

Claudia Solis Lemus, Ph.D.

Associate Professor, Plant Pathology
University of Wisconsin–Madison

<https://solislemuslab.github.io/>

Friday, Feb 06, 2026

12:00-1:00 pm

Morgridge Hall Seminar Room 7560 or

Zoom:

<https://uwmadison.zoom.us/j/99879638765?pwd=wbtxoucEFiIPVCVc9SFbvKB1Av7Xk.1>

Passcode: 343271



Robust inference in the wild: from genes to soundscapes

Abstract: In this seminar I will present recent work from our lab that explores robust inference across diverse biological systems, from molecular sequences to ecological soundscapes. I will show how deep generative models can learn latent representations that enable accurate ancestral protein reconstruction, and how self-supervised learning can automatically detect and classify events in rainforest spectrograms without manual labeling. Moving beyond deep learning, I will introduce a consensus microbiome network framework that combines multiple network inference methods to extract a stable interaction signal, and discuss new advances in phylogenetic network inference that extend beyond simple network classes to more complex evolutionary scenarios.

Bio: I am an associate professor at the Wisconsin Institute for Discovery and the Department of Plant Pathology at the University of Wisconsin-Madison. Originally from Mexico City, I did my Undergraduate degrees in Actuarial Sciences and Applied Mathematics at ITAM. Then, I did a MA in Mathematics and a PhD in Statistics at the University of Wisconsin-Madison.



**School of Medicine
and Public Health**

UNIVERSITY OF WISCONSIN-MADISON