles of resistance management*

12.00 Przemyslaw Kowalski, BASF SE, Germany: *Adaptation of *Ramularia collo-cygni* towards SDHIs and DMIs*

12.20 Alfredo Manicardi, Universidad de Lleida, Spain: *Characterization of multiple herbicide resistant populations of *Amaranthus palmeri* from Europe*

12.40 Lunch

14:00 Photo Session – on grassed area opposite main entrance to Conference Centre

### **Session 7 Chair: Pradip Songara**

Evolution, Selection and Monitoring

14.30 Invited speaker: Nichola Hawkins, NIAB, UK

15.00 Célia Neto, University of Copenhagen, Denmark: *The evolutionary journey of herbicide resistant *Alopecurus myosuroides* from wild to weed*

15.20 Neil Hobbs, Swiss Tropical and Public Health Institute, Switzerland: *Development and Application of a Coupled Population Dynamics and Population Genetics Mathematical Model to Link Insecticide Selection, Fitness Costs and Vector Control*

15.40 Irene Maja Nanni, University of Bologna, Italy: *Droplet digital PCR: a new molecular approach for the detection and quantification of SDHI mutations in *Stemphylium vesicarium**

16.00 Refreshments and poster viewing

### **Session 8 Chair: Laura Crook**

## Field Studies and IPM

16.30 Invited speaker: Mette Sønderkov - Aarhus University, Denmark: *Monitoring and management of herbicide resistance in Denmark*

17.00 Stephen Foster, Rothamsted Research, UK

17.20 Leon Hodgson, Curtin University, Australia: *Management drives regional level spatial distribution of demethylase inhibitor fungicide resistance in *Pyrenophora teres f. teres*: insight from neighbour network analysis*

17.40 Silvia Panozzo, CNR, Italy: *Living Lab to promote innovation in weed management in Italian agricultural crops*

18.00 End of day

18.30 Coach travel from Rothamsted to Luton Hoo Hotel

19.00 Pre-dinner drinks at Luton Hoo Hotel

19.45 Conference Dinner at Luton Hoo Hotel

21.45 Coach travel from Luton Hoo Hotel to Aubrey Park and Premier Inn, Luton

## **Wednesday, 25th September**

Coach transport from Premier Inn, Luton (7.45), Luton Hoo (8.00) and Aubrey Park (8.15) to Rothamsted Research

8.30 Refreshments

### **Session 9 Chair: Joe Helps**

## Field Studies and IPM

9.15 Invited speaker: Fiona Burnett, SRUC, UK: *Fungicide resistance stewardship: opportunities to identify and drive best practice*

9.45 Roberto Busi, University of Western Australia: *How we best manage resistance? A case study with glyphosate and paraquat resistant *Lolium rigidum**

10.05 Jean Leon Mugenzi, Syngenta, Switzerland: *Characterization of a multi-resistant field population of *Plutella xylostella* from Taiwan*

10.25 Lawrence Veryser, Certis Belchim, Belgium: *Integrated Approach for Potato Late Blight Resistance Management and Stewardship*

10.45 Refreshments and poster viewing

### **Session 10 Chair: Patry Ortega-Ramos**

Field Studies and IPM

11.10 Invited speaker: Jo Lines, London School Hygiene and Tropical Medicine, UK

11.40 Isabel Corkley, Rothamsted Research/ADAS/University of Reading, UK: *Which resistance management strategies work against concurrent evolution of resistance to fungicides?*

12.00 TBC

12.20 Roland Beffa, Germany: *Herbicide resistance stewardship. Contribution of mechanistic and random forest models to support diagnostic*

12.40 Concluding remarks – Julian Smith

12.50 Lunch and depart

**End of Resistance 2024**