

2025-26 CPS Workshop

CPS-hosted pre-conference workshop for Joint Meeting of the 17th International Cereal Rusts  
and Powdery Mildews Conference and Annual Meeting of the Canadian Phytopathological  
Society

<b>Title</b>	<b>Identification of phytopathogens using high-throughput sequencing data generated from environmental samples</b>
<b>Description</b>	<p>Working with any plant-associated microbe comes with the inherent challenge that no environment is sterile, and a plant's metabiome is teeming with life. When collecting field samples outside of the laboratory, the issue is compounded further. In this era of big data and easy access to high throughput sequencing, it is increasingly common for scientists to work with large sequence datasets which must first be evaluated for quality and potential contaminating reads. Sequence data files from environmental samples often contain genetic material from organisms not targeted by the experimental design. Understanding how to identify species from NGS sequencing data, or from targeted sequencing such as ITS spacers while properly accounting for common sources of error and bias is a valuable skill which can be of use to researchers who are beginning a new metagenomic project, or who are mid-way through analysing large and targeted datasets</p> <p>This workshop provides hands-on trainings on <i>in silico</i> approaches for identifying and classifying samples from sequencing data, drawing on experience with rust fungus-infected cereal samples collected from fields. However, the concepts we intend to explore in the workshop are broadly applicable so they can be tailored to specific species of interest.</p> <p>We will work through examples covering using non-targeted NGS data to identify unknown species via k-mer based approaches such as kraken and using the online interface Clasnip to identify species via ITS sequence.</p> <p><i><b>Special Notification:</b> This workshop is intended for participants already familiar with command-line tools and Linux operating systems. It is not suitable for beginners seeking basic Linux training. Participants should bring their own laptops equipped with either macOS or a Linux virtual machine installed via VirtualBox. Instructors will provide detailed instructions to all registrants on setting up the necessary working environment, which must be completed prior to attending the workshop.</i></p>
<b>Date</b>	June 15, 2025
<b>Duration</b>	2.5 – 3 hrs
<b>No. of participants</b>	Limited capacity to 50 participants
<b>Organisers</b>	Wen Chen, <a href="mailto:wen.chen@agr.gc.ca">wen.chen@agr.gc.ca</a> Maria Antonia Henriquez, <a href="mailto:mariaantonia.henriquez@agr.gc.ca">mariaantonia.henriquez@agr.gc.ca</a> Samuel Holden <a href="mailto:sholden1@ualberta.ca">sholden1@ualberta.ca</a>

<b>Leaders/Instructors</b>	Samuel Holden – lead David Kim – co-Lead Sean Formby – Teaching Assistant (TA) Brian Duarte - TA Rajdeep Khangura – TA  <i>Note: Additional TAs Are To-be-determined</i>
<b>Agenda &amp; Registration</b>	You may obtain the information of the workshop and reserve your place at CPS website: <a href="https://phytopath.ca/meetings/joint-meeting-of-the-17th-international-cereal-rusts-and-powdery-mildews-conference-and-annual-meeting-of-the-canadian-phytopathological-society/">https://phytopath.ca/meetings/joint-meeting-of-the-17th-international-cereal-rusts-and-powdery-mildews-conference-and-annual-meeting-of-the-canadian-phytopathological-society/</a>  <a href="https://icrPMC2025.ca">https://icrPMC2025.ca</a>  Registration fees: \$30 – All participants