

**21st Reinhardsbrunn Symposium**  
**Modern Fungicides and Antifungal Compounds**



**19 - 23 April 2026**  
**Friedrichroda – Germany**

Program  
As of: April 23, 2026

		<b>Sunday, April 19, 2026</b>	
17:00		Arrival and Registration	
19:00		Welcome Reception	

		<b>Monday, April 20, 2026</b>	
08:30	09:00	Opening - Symposium committee	

Session 1 - Resistance Monitoring - Chair: Andreas Mehl					
Start	End	Speaker		Title	Talk Nr.
09:00	09:25	Anne-Sophie	Walker	50 years tackling fungal adaptation: a tremendous journey through the evolving life of a lab exploring fungicide resistance	Keynote 1
09:25	09:40	Lincoln	Harper	Monitoring the frequency of fungicide resistant <i>Botrytis cinerea</i> in grapevine after selective removal of chemistries	1
09:40	09:55	Tom	Hsiang	A 30-year study on the development of DMI fungicide resistance by <i>Claviceps jacksonii</i> at multiple locations across southern Ontario, Canada	2
09:55	10:10	Ismail Ahmed	Ismail	Airborne Surveillance of Fungicide Resistance in <i>Erysiphe necator</i> in Australian Vineyards: A New Approach for Early Detection	3
10:10	10:25	Steven	Kildea	Responses of Irish <i>Zymoseptoria tritici</i> populations to the main fungicides used for its control	4

10:25	11:00	Coffee		
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Session 2 - Resistance Monitoring - Chair: Gerd Stammler					
Start	End	Speaker		Title	Talk Nr.
11:00	11:15	Andreas	Mehl	DMI monitoring: research and sensitivity development of major pathogens over the past decades	5
11:15	11:30	Kevin	King	Coexisting sibling pathogens take different evolutionary journeys towards decreased azole sensitivity – phoma stem canker of oilseed rape	6
11:30	11:45	Alec	McCallum	Detection of SDHI resistance in Australian <i>Leptosphaeria maculans</i> populations	7
11:45	12:00	Fran	Lopez-Ruiz	Rise of the 'Triple Threat': Emergence of multiple-fungicide resistance in barley Net form net blotch ( <i>Pyrenophora teres f. teres</i> ) in Australia	8
12:00	12:15	Providence	Moyo	Fungicide resistance in <i>Phylosticta citricarpa</i> in South Africa	9
12:15	12:30	Irene Maja	Nanni	Contrasting profiles of zoxamide resistance mutations in Northern Spanish and Northern Italian populations of <i>Plasmopara viticola</i>	10
12:30	12:45	Natalia	Peres	Resistance Patterns to Fludioxonil in <i>Botrytis cinerea</i> Isolates from Florida Strawberry Fields	11

13:00	14:00	Lunch		
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Session 3 - Fungicide Resistance: Mechanisms, Diagnosis, Predictions - Chair: Helge Sierotzki					
Start	End	Speaker		Title	Talk Nr.
14:00	14:25	Claudia	Godoy	Soybean disease shifts and fungicide resistance under changing cropping systems in Brazil	Keynote 2
14:25	14:40	Beatrice	Lecchi	Fitness costs and competitive dynamics of CAA-resistant isolates of <i>Plasmopara viticola</i>	12
14:40	14:55	Fruzsina	Matolcsi	High-throughput viability assay shows altered fungicide sensitivity in root-colonizing fungi originating from fungicide-exposed and non-exposed habitats	13
14:55	15:10	Mattia	Peracchi	Comparative fitness analysis of sensitive and zoxamide-resistant <i>Plasmopara viticola</i> isolates	14
15:10	15:25	Alexandra	Schmidt	Cytochrome b mutations in <i>Zymoseptoria tritici</i> and their impact on sensitivity and fitness	15

15:25	16:00	Coffee		
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Session 4 - Fungicide Resistance: Mechanisms, Diagnosis, Predictions - Chair: Bart Fraaije					
Start	End	Speaker		Title	Talk Nr.
16:00	16:15	Joel	Haywood	Applying Herbicide Discovery Paradigms to Fungicide Resistance	16
16:15	16:30	Georgios	Sofianos	Development of novel ddPCR assays for detection and quantification of SDHI resistance in <i>Botrytis cinerea</i>	17
16:30	16:45	Johana	Wesche	Pydiflumetofen Resistance in <i>Venturia effusa</i> : A new Threat to Pecan Production in Georgia	18
16:45	17:00	Juergen	Derpmann	Characterization of CAA-, OSBPI- and double resistant field isolates of <i>Phytophthora infestans</i> and their impact on Late Blight control in potatoes	19
17:00	17:15	Lorenzo	Borghi	Rust diseases in European cereals: new challenges and proposed mitigations	20

17:15	19:00	Poster Demonstration		
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Tuesday, April 21, 2026

Session 5 - New Fungicides - Chair: Dolores Fernandez Ortuño

Start	End	Speaker		Title	Talk Nr.
08:30	08:55	Yuichi	Matsuzaki	Industry efforts to update Qol fungicides	KEYNOTE 3
08:55	09:10	Lutz	Brahm	Flufenoxadiazam (Adapzo <sup>®</sup> Active) - a unique tool in Asian soybean rust control	21
09:10	09:25	David	Ranner	Fenepdamidoquin - A novel fungicide for use in a broad range of crops	22
09:25	09:40	Urvashi	Thacker	Metcyclofenstrobilin at the forefront of new innovation	23
09:40	09:55	Fukumatsu	Iwahashi	Metabolomics-based elucidation of the mode of action of cartap as a fungicide	24
09:55	10:10	Guillaume	Fouche	Targeting stress response pathways as a new antifungal strategy	25
10:10	10:25	Gero	Steinberg	Live-cell imaging of antimicrobial peptide activity in the wheat pathogen <i>Zymoseptoria tritici</i>	26

10:25 11:00 Coffee

Session 6 - Fungicide Resistance Risk Assessment and Management - Chair: Bart Fraaije

Start	End	Speaker		Title	Talk Nr.
11:00	11:25	Geert	Kessel	Practical experiences with fungicide resistance in <i>Phytophthora infestans</i> , a medium risk pathogen	KEYNOTE 4
11:25	11:40	Rosie	Bryson	Are we really managing fungicide resistance or merely managing efficacy decline?	27
11:40	11:55	Kerri	Neugebauer	BLUE-DYNAMO: An interactive platform to deliver blueberry disease and management strategies for fruit rots in the United States	28
11:55	12:10	Nichola	Hawkins	Using experimental evolution to test alternate evolutionary histories of fungicide resistance	29
12:10	12:25	James	Brown	Molecular Evolution of Antifungal Resistance in Powdery Mildews	30

12:30 14:00 Lunch

13:30 22:00 EXCURSION

Wednesday, April 22, 2026

Session 7 - Molecular Mechanisms of Fungicide Resistance - Chair: Andreas Mehl

Start	End	Speaker		Title	Talk Nr.
08:30	08:55	Mamadou	Mboup	Genomics-Driven Strategies for Sustainable Fungicide Resistance Management	Keynote 5
08:55	09:10	Sabine	Fillinger	Multiple roads lead to multi-drug resistance in phytopathogenic fungi: <i>Zymoseptoria tritici</i> as a case study	31
09:10	09:25	Gerd	Stammler	Update on the evolution of <i>cyp51</i> haplotypes in <i>Zymoseptoria tritici</i>	32
09:25	09:40	Jacqueline	Repp	Understand fitness costs associated with fungicide resistance in <i>Botrytis cinerea</i> via RNP-based CRISPR/Cas9	33
09:40	09:55	Jhulia	Gelain	Resistance to SDHI fungicides in <i>Monilinia fructicola</i> associated with amino acid changes in the SDH complex	34
09:55	10:10	Mengjun	Hu	A previously uncharacterized C6 zinc-cluster transcription factor likely mediates the <i>atrB</i> overexpression observed in fludioxonil-resistant U.S. <i>Botrytis fragariae</i> populations	35
10:10	10:25	Chao-Xi	Luo	Molecular Mechanisms of Resistance to Isoprothiolane in <i>M. oryzae</i>	36

10:25 11:00 Coffee

Session 8 - Fungicide Resistance Modelling - Chair: Dolores Fernandez Ortuño

Start	End	Speaker		Title	Talk Nr.
11:00	11:25	Isabel	Corkley	Mixture strategies for fungicide resistance management when multi-site options are limited: Lessons from modelling	Keynote 6
11:25	11:40	Michael	Grimmer	Benefits of RevyPro to manage resistance	37
11:40	11:55	Ariane	Le Gros	Optimizing DMI Resistance Management in <i>Phakopsora pachyrhizi</i> : Exploiting Incomplete Cross-Resistance Through Predictive Modelling	38
11:55	12:10	Johanna	Hoffmann	Situation of Fungicide Sensitivity in Grapevine Powdery Mildew	39
12:10	12:25	Timothy	Miles	Integrated detection and monitoring of fungicide resistance in grape pathogens: advances in diagnostics, sampling, and surveillance	40

12:25 12:45 Poster prize ceremony

13:00 14:00 Lunch

Session 9 - Bio-Rational Fungicides / Biocontrol - Chair: Fran Lopez-Ruiz

Start	End	Speaker		Title	Talk Nr.
14:00	14:15	Marco	Crudele	Long-term SIGS-SDHI assessment in sensitive and SIGS-enhanced SDHI efficacy in resistant isolates of <i>Podosphaera xanthii</i> , the causal agent of cucurbit powdery mildew	41
14:15	14:30	George	Karaoglanidis	Exogenous dsRNA applications as a tool to control <i>Penicillium digitatum</i> on citrus fruits	42
14:30	14:45	Alba	López Laguna	Dual silencing of fungicide target genes <i>sdhB</i> and <i>cytB</i> via SIGS enhances control of <i>Botrytis cinerea</i> and improves fungicide performance	43
14:45	15:00	Silvia Laura	Toffolatti	Biotechnological approaches for the control of grapevine downy mildew	44
15:00	15:15	Joanna	Polko	Spray-induced Gene Silencing: Discovery and Evolution of the First Commercial dsRNA Fungicide: The Erysichrona Case	45

15:15 16:00 Coffee

Session 10 - Discussion section - Chair: Gerd Stammler

	End	Speaker		Title	Talk Nr.
16:00	16:15	Helge	Sierotzki	Assessment Support Scheme for mitigation of cross-resistance between medical antifungals and crop protection agents with the same mode of action	46
16:15	16:20	Michael	Klueken	The Return of Forgotten Diseases: Assessing the Consequences of Losing Fungicidal Seed Treatments in European Cereal Production	47
16:30	16:40	Martin	Chilvers	Systemic Movement of Soil-Applied Flutriafol in Corn and Soybean	48
16:45	17:00	Richard	Oliver	Global Status of Fungicide Resistance - known knowns, known unknowns and unknown unknowns	49
17:00	17:15	James	Adaskaveg	FRAC code assignment of phosphonate fungicides questioned	50

Thursday, April 23, 2026

Session 11 - Bio-Rational Fungicides / Biocontrol - Chair: Fran Lopez-Ruiz

Start	End	Speaker		Title	Talk Nr.
08:30	08:55	Stefano	Torriani	Biocontrol and Beyond: Scientific Pathways to Sustainable Crop Protection	Keynote 7
08:55	09:10	James	Adaskaveg	Increasing the spectrum of activity of natamycin in reducing postharvest fungal fruit decays	51
09:10	09:25	Elizabeth	Czislowski	Small but mighty: developing DNA-based nanoparticles as a novel crop protection technology	52
09:25	09:40	Athanasios	Petmezas	A Two-Sided War against Brown Rot on stone fruit: Host Immunity and Antifungal Action in Sustainable Plant Protection	53
09:40	09:55	Jakob	Weber Böhlen	Low-molecular natural compounds counteract multi-class fungicide insensitivity in <i>Phakopsora pachyrhizi</i>	54
09:55	10:10	Božena	Sedláková	Efficacy of essential oils and plant extracts against biotrophic pathogens on cucurbit plants	55
10:10	10:25	Gianfranco	Romanazzi	Basic substances as a sustainable tool for plant disease management	56

10:25	11:00	Coffee			
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Session 12 - Fungicide Resistance: Mechanisms, Diagnosis, Predictions - Chair: Helge Sierotzki

Start	End	Speaker		Title	Talk Nr.
11:00	11:15	Semcheddine	Cherrad	Use of Nanopore Sequencing and Fungiresist Platform to Assess Fungicide Resistance in European Populations of <i>Zymoseptoria tritici</i>	57
11:15	11:30	Jia-Jie	Hu	Detection of Fungicide Resistance in Peach Pathogens	58
11:30	11:45	Katherine	Zulak	Aerial surveillance for antimicrobial resistance detection and crop biosecurity	59
11:45	12:00	Rito	Kitaoka	Application of Nanopore Sequencing To SDHI Resistance Monitoring of Wheat Rusts in Europe	60
12:00	12:15	Tiexin	Li	Nanoparticle-based approaches for Sensitive Detection of fungicide resistance in <i>Zymoseptoria tritici</i>	61
12:15	12:30	Patrick	Barendse	Sequence-specific detection of fungicide resistance in <i>Zymoseptoria tritici</i>	62

12:30	13:00	Closing			
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Poster			
Author	Title	Poster Nr.	
Adam	Adaskaveg	Temporal evolution of FRAC 11 fungicide resistance in <i>Colletotrichum fioriniae</i> populations from Michigan highbush blueberry (1999–2024).	1
Marina	Collina	Preliminary evaluation of the efficacy of selected products against <i>Neopestalotiopsis</i> species in strawberry cultivation	2
Marina	Collina	Fungicide Sensitivity and Resistance Trends in <i>Stemphylium vesicarium</i> from Italian Pear Orchards: A Four-Year Study (2022–2025)	3
Elizabeth	Czislowski	Small but mighty: developing DNA-based nanoparticles as a novel crop protection technology	4
Kejal	Dodhia	On the heels of a flighty cereal killer– the impact of new chemistry and varietal diversity on fungicide resistant populations	5
James	Fountaine	Monitoring and understanding resistance to CAA and OSBPI fungicides in <i>Phytophthora infestans</i>	6
Bart	Fraaije	Aerobiome based genomic surveillance of fungicide resistance to track the development and spread of AMR in plant pathogens and the wider environment	7
Lucía	Guirado-Manzano	Evaluation of eco-friendly treatments to control <i>Botryosphaeriaceae</i> avocado dieback in southern Spain	8
Lincoln	Harper	High prevalence of fungicide resistance in <i>Botrytis cinerea</i> isolated from Australian small fruits	9
Anja	Hinson	Reduced sensitivity of <i>Monilinia laxa</i> and <i>M. fructigena</i> to cyprodinil on Swiss apricots	10
Jeffrey	Hopkins	Integration of biologicals for blossom blight control of peach in commercial farms	11
Ismail Ahmed	Ismail	Monitoring Fungicide Resistance for Powdery and Downy Mildews in Australian Viticulture	12
Alejandra	Jimenez Madrid	Monitoring the Fungal Species Associated with Areolate Mildew of Cotton and the Occurrence of QoI Resistant Isolates in the Southeastern US	13
Janis	Kaneps	Occurrence of G143A mutation in the Latvian <i>Pyrenophora tritici-repentis</i> population	14
Steven	Kildea	EPPO Database on Resistance Cases to Plant Protection Products	15
Catarina	Leal	The fungicide resistance status of pear-pathogenic and non-pathogenic <i>Stemphylium vesicarium</i> populations sampled from Dutch pear orchards	16
Ana	Machado Wood	Advancing Molecular Tools for Oomycete Research	17
Julie Aiza	Mandap	Global assemblage and genomic analysis of <i>Pyrenophora teres</i> populations under demethylase inhibitor fungicide selection	18
Yuichi	Matsuzaki	FUNGICIDE SENSITIVITY OF <i>MONILIOPTHORA</i> SP. ISOLATED FROM SOYBEAN PODS IN BRAZIL	19
Mary Ruth	McDonald	Kompetitive Allele Specific PCR (KASP) assays to identify mutations conferring SDHI and QoI resistance in <i>Stemphylium vesicarium</i> on onion in Ontario, Canada	20
Edward	McNab	Minimum Sample Sizes for Monitoring DMI Resistance in <i>Clariireedia jacksonii</i> .	21
Fan-Zhu	Meng	MoSR-mediated regulation of DMI sensitivity requires the cytochrome P450 detoxification enzyme MoDde1 in <i>Magnaporthe oryzae</i>	22
Nikola	Mijailović	Precision Delivery of Active Substances for Plant Health with Innovative Bioadjuvants	23
Sebastian	Moschen	New tools and capabilities development to accelerate fungicide resistance studies in <i>Corynespora cassicola</i>	24
Márk	Németh	Prevalence of the SDHI resistance marker <i>sdhC-G612A (G151R)</i> in <i>Podosphaera xanthii</i> on cucurbits in Hungary	25
Edwina	Nolan	Fungicide sensitivity and resistance monitoring of <i>Ramularia collo-cygni</i> in Irish barley crops	26
Tapiwa	Nyakauru	Evolution of SDHI resistance in Irish <i>Zymoseptoria tritici</i> populations	27
Richard	Oliver	The 2026 update of target site mutations associated with resistance to fungicides and a web-tool to assist label designations.	28
Débora	Petermann	Sensitivity of endophytic <i>Colletotrichum</i> isolates associated with apple to trifloxystrobin and fluxapyroxad	29
Athanasios	Petmezaz	Beyond Target-Site Mutations: Fungicide Resistance Patterns in <i>Monilinia fructicola</i>	30
Regina	Pütsepp	Screening of local yeast strains for their potential in barley net blotch control	31
Gabriel	Scalliet	Predicting resistance to complex III inhibitors	32
Julia	Scicluna	Seasonal variation in mutations associated with SDHI resistance in <i>Stemphylium vesicarium</i>	33
Božena	Sedláková	Efficacy of essential oils and plant extracts against necrotrophic pathogens from cucurbit plants	34
Anjana	Sharma	Evaluation of histone acetyltransferases in <i>Parastagonospora nodorum</i> as potential fungal targets for alternative disease management	35
Arundhati	Singh	Invisible gradients, noticeable consequences: how in planta fungicide distribution affects pathogen genotype shifts	36
Georgios	Sofianos	Transcriptome analysis of <i>Botrytis cinerea</i> multidrug resistant strains provides insights on the biocontrol efficacy of <i>Bacillus amyloliquefaciens</i> QST713 and <i>Clonostachys rosea</i> IK726	37
Georgios	Sofianos	Characterization and transcriptome analysis of a CRISPR/Cas9 generated <i>Botrytis cinerea</i> mutant possessing the MDR-related V575G mutation in <i>Mrr1</i> gene	38
Gerd	Stammler	Biological fitness of <i>Zymoseptoria tritici</i> in the context of fungicide resistance	39
Ko-Hsuan	Tsao	Unravelling the Mechanisms and Impact of Succinate Dehydrogenase Inhibitor (SDHI) Fungicide Resistance in <i>Leptosphaeria maculans</i>	40
Johana	Wesche	Synergy, Antagonism, and Formulation-Dependent Interactions in DMI– <i>Bacillus subtilis</i> Mixtures	42
Johana	Wesche	Multi-location fungicide efficacy trials: Lessons from pecan scab management in Georgia, USA.	43
Katherine	Zulak	The Pesticide Resistance Integrated Mapping platform for the visualisation of deidentified spatial data	44