



## DR. WASHINGTON DA SILVA

### Small Things Considered: Using RNA Molecules and Nanotechnology to Control Plant Pathogens

Plant viral diseases cause over \$30 billion in global crop losses annually. Because there are no antiviral treatments, plant viral diseases are extremely hard to control, and farmers must choose resistant plant varieties or spray pesticides to control virus-carrying insects. The da Silva Lab group is working on developing antiviral therapeutics composed of target dsRNA molecules. In his seminar, Dr. da Silva will showcase the latest research from his group in synthesizing and characterizing different nanocarriers to protect dsRNAs from degradation to prolong their "vaccination effect" against plant viruses. He will also discuss the prospect of transferring this technology to managing other plant pathogens and using nanocarriers to deliver CRISPR/CAS Systems for gene editing.

**Fall 2023 PSLA  
LECTURE  
SERIES**

**October 2, 2023**

**PLS Building RM  
2107/2109**

**Time:**

**12PM**

[UMD Zoom](#)

**Graduate student  
lunch w/ speaker**

**1PM**

**PLS 2107/2109**

Washington da Silva is a virologist with expertise in virus diagnoses, bioinformatics, nanotechnology, and molecular biology. Dr. da Silva is an associate scientist at The Connecticut Agricultural Station (CAES), an adjunct associate professor at the University of Connecticut (UConn), and an associated faculty member at Yale University. He received his B.Sc. in agronomy engineering from the Universidade Federal de Viçosa (in Brazil), his M.Sc. in mycology and bacteriology from Louisiana State University, and his Ph.D. in virology from Cornell University. Today he will discuss some of his research on using nanoparticles as carriers of RNA molecules to control plant pathogen infections via RNA interference (RNAi).



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AND LANDSCAPE ARCHITECTURE