

# **17th International Cereal Rusts and Powdery Mildews Conference 2025**

**Annual Meeting of the Canadian  
Phytopathological Society 2025**

**BGRI Technical Workshop 2025**

**June 15-20, Vancouver, Canada**





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# AGENDA

\* CPS Student Presentation Competition Participant

\* ICRPMC Student/post-doc Presentation Competition Participant

## Sunday, 15 June 2025

1:00 pm	Registration Opens	Gage Lobby
8:00 am	CPS FAC and Outgoing Board Meeting	Gage Ruth Blair D
1:00 pm	CPS Workshop	Gage Multi Purpose Room
6:00 pm	<b>CPS Welcome Reception</b>	<b>University Centre Bistro West</b>

## Monday, 16 June 2025

7:00 am	Registration and Breakfast	Forest Sciences Atrium
<b>Plenary Session I</b> <b>Forest Sciences 1221</b> <b>Chair: Samuel Holden</b>		
8:20 am	Welcome Comments <b>Gurcharn Singh Brar</b>	
8:30 am	<b>O1: Stephen Strelkov</b> , University of Alberta, Canada The changing landscape of clubroot in Canada: Virulence shifts and management challenges	
9:15 am	<b>O2: Brian Steffenson</b> , University of Minnesota, USA Pangenomic & virulence analyses of the barley leaf rust pathogen, <i>Puccinia hordei</i>	
10:00 am	Refreshment Break	Forest Sciences Atrium
<b>CPS Session – Genetics, Genomics, and Breeding for Resistance I</b> <b>Forest Sciences 1221</b> <b>Chair: Skyler Shaw</b>		
10:30 am	<b>O3: Keiko Nabetani</b> , University of Saskatchewan, Canada Development and evaluation of screening methods under a controlled environment for pasmo resistance in flax	
10:50 am	<b>O4: Mohamed Youssef</b> , University of Manitoba, Canada Enhancing canola resistance to verticillium stripe: qPCR-based phenotyping and GWAS reveal genetic markers for breeding applications	
11:10 am	<b>* O5: Xinlong Dong</b> , University of Alberta, Canada Accelerated clubroot resistance breeding in brassica napus using optimized double haploid technology and genetic mapping	
11:30 am	<b>O6: Anuradha De Silva</b> , University of Manitoba, Canada Exploiting susceptibility genes in canola to improve blackleg disease	

11:50 am	<b>CPS Annual Meeting of Members (AMOM)</b>	Forest Sciences 1221
11:50 am	Lunch	Forest Sciences Atrium
1:00 pm	<b>EMCRF Board Meeting</b>	Forest Sciences 4101
<b>CPS Session – Pathogen Surveillance, Disease Diagnostics, and Epidemiology I</b> <b>Forest Sciences 1221</b> Chairs: Rishi Burlakoti, Vinuri Weerasinghe		
1:40 pm	<b>O7: Émilie Tremblay</b> , AAFC Ottawa, Canada Metabarcoding of aeromicrobiomes and insect trap preservative screens for phytopathogenic spores in agricultural fields: building a predictive tool	
2:00 pm	<b>* O8: Sydney Houston</b> , Natural Resources Canada - Victoria, Canada Next-Generation Sequencing of ITS regions for monitoring fungal pathogen infection and fungal community shifts in western redcedar	
2:20 pm	<b>* O9: Alice Li</b> , The University of British Columbia, Canada Genomic detection and monitoring of the Dutch elm disease	
2:40 pm	<b>O10: Longfei Wu</b> , University of Alberta, Canada Isolation, pathogenicity and genetic diversity of <i>Verticillium longisporum</i> causing Verticillium stripe of canola on the Canadian Prairies	
3:00 pm	<b>O11: Reem Aboukhaddour</b> , AAFC Lethbridge, Canada Starships and the evolution of virulence in tan spot ( <i>Pyrenophora tritici-repentis</i> ) of wheat	
3:20 pm	Refreshment Break	Forest Sciences Atrium
<b>CPS Session – Pathogen Genomics and Biology I</b> <b>Forest Sciences 1221</b> Chair: Simranjeet Kaur		
3:40 pm	<b>O12: Tika Adhikari</b> , North Carolina State University, USA Unraveling effects of anaerobic soil disinfestation on soil microbiomes and strawberry yield	
4:00 pm	<b>O13: Afsaneh Sedaghatkish</b> , University of Guelph, Canada Advancing <i>Plasmodiophora brassicae</i> genomics: single-cell sequencing reveals a contamination-free de novo assembly	
4:20 pm	<b>* O14: Muhammad Asim Javed</b> , Laval University, Canada Population genomics of clubroot pathogen reveals its diversity dynamics and evolution	
4:40 pm	<b>* O15: Md Al Mamun</b> , North Dakota State University, USA Developing heterologous expression of rust effectors in a necrotrophic fungal pathogen	
6:00 pm	<b>ICRPMC Welcome Reception</b>	<b>University Centre Ideas Lounge</b>

## Tuesday, 17 June 2025

7:00 am	Registration and Breakfast	Forest Sciences Atrium
8:30 am – 3:00 pm	Delegates put-up posters	Orchard Common
<b>CPS Session – Pathogen Genomics and Biology II</b> <b>Forest Sciences 1221</b> Chair: Lamia Aouini		
8:30 am	<b>O16: Jonathan Griffiths</b> , AAFC London, Canada Genomic diversity of Tomato brown rugose fruit virus in Canadian greenhouse production systems	
8:50 am	<b>O17: Sandra M. Velasco-Cuervo</b> , University of Alberta, Canada FROM genome to pathotyping: exploring comparative genomics for <i>Plasmodiophora brassicae</i>	
9:10 am	<b>O18: Wen Chen</b> , AAFC Ottawa, Canada Unraveling microbial defenses: metagenomics-guided discovery of plant growth-promoting bacteria for potato wart suppression	
9:30 am	* <b>O19: Brian Duarte</b> , The University of British Columbia, Canada Cinderella slipper? examining host range expansion and spore specificity in <i>Cronartium ribicola</i> , the causal agent of white pine blister rust	
9:50 am	Refreshment Break	Forest Sciences Atrium
<b>ICRPMC Session – Genetics, Genomics, and Breeding for Resistance I</b> <b>Dempster 301</b> Chair: Harmeet Chawla		
8:30 am	* <b>O20: Jason Zurn</b> , Kansas State University, USA A protein kinase fusion gene from <i>Aegilops speltoides</i> provides broad resistance against wheat stem rust	
8:50 am	<b>O21: Satinder Kaur</b> , Punjab Agricultural University, India Expanding wheat's genetic horizon: wild germplasm as a source of biotic and abiotic stress resistance	
9:10 am	<b>O22: Shuyu Liu</b> , Texas A & M University, USA Utilization of wheat wild relatives to improve wheat yield and rust resistance	
9:30 am	* <b>O23: Jasneet Singh</b> , University of Alberta, Canada Uncovering yellow rust resistance loci in Watkins wheat landraces via GWAS	
9:50 am	Refreshment Break	Forest Sciences Atrium
<b>CPS Session – Pathogen Genomics and Biology III</b> <b>Forest Sciences 1221</b> Chair: Meng Li		
10:20 am	* <b>O24: Edward McNab</b> , University of Guelph, Canada Azoles vs. DMIs: A divide in fungicide resistance research terminology	
10:40 am	<b>O25: Imane Laraba</b> , AAFC Ottawa, Canada Outcomes of competitive dynamics of <i>Fusarium graminearum</i> and <i>F. poae</i> on wheat heads	
11:00 am	* <b>O26: Yishan Zhang</b> , The University of British Columbia, Canada	

	Genetic mapping of aggressiveness in <i>Fusarium graminearum</i> , causing Fusarium head blight in durum wheat	
11:20 am	Bag Lunch and Campus Walk (optional)	Forest Sciences Atrium
ICRPMC Session – Pathogen Genomics and Biology Dempster 301 Chair: Jesse MacDonald		
10:20 am	* <b>O27: Samuel Holden</b> , University of Alberta, Canada A stripe rust pan-genome provides evidence for ongoing somatic hybridization in nature	
10:40 am	* <b>O28: Sean Formby</b> , The University of British Columbia, Canada Technical challenges and approaches in constructing nuclei-phased genome assemblies of dikaryotic <i>Puccinia triticina</i> using early noisy long-read datasets	
11:00 am	* <b>O29: Rebecca Spanner</b> , University of Minnesota, USA Haplotype-phased genomes reveal the evolutionary history of race group TKTF, TTRTF and avirulence gene variants associated with severe wheat stem rust epidemics	
11:20 am	Bag Lunch and Campus Walk (optional)	Forest Sciences Atrium
1:20 pm <b>Group Photo by Totem Pole near Forest Sciences Building</b>		
Plenary Session II Forest Sciences 1005 Chair: Brent McCallum		
1:30 pm	<b>O30: Guus Bakkeren</b> , AAFC Summerland, Canada Wheat leaf rust pathogen genomics	
2:15 pm	<b>O31: Silvia Germán</b> , Instituto Nacional de Investigación Agropecuaria (INIA), Uruguay Over three decades of wheat and barley rust research in Uruguay: a review	
3:00 pm	Refreshment Break	Forest Sciences Atrium
CPS Session – Pathogen Surveillance, Disease Diagnostics, and Epidemiology II Forest Sciences 1221 Chair: Jashanpreet Virhia		
3:30 pm	<b>O32: Sean Walkowiak</b> , Canadian Grain Commission, Canada Trends in Fusarium species on wheat and tools for pathogen identifications in large-scale monitoring programs	
3:50 pm	* <b>O33: Skyler Shaw</b> , Canadian Grain Commission, Canada The largest Canadian population survey and genomic analysis of <i>Claviceps purpurea</i> to date	
4:10 pm	<b>O34: Mark Paul Rivarez</b> , The University of British Columbia, Canada Distribution and diversity of Abaca Bunchy Top Virus and Banana Bunchy Top Virus causing bunchy top of abaca in Caraga, Philippines	
ICRPMC Session – Early-Career Awardees Forest Sciences 1005 Chair: Shuyu Liu		
3:30 pm	<b>O35: Merle Bilstein-Schloemer</b> , University of Cologne, Germany	

	Overlap between virulence and avirulence function of <i>Blumeria hordei</i> AVR <sub>A13</sub>	
3:50 pm	<b>O36: Lamia Aouini</b> , King Abdullah University of Science and Technology, Saudi Arabia The hidden genetic drivers of leaf rust resistance in wheat: a focus on disease resistance modifiers	
4:10 pm	<b>O37: Karthick Gajendiran</b> , King Abdullah University of Science and Technology, Saudi Arabia Metagenomics-assisted near chromosome level assembly and annotation of <i>Puccinia graminis</i> f. sp. <i>tritici</i> isolate UK01	
4:30 pm-6:30 pm	<b>Poster Session I (odd numbers)</b>	Orchard Common
6:30 pm	<b>BGRI “Leading the Way” Social</b>	Gage Isabel MacInnes
7:00 pm	<b>CPS President’s Reception</b>	University Centre Ideas Lounge
7:00 pm	<b>Student Social</b>	Gage Fort Camp Lounge

## Wednesday, 18 June 2025

7:00 am	Registration and Breakfast	Forest Sciences Atrium
<b>CPS Session – Genomics/Molecular Host-Pathogen Interaction</b> <b>Forest Sciences 1221</b> Chair: Shuanglong Huang		
8:30 am	<b>O38: Rajagopal Subramaniam</b> , AAFC Ottawa, Canada Pattern recognition receptors (PRRs) regulate resistance to Fusarium head blight	
8:50 am	<b>O39: Lone Buchwaldt</b> , AAFC Saskatoon, Canada Gene transformation with syntaxin of plants, lectin receptor kinase or executor1 provides resistance to the necrotroph pathogen, <i>Sclerotinia sclerotiorum</i>	
9:10 am	<b>*O40: Jacqueline Gonzalez-Sacoto</b> , University of Saskatchewan, Canada The dual role of <i>Olpidium brassicae</i> in clubroot disease development in canola	
9:30 am	<b>*O41: Caitlyn Kolb</b> , University of Saskatchewan, Canada Characterizing the ClToxB protein of <i>Colletotrichum lentis</i> through gene knockout via protoplast-mediated transformation	
9:50 am	Refreshment Break	Forest Sciences Atrium
<b>BGRI Session I</b> <b>Dempster 301</b> Chair: Maricelis Acevedo		
8:20 am	<b>Maricelis Acevedo</b> , Cornell University, USA Welcome note and introductions	
8:30 am	<b>O42: Dave Hodson</b> , CIMMYT, Nepal Current status of wheat disease surveillance and early warning	
8:50 am	<b>O43: Jacob Smith</b> , University of Cambridge, UK Forecasting wheat diseases in Africa and South Asia as part of the Wheat Disease Early Warning and Advisory System	
9:10 am	<b>O44: Jemal Tola Horo</b> , Ambo Agricultural Research Center, Ethiopia Wheat diseases research status in Ethiopia	

9:30 am	<b>O45: Paula Silva</b> , INIA, Uruguay First detection and genetic characterization of <i>Magnaporthe oryzae</i> pathotype Triticum in Uruguay	
9:50 am	Refreshment Break	Forest Sciences Atrium
<b>CPS Session - Genetics, Genomics, and Breeding for Resistance II</b> <b>Forest Sciences 1221</b> Chair: Jawad Awan		
10:20 am	<b>O46: Marwa Laribi</b> , University of Alberta, Canada Dissecting tan spot resistance in mediterranean durum wheat	
10:40 am	<b>* O47: Valentina Anastasini</b> , University of Saskatchewan, Canada Evaluation of wheat for resistance to bacterial leaf streak	
11:00 am	<b>O48: David Joly</b> , University of Moncton, Canada Screening for (and trying to understand) resistance and loss-of susceptibility to powdery mildew in <i>Cannabis sativa</i>	
11:20 am	<b>O49: Maria Antonia Henriquez</b> , AAFC Morden, Canada Decoding knockout resistance: Insights into a AAC Tenacious TILLING population	
11:40 am	<b>O50: Malini Jayawardana</b> , University of Manitoba, Canada Identifying and genetic mapping of resistance genes in wheat against bacterial leaf streak	
12:00 pm	Lunch	Forest Sciences Atrium
<b>BGRI Session II</b> <b>Dempster 301</b> Chair: Maricelis Acevedo		
10:20 am	<b>O51: Diane Saunders</b> , John Innes Centre, UK Enhancing our ability to rapidly detect and respond to wheat rust and blast outbreak	
10:40 am	<b>O52: Suraj Baidya</b> , Nepal Agricultural Research Center, Nepal Monitoring of wheat rust diseases and its significance in disease management in Nepal	
11:00 am	<b>O53: Naeela Qureshi</b> , CIMMYT, Mexico Battling wheat rust in Kenya: The rise of PstS16 race and GWAS-based insights into rust resistance in CIMMYT's elite germplasm	
11:20 am	<b>O54: Yoseph Alemayehu</b> , CIMMYT, Ethiopia Harnessing the power of free and open-source software for disease surveillance	
11:40 am	<b>O55: Charlotte Nellist</b> , NIAB, UK Breakdown of Yr15 resistance in the UK	
12:00 pm	Lunch	Forest Sciences Atrium
1:00 pm-3:00 pm	<b>Poster Session II (even numbers)</b>	Orchard Common
2:30 pm	Refreshment Break	Forest Sciences Atrium
<b>Plenary Session III</b> <b>Forest Sciences 1005</b> Chair: Curtis Pozniak		
3:00 pm	<b>O56: Matthew Moscou</b> , USDA-ARS, Minneapolis, USA Genetic architecture of host species specificity in grasses to fungal pathogens	
3:45 pm	<b>O57: James Brown</b> , John Innes Centre, UK	



	Durable and non-durable resistance: Bridging the gulf between academia and agriculture	
5:30 pm	<b>ICRPMC/CPS/BGRI Joint Cocktail Reception</b>	Alumni Centre Wong-Trainor
6:30 pm	<b>ICRPMC/CPS/BGRI Joint Banquet</b> Keynote Talk “100 years of Dominion Rust Lab” Brent McCallum and Tom Fetch ICRPMC Awards CPS Awards BGRI Awards Entertainment and Dancing - Rangla Punjab Arts Academy	Alumni Centre Jack Poole Hall

## Thursday, 19 June 2025

7:30 am	Registration and Breakfast	Gage Isabel MacInnes
8:00 am	CPS Incoming Board Meeting	Gage Ruth Blair D
<b>Plenary Session IV</b> <b>Gage Isabel MacInnes</b> <b>Chair: Ana Badea</b>		
8:00 am	<b>O58: Urmil Bansal</b> , University of Sydney, Australia Advances in wheat breeding: Meeting the challenges of rust resistance	
8:45 am	<b>O59: Christina Cowger</b> , USDA-ARS, Raleigh, USA Western hemisphere wheat powdery mildew reveals surprises	
9:30 am	Refreshment Break	Gage Fireplace Lounge
<b>ICRPMC Session – Genetics, Genomics, and Breeding for Resistance II</b> <b>Gage Isabel MacInnes</b> <b>Chair: Santosh Kumar</b>		
10:00 am	<b>O60: Diane Saunders</b> , John Innes Centre, UK Safeguarding wheat yields from cereal fungal invaders	
10:20 am	<b>O61: Jianhui Wu</b> , Northwest A & F University, China Genomic basis of stripe rust resistance in global common wheat: an information-rich landscape	
10:40 am	<b>O62: Roger Wise</b> , USDA-ARS, USA Protein-protein network hubs in host-pathogen interactions: Targets for next generation breeding	
11:00 am	<b>O63: Rajdeep Khangura</b> , University of Wisconsin-Madison, USA Life, the universe, and everything for \$42: WideSeq mapping of mutants	
11:20 am	<b>O64: Eduard Akhunov</b> , Kansas State University, USA Global genomic landscape of wheat-wheat rust interactions	
11:40 am	Lunch	Gage Isabel MacInnes
<b>ICRPMC Session – Genetics, Genomics, and Breeding for Resistance III</b> <b>Gage Isabel MacInnes</b> <b>Chair: Rajdeep Khangura</b>		
1:00 pm	<b>O65: Santosh Kumar</b> , AAFC Brandon, Canada Wheat breeding for durable rust resistance in the Canadian Prairies	

1:20 pm	<b>*O66: Ming Luo</b> , CSIRO, Australia Developing cisgenic resistance gene stacks for improved resistance to wheat stem rust disease
1:40 pm	<b>O67: Colin Hiebert</b> , AAFC Morden, Canada Genetic interactions that suppress or unlock rust resistance in wheat
2:00 pm	<b>O68: Ana Badea</b> , AAFC Brandon, Canada Development of Canadian barley with inbuilt resistance to stem rust
2:20 pm	<b>*O69: Jian Chen</b> , CSIRO, Australia Effector recognition and activation mechanisms of wheat NLR and kinase-fusion proteins
2:40 pm	Refreshment Break <span style="float: right;">Gage Fireplace Lounge</span>
<b>ICRPMC Session – Pathogen Surveillance and Global Landscape of Cereal Rusts</b> <b>Gage Isabel MacInnes</b> Chair: Paula Silva	
3:10 pm	<b>O70: Mogens Hovmøller</b> , Aarhus University, Denmark Recent long-distance dispersal events have strong impact on the global landscape of wheat yellow rust
3:30 pm	<b>*O71: Césarée Morier-Gxoyiya</b> , John Innes Centre, UK Re-parameterising wheat stem rust models to explore disease dynamics in a changing climate
3:50 pm	<b>O72: Gurcharn Singh Brar</b> , University of Alberta, Canada Genomes, Germs, and Grains: an overview of 13 years of stripe rust research in Canada
4:10 pm	<b>O73: Sajid Ali</b> , CIMMYT, Pakistan Population genetics structure of the south Asian <i>Puccinia striiformis</i> population
<b>ICRPMC Wrap-Up Session</b> <b>Gage Isabel MacInnes</b> Chair: Mogens Hovmøller	
4:30 pm	Proposal for hosting the 18 <sup>th</sup> ICRPMC
5:00 pm	ICRPMC Student and Post-Doc Presentation Awards
5:30 pm	Adjourn

## Friday, 20 June 2025

8:30 am	Meet at the UBC Forestry Parking Lot
9:00 am	Depart for the Field Tour
10:30 am	CBL Wheat Yellow Rust and FHB Screening Nursery Tour
12:00 pm	Lunch on site