ICPP 2023 ONE HEALTH for all plants, crops and trees LYON

SATELLITE EVENTS

POWDERY MILDEW FUNGI: PHYLOGENETICS, PHYLOGENOMICS, AND MOLECULAR HOST-PATHOGEN INTERACTIONS

Sunday, 20 August 2023 **02:00pm to 05:45pm**

LYON CONVENTION CENTRE Room: **Rhone 4**

PROGRAM

14:00 – 14:05 *Welcome* (Stefan Kusch & Levente Kiss)

14:05 – 14:20 **Stefan Kusch**: Molecular co-evolution of powdery mildew fungi with their host plants

14:20 – 14:35 **Beat Keller**: Genetic analysis of avirulence genes in powdery mildew

14:35 – 14:50 **Marion Müller**: Standing genetic variation in avirulence effectors underlies the rapid resistance breakdown of two introgressed rye resistance genes in wheat

14:50 – 15:05 **Alexandros Georgios Sotiropoulos**: Global genomic analyses of wheat powdery mildew reveal different levels of diversity and recombination on par with historical human migration and trade

15:05 – 15:20 **Ralph Hückelhoven**: Host phospholipids are involved in resistance and susceptibility to fungal invasion into epidermal cells of barley

15:20 – 15:35 **Béatrice Randoux**: Hydroxycinnamic acid amide accumulation and PR-protein encoding gene expression are major responses of wheat during the early stages of powdery mildew infection

15:35 – 15:50 **Nisrine Bakhat**: Coordinated role of chitin-triggered immunity suppression mechanisms of *Podosphaera xanthii*

15:50 – 16:05 **Laura Ruiz Jiménez**: Conserved and non-annotated proteins of *Podosphaera xanthii:* New target candidates for the control of powdery mildews by spray-induced gene silencing

16:05 – 16:30 ***Coffee break***

16:30 – 16:45 **Lisa Kelly**: Powdery mildew in Australian mungbean crops: Identification of the pathogens, their host range and epidemiology

16:45 – 17:00 **Lior Gur**: New insights into the genetic structure of grape powdery mildew populations in Israel and their ecological attributes

17:00 – 17:15 **Reannon Smith**: Cracking the code of powdery mildew ancient DNA

17:15 – 17:30 **Niloofar Vaghefi**: Challenges in whole genome sequencing of powdery mildew fungi and use of phylogenetic signal to assess genome quality

17:30 – 17:45 **Levente Kiss**: Identification, phylogeny and geographic and host range expansions of powdery mildews infecting crops and wild plants

17:45 – 17:50 *Wrap up* (Levente Kiss & Stefan Kusch)

PRESENTATION DETAILS:

Presenter	Title	All authors	Institution(s)
KUSCH, Stefan	Molecular co-evolution of powdery mildew fungi with their host plants	KUSCH S., QIAN J., SPANU P., PANSTRUGA R.	RWTH Aachen University, Aachen, GERMANY
KELLER, Beat	Genetic analysis of avirulence genes in powdery mildew	BERNASCONI Z., KELLER B.	University of Zurich, Zürich, SWITZERLAND
MÜLLER, Marion	Standing genetic variation in avirulence effectors underlies the rapid resistance breakdown of two introgressed rye resistance genes in wheat	MÜLLER M. (1,2), KUNZ L. (2), KELLER B. (2)	(1) Chair of Phytopathology, Technische Universität München, Freising-Weihenstephan, GERMANY; (2) Department of Plant and Microbial Biology, University of Zurich, Zürich, SWITZERLAND
SOTIROPOULOS, Alexandros Georgios	Global genomic analyses of wheat powdery mildew reveal different levels of diversity and recombination on par with historical human migration and trade	A. G. SOTIROPOULOS (1,2), E. ARANGO-ISAZA (3), T. BAN (4), C. BARBIERI (3,5), S. BOURRAS (1,6), C. COWGER (7), P. C. CZEMBOR (8) , R. BEN-DAVID (9), A. DINOOR (10), S. R. ELLWOOD (11), J. GRAF (1), K. HATTA (12), M. HELGUERA (13), J. SÁNCHEZ-MARTÍN (1), B. A. MCDONALD (14), A. I. MORGOUNOV (15), M. C. MÜLLER (1), V. SHAMANIN (16), K. K. SHIMIZU (3,4), T. YOSHIHIRA (17), H. ZBINDEN (1), B. KELLER (1), T. WICKER (1)	(1) Department of Plant and Microbial Biology, University of Zurich, Zurich, SWITZERLAND; (2) Centre for Crop Health, University of Southern Queensland, Toowoomba, QLD, AUSTRALIA; (3) Department of Evolutionary Biology and Environmental Studies, University of Zurich, Zurich, SWITZERLAND; (4) Kihara Institute for Biological Research, Yokohama City University, Yokohama, Kanagawa, JAPAN; (5) Department of Linguistic and Cultural Evolution, Max Planck Institute for Evolutionary Anthropology, Leipzig, GERMANY; (6) Department of Forest Mycology and Plant Pathology, Swedish University of Agricultural Sciences, Uppsala, SWEDEN; (7) USDA-ARS Department of Plant Pathology, North Carolina State University, Raleigh, NC, USA; (8) Plant Breeding and Acclimatization Institute - National Research Institute, Radzików, Błonie, POLAND; (9) Department of Vegetables and Field crops, Institute of Plant Sciences, ARO-Volcani Center, Rishon LeZion, ISRAEL; (10) Centre for Crop and Disease Management, School of Molecular and Life Sciences, Curtin University, Bentley, WA, AUSTRALIA; (11) Department of Plant Pathology and Microbiology, The Robert H. Smith Faculty of

			Agriculture, Food & Environment, The Hebrew University of Jerusalem, Rehovot, ISRAEL; (12) Hokkaido Agricultural Research Center Field Crop Research and Development, National Agricultural Research Organization, Sapporo, Hokkaido, JAPAN; (13) Centro de Investigaciones Agropecuarias (CIAP), INTA, Córdoba, ARGENTINA; (14) Plant Pathology, Institute of Integrative Biology, ETH Zurich, Zurich, SWITZERLAND; (15) Food and Agriculture Organization of the United Nations, Riyadh, SAUDI ARABIA; (16) Omsk State Agrarian University, Omsk, RUSSIA; (17) Department of Sustainable Agriculture, Rakuno Gakuen University, Ebetsu, Hokkaido, JAPAN
HÜCKELHOVEN, Ralph	Host phospholipids are involved in resistance and susceptibility to fungal invasion into epidermal cells of barley	HÜCKELHOVEN R., BARTRAM C., BRADAI M., WEIß L.	Phytopathology, TU Munich, Freising, GERMANY
RANDOUX, Béatrice	Hydroxycinnamic acid amide accumulation and PR-protein encoding gene expression are major responses of wheat during the early stages of powdery mildew infection	ALLARIO T. (1), FOURQUEZ A. (1), MAGNIN-ROBERT M. (1), SIAH A. (2), MAIA-GRONDARD A. (4), GAUCHER M. (3), BRISSET M. (3), HUGUENEY P. (4), REIGNAULT P. (1), BALTENWECK R. (4), RANDOUX B. (1)	(1) Univ. Littoral Côte d'Opale, Unité de Chimie Environnementale et Interactions sur le Vivant (UCEIV-UR 4492), Calais, FRANCE; (2) Joint Research Unit 1158 BioEcoAgro, Junia, Université de Lille, Université de Liège, UPJV, Université d'Artois, ULCO, INRAE, Lille, FRANCE; (3) Institut de Recherche en Horticulture et Semences (IRHS), INRAE Angers, Equipe ResPOM, 42 rue Georges Morel, Beaucouze, FRANCE; (4) Université de Strasbourg, INRAE, SVQV UMR-A 1131, Colmar, FRANCE
BAKHAT, Nisrine	Coordinated role of chitin-triggered immunity suppression mechanisms of *Podosphaera xanthii*	BAKHAT N., FERNÁNDEZ-ORTUÑO D., PÉREZ-GARCÍA A.	Instituto de Hortofruticultura Subtropical y Mediterránea "La Mayora", Universidad de Málaga, Consejo Superior de Investigaciones Científicas (IHSM–UMA–CSIC), Malaga, SPAIN
RUIZ JIMÉNEZ, Laura	Conserved and non-annotated proteins of *Podosphaera xanthii*: new target candidates for the control of powdery mildews by spray-induced gene silencing	RUIZ JIMÉNEZ L. (1,2), POLONIO Î (1,2), VIELBA FERNÁNDEZ A. (1,2), PÉREZ GARCÍA A. (1,2), FERNÁNDEZ ORTUÑO D. (1,2)	(1) Dpto. de Microbiología, Facultad de Ciencias, Universidad de Málaga, Málaga, SPAIN; (2) Dpto. de Microbiología y Protección de Cultivos, Instituto de Hortofruticultura Subtropical y Mediterránea (IHSM-UMA-CSIC) "La Mayora", Málaga, SPAIN

KELLY, Lisa	Powdery mildew in Australian mungbean crops: Identification of the pathogens, their host range and epidemiology	KELLY L. (1), VAGHEFI N. (1,2), KISS L. (1)	(1) University of Southern Queensland, Toowoomba, QLD, AUSTRALIA; (2) The University of Melbourne, Melbourne, VIC, AUSTRALIA
GUR, Lior	New insights into the genetic structure of grape powdery mildew populations in Israel and their ecological attributes	GUR L. (1,2,3), REUVENI M. (1), COHEN Y. (2), CADLE-DAVIDSON L. (4,5), KISSELSTEIN B. (4,5), OVADIA S. (6), FRENKEL O. (3)	(1) Shamir Research Institute, Katsrin, ISRAEL; (2) Faculty of Life Sciences, Bar-Ilan University, Ramat Gan, ISRAEL; (3) Department of Plant Pathology and Weed Research, Agricultural Research Organization, The Volcani Center, Rishon Lezion, ISRAEL; (4) USDA Agricultural Research Service, Geneva, UNITED STATES; (5) School of Integrative Plant Sciences, Cornell AgriTech, Geneva, UNITED STATES; (6) S.H.F Ltd, Karmey-Yosef, ISRAEL
SMITH, Reannon	Cracking the code of powdery mildew ancient DNA	SMITH R. (1), LI T. (1), SAWBRIDGE T. (1), EDWARDS J. (1,2)	(1) Department of Energy, Environment and Climate Action, Bundoora, VIC, AUSTRALIA; (2) La Trobe University, Bundoora, VIC, AUSTRALIA
VAGHEFI, Niloofar	Challenges in whole genome sequencing of powdery mildew fungi and use of phylogenetic signal to assess genome quality	VAGHEFI N. (1,2), KUSCH S. (3), KISS L. (2)	(1) University of Melbourne, Melbourne, AUSTRALIA; (2) Centre for Crop Health, University of Southern Queensland, Toowoomba, QLD, AUSTRALIA; (3) Institute for Biology I, RWTH Aachen University, Aachen, GERMANY
KISS, Levente	Identification, phylogeny and geographic and host range expansions of powdery mildews infecting crops and wild plants	KISS L.	University of Southern Queensland, Toowoomba, QLD, AUSTRALIA