



2019 Potomac Division 75th Annual Meeting

The American Phytopathological Society

March 20 - 22, 2019

Atlantic Sands Hotel & Convention Center

Rehoboth Beach, Delaware

Meeting Theme: "75th Anniversary of the Potomac Division"

WEDNESDAY, MARCH 20, 2019

12:30–5:00 PM **Registration**

1:00-3:30 PM **Field Trip:** Dogfish Head Brewery

4:00-6:00 PM **Industry/Extension Meeting** (*Open to everyone*)

4:00-6:00 PM **CAREERS 101 Workshop for Graduate Students & Post-docs**

THURSDAY, MARCH 21, 2019

Morning

7:00 – 8:00 AM **Registration**

6:45 – 7:45 AM **Breakfast** (included with registration)

Scientific program

7:50 – 8:00 AM **Introductions** – APS Potomac President, Hillary Mehl, Virginia Tech

8:00 - 8:50 AM **Plenary Speaker:** APS President, Kira Bowen, Auburn University
Why APS Divisions Matter: 75 Years of the Potomac Division

8:50 - 10:15 AM **Symposium I:** Where have we been? Scientific contributions of Potomac Division members and units

8:50 – 9:20 AM "Perspectives from the west: a look a back at the historical contributions of WVU and the APS Potomac Division"
BILL MACDONALD & MANNON GALLEGLY, West Virginia University

9:20 – 9:35 AM "On the front line: Researching foreign and emerging plant pathogens at the FDWSRU"
MATTHEW TANCOS, FDWSRU, Fort Detrick, MD



- 9:35 – 9:50 AM “The history of plant pathology research at the Beltsville Agricultural Research Center”
CHRISTOPHER CLARKE, USDA-ARS, Beltsville, MD
- 9:50 – 10:05 AM “The NJDelMarVaPA Regional Meeting of Plant Pathologists: Camaraderie or a Subdivision of APS?”
NANCY GREGORY, University of Delaware
- 10:05 – 10:15 AM “History of plant pathology in Virginia”
ERIK & VERLYN STROMBERG, ANTON BAUDOUIN, & CURT ROANE, Virginia Tech
- 10:15 – 10:30 AM **Break I and Hang Posters**
- 10:30 – 12:30 PM **Symposium II:** Where are we now? Highlighting the diversity of early-career scientists in the Potomac Division
- 10:30 – 11:00 AM “Biology and management of fungal pathogens in the southeast and Mid-Atlantic”
ALYSSA KOEHLER, University of Delaware
- 11:00 – 11:30 AM “Specialty Crops Pathology at Virginia State University: Opportunities and Prospects”
ZELALEM MERSHA, Virginia State University
- 11:30 – 12:00 PM “Genome Editing Technologies: Novel Approaches to Create Disease-Resistant Crops”
BEHNAM KHATABI, University of Maryland Eastern Shore
- 12:00 – 12:30 PM “Developing genetic solutions to small grain diseases of the Mid-Atlantic region”
NIDHI RAWAT, University of Maryland

Afternoon

- 12:30 – 1:45 PM **Lunch and Business Meeting** (*meal included with registration*)
- Welcome:** Erik Ervin, Chair, Depart. Plant & Soil Sciences, University of Delaware
Divisional Forum Update: JoAnne Crouch, USDA-ARS
Business Meeting
- 2:00 – 3:00 PM **GRADUATE STUDENT PAPER COMPETITION PART I**
- 2:00 – 2:15 PM “Evaluation of niche clearing strategies from improvement of biological control agents for brown patch control in home lawn turf”
JOSEPH DOHERTY, University of Maryland, Silver Spring, MD and Joseph A. Roberts, University of Maryland, College Park, MD



- 2:15 – 2:30 PM “Determining the role of transcription factors essential for *in planta* survival of *Pantoea stewartii*”
HOLLY PACKARD, Brandi Thomas, Chase Mullins, Chastyn Smith and Ann M. Stevens, Virginia Tech, Blacksburg, VA
- 2:30 – 2:45 PM “Spread of *Verticillium* wilt fungi through invasive *Ailanthus altissima* (tree-of-heaven) stands in Virginia, USA”
RACHEL K. BROOKS, Antonius Baudoin, Scott Salom, Virginia Tech, Blacksburg, VA
- 2:45 – 3:00 PM “Delimitation and comparative pathogenicity of *Diplodia* spp. on *Quercus* spp. and their contribution to oak decline throughout the mid-Atlantic region”
SAVANNAH HAINES, West Virginia University, Morgantown, WV, Danielle Martin, USDA Forest Service, Northeastern Area State and Private Forestry, Morgantown, WV and Matthew T. Kasson, West Virginia University, Division of Plant and Soil Sciences, Morgantown, WV
- 3:00 – 3:30 PM **Break II**
- 3:30 – 4:15 PM **GRADUATE STUDENT PAPER COMPETITION PART II**
- 3:30 – 3:45 PM “Using the Oxford Nanopore Technologies MinION sequencer for rapid plant pathogen diagnosis”
MARCO ENRIQUE MECHAN LLONTOP¹, Parul Sharma^{1,2}, Song Li¹ and Boris A. Vinatzer¹, (1)School of Plant and Environmental Sciences, Virginia Tech, Blacksburg, VA, (2)Program of Genetics, Bioinformatics and Computational Biology, Virginia Tech, Blacksburg, VA
- 3:45 – 4:00 PM “Capturing the role of Reactive Oxygen Species during pathogenic fungal infection of barley and maize using the HyPer Sensor”
TIMOTHY CHAYA^{1,2}, Jessica Pancake², Danielle Mikolajewski², Jeffrey Caplan^{1,2} and Nicole M. Donofrio², (1)Delaware Biotechnology Institute, University of Delaware, Newark, DE, (2)Plant and Soil Sciences Department, University of Delaware, Newark, DE
- 4:00– 4:15 PM “Fungicide efficacy on Southeastern U.S. isolates of *Sclerotinia sclerotiorum*”
CHRISTOPHER JAMES GORMAN and Kira L. Bowen, Auburn University, Auburn, AL
- 4:15-5:00 PM **APS President's Update to Membership**

Evening

- 6:00 – 7:00 PM **Poster Session and Social (Cash bar and snacks)**
- 7:00 – 10:00 PM **Banquet and Awards** (*meal included with registration*)

Special guest speaker: Dr. Gary Wray, Fort Miles Historical Association



FRIDAY, MARCH 22, 2019

Morning

7:00 – 8:00 AM **Breakfast/Student Breakfast with the Symposium Speakers**
(Reserved tables for student breakfast) (Included with registration)

8:00 – 10:30 AM Symposium III: Where are we going? Hot topics in plant health research

8:00 – 8:30 AM “Using CRISPR technology in agriculture”
DAVID HAAK, Virginia Tech

8:30 – 9:00 AM “Site-specific management of spring dead spot”
JORDAN BOOTH, Virginia Tech

9:00 – 9:30 AM “The Long Road from Tolaas to Current Research on Bacterial Blotch of Mushrooms”
CAROLEE BULL, Pennsylvania State University

9:30 – 10:00 AM “Regulatory aspects of importing plants and plant products into the U.S.”
YILMAZ BALCI, APHIS

10:00 – 10:30 AM “The curious case of Delmarva produce food safety”
LAURA STRAWN & STEVE RIDEOUT, Virginia Tech

10:30 – 11:00 AM **Break III**

11:00 – 11:45 AM Contributed Paper Session

11:00 – 11:15 AM “Enhanced hypovirus transmission by engineered super donor strains of the chestnut blight fungus, *Cryphonectria parasitica*”
Cameron Stauder¹, Donald L. Nuss², Dongxiu Zhang³, Mark Double¹, William L. MacDonald¹, Amy Metheny¹, MATTHEW T. KASSON⁴, (1)West Virginia University, Morgantown, WV, (2)University of Maryland, Cambridge Springs, PA, (3)Institute for Bioscience and Biotechnology Research, University of Maryland, Rockville, MD, (4)West Virginia University, Division of Plant and Soil Sciences, Morgantown, WV

11:15 – 11:30 AM “Examining phosphite sensitivity of grape downy mildew in Virginia”
Xuewen Feng and ANTONIUS B. BAUDOIN, Virginia Tech, Blacksburg, VA

11:30 – 11:45 AM “*Fusarium* spp. associated with grain mold and mycotoxin contamination of sorghum in the mid-Atlantic U.S.”
Bhupendra Acharya, HILLARY MEHL, Virginia Tech Tidewater AREC, Suffolk, VA

11:45 – 12:00 PM **Departing Comments:** APS Potomac Division President

Post-meeting Field Trip: Guided tour of Historic Fort Miles, Cape Henlopen State Park (2-4 PM)



POSTER PRESENTATIONS

Posters are displayed on Thursday, March 21, 2019. Poster presenters, please hang your posters during Break I (10:00 to 10:30 AM) and take the posters down by the end of the banquet (10 PM).

Authors with an asterisk () before their name are participants in the undergraduate student competition.*

Virginia-Carolina Peanut iPiPE: Data Sharing to Improve Disease Risk Models

*CURTIS GUILFORD, Loni Askew, David B. Langston Jr. and Hillary L. Mehl, Virginia Tech Tidewater AREC, Suffolk, VA

Disruption of the genome of Rice Blast to identify genes involved in production of Reactive Oxygen Species"

*DANIELLE MIKOLAJEWSKI¹, Jessica Cooper² and Nicole M. Donofrio¹, (1)Plant and Soil Sciences Department, University of Delaware, Newark, DE, (2)University of Delaware, Newark, DE

Discovery of a new bunya-like virus in Pome fruit trees held under quarantine using high-throughput sequencing

*ANNA WUNSCH¹, Kristian Stevens², Martha M. Malapi-Wight¹, Bishwo Adhikari¹, Leticia Kumar¹, Robert P. Jones¹, Maher Al Rwahnih PhD³, Joseph Foster⁴ and Oscar Pietro Hurtado-Gonzales¹, (1)USDA-APHIS Plant Germplasm Quarantine Program, Beltsville, MD, (2)Department of Evolution and Ecology, University of California-Davis, Davis, CA, (3)University of California-Davis, Davis, CA, (4)USDA-APHIS, Plant Germplasm Quarantine Program, Beltsville, MD

Determining the Role of *iscR* During *Pantoea stewartii* Infection of Corn Through Reverse Genetics and Plant Assays

*CHASE MULLINS, Holly Packard and Ann M. Stevens PhD, Virginia Tech, Blacksburg, VA

Quantification of *Fusarium verticillioides* Transmission to Corn via Stink Bug Feeding using Real-time PCR

*ALEX VARAKSA^{1,2}, Joseph Opoku¹, John M. McDowell³ and Hillary L. Mehl¹, (1)Virginia Tech Tidewater AREC, Suffolk, VA, (2)Norfolk State University, Norfolk, VA, (3)Virginia Tech, Blacksburg, VA

Evaluation of *Trichoderma* as a biological control agent against *Calonectria pseudonaviculata* and *Calonectria henricotiae*

Nina Shishkoff, USDA ARS FDWSRU, Frederick, MD and *REESE WHITESELL, USDA ARS FDWSRU, Fort Detrick, MD

Can boxwood leaf litter or mulch support colonization and growth of *Trichoderma*?

*CELESTIN MUNYANEZA^{1,2}, Nicholas LeBlanc^{1,3}, Jo Anne Crouch³, (1)Oak Ridge Institute for Science and Education, ARS Research Participation Program, Oak Ridge, TN, (2)Hammond High School, Columbia, MD, (3)United States Department of Agriculture, Agricultural Research Service, Mycology and Nematology Genetic Diversity and Biology Laboratory, Beltsville, MD



Effect of Photoperiod on Sporangia and Zoospore Production by *Phytophthora ramorum* on *Rhododendron* 'Cunningham's White'

PAUL W. TOOLEY and Marsha Browning, USDA ARS FDWSRU, Fort Detrick, MD

APHIS-PPQ Proficiency Testing for Regulatory Plant Pathogen Diagnostics

Snezana Haymes¹, Patrick J. Shiel², Geoffrey Dennis², TANISHA ROBINSON¹, Pratima Gautam¹ and Vessela A. Mavrodieva¹, (1)USDA-APHIS-PPQ-S&T-CPHST, Beltsville, MD, (2)USDA-APHIS-PPQ-S&T-CPHST, Raleigh, NC

Effects of red light on growth and sporangial development in *Phytophthora phaseoli* and *Phytophthora capsici*

ADAM GINN¹, Nancy F. Gregory¹, Terence Mhora¹, Thomas A. Evans¹ and Nicole M. Donofrio², (1)University of Delaware, Newark, DE, (2)Plant and Soil Sciences Department, University of Delaware, Newark, DE

Genome-wide SNPs reveal multiple genetic clades across global populations of the clonal boxwood blight pathogen *Calonectria pseudonaviculata*

NICHOLAS LEBLANC, USDA, Beltsville, MD and Jo Anne Crouch, USDA ARS, Beltsville, MD

Evaluation of Cultivar Susceptibility and Fungicide Application Method to Manage *Phytophthora* Fruit Rot on Watermelon

TAYLOR WALTER, University of Maryland, College Park, MD, Gordon Johnson, University of Delaware, Georgetown, DE and Kathryn L. Everts, University of Maryland, College Park, Salisbury, MD

Genome-scale phylogenetics reveals a monophyletic Zoopagales (Zoopagomycota, Fungi)

WILLIAM J. DAVIS¹, Kevin Amses², Gerald Benny³, Derreck Adam Carter-House⁴, Ying Chang⁵, Igor Grigoriev⁶, Matthew E. Smith³, Joseph Spatafora⁵, Jason Stajich⁷ and Timothy James⁸, (1)USDA-ARS, Beltsville, MD, (2)University of Michigan, Ann Arbor, MI, (3)Gainesville, FL, (4)University of California, Riverside, CA, (5)Department of Botany and Plant Pathology, Oregon State University, Corvallis, OR, (6)US DOE Joint Genome Institute, Walnut Creek, CA, (7)University of California Riverside, Riverside, CA, (8)Univ of MI, Ann Arbor, MI

Analysis of the *Rathayibacter toxicus* Secretome using LC-MS/MS

MICHAEL B. MCMAHON¹, Melissa Carter², Doug G. Luster¹, Wesley Garrett³, Elizabeth E. Rogers¹ and Matthew Tancos⁴, (1)USDA ARS FDWSRU, Fort Detrick, MD, (2)Foreign Disease-Weed Science Research Unit, USDA/ARS, Fort Detrick, MD, (3)USDA-ARS, Beltsville, MD, (4)Foreign Disease-Weed Science Research, USDA-ARS, FORT DETRICK, MD

Germination and survival of oospores of *Plasmopara obducens* after storage at -80°C

NINA SHISHKOFF, USDA ARS FDWSRU, Frederick, MD and Emily Smallwood, USDA ARS FDWSRU, Fort Detrick, MD

Streptomyces in potato production: common scab pathogens and potential biocontrol strains

CHRISTOPHER CLARKE, USDA-ARS, Beltsville, MD



Evaluation of fungicide programs and resistant varieties for management of downy mildew in processing cucumber

JAKE G. JONES¹, Kathryne L. Everts¹ and Gordon Johnson², (1)University of Maryland, College Park, Salisbury, MD, (2)University of Delaware, Georgetown, DE

Development of a *Septoria* leaf spot resistant home-garden tomato

MAHFUZ RAHMAN and Mannon E. Gallegly Jr., West Virginia University, Morgantown, WV

Effect of temperature on disease parameters of *Calonectria pseudonaviculata* & *C. henricotiae*

OLIVIA STANLEY^{1,2} and Nina Shishkoff², (1)Hood College, Frederick, MD, (2) USDA ARS FDWSRU Frederick, MD

Utilization of the HyPerSensor in *Magnaporthe oryzae* to identify genes related to Reactive Oxygen Species

JESSICA G. COOPER-PANCAKE, Danielle Mikolajewski, Timothy Chaya, Jeffery Caplan, and Nicole M. Donofrio, University of Delaware, Newark, DE



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