

PLANT PATHOLOGY 250 SEMINAR SERIES



Speaker: Dr. Cynthia Gleason, Assistant Professor, Department of Plant Pathology, Washington State University

Seminar Title: “Enhancing potato resistance against root-knot nematodes”

Date: Thursday October 1st, 2020

Time: 12:00-12:50 pm

Seminar Presented Via Zoom:

<https://ucr.zoom.us/j/91605321917?pwd=UFBkRUVMbXVBQWN6c2lwSXdQc2l4UT09>

Meeting ID: 916 0532 1917 Passcode: PLPA250

Biography: Cynthia Gleason an assistant professor at Washington State University in the Department of Plant Pathology working in nematology. She obtained her PhD from UC Davis and then worked at both the John Innes and CSIRO before moving to Georg August University (Germany) as a Jr. Professor in 2011. She moved to Pullman in 2016 to continue her research on effectors in root-knot nematodes, particularly focusing on the root-knot nematode *Meloidogyne chitwoodi*, which is a significant threat to potato farmers in the region.

Abstract: Root-knot nematodes (*Meloidogyne* spp.) are small roundworms that infect plant roots and contribute to billions of dollars in agricultural losses each year. The Gleason lab is particularly interested in *M. chitwoodi*, the Columbia root-knot nematode (CRKN), which is present in the Pacific Northwest and infects potatoes. Our research focuses on developing new methods to easily identify CRKNs and new tools for potato resistance against these nematodes. We have studied the potato defense elicitor StPep1, and we have found that exogenous treatment of potato roots with synthetic StPep1 reduces root-knot nematode galling. We have transformed *Bacillus subtilis* to produce and secrete StPep1 to stimulate plant resistance against nematodes. In addition to immunostimulants, we are also studying nematode effectors and searching for potato susceptibility genes that can be modified to block successful nematode infections.

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