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## Multi-Scale Influence of Weather on Pathogens and Disease Development

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### Synopsis

Plant disease progress is determined by a set of dynamic interactions between hosts, pathogens and biophysical environments. These interactions occur at multiple spatial and temporal scales, resulting in complex systems. In this session we will focus on the influence and importance of weather conditions (at multiple scales) on disease development, forecasting, and management. Talks will cover interactions at the intra-field/canopy scale, through to landscape connectivity and influence of continental/global weather conditions on disease development. The concepts, approaches, and data required to study the influence of weather at multiple scales on disease development will be presented.

**Tuesday, July 31, 2018**

**08:30 - 10:30**

 *Hynes Convention Center - Room 312*

### Organizers

[Odile Carisse](#)

*Agric & Agri-Food Canada*

[Ian M. Small](#)

*University of Florida*

### Subject Matter Committee Chairperson

[Daniel J. Anco](#)

*Clemson University*

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## Papers

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[The value of information across scales for weather-based management decisions](#)

**Karen A. Garrett**, *Plant Pathology Department, University of Florida, Gainesville, FL; Emerging Pathogens Institute, Gainesville, FL; Institute for Sustainable Food Systems, Gainesville, FL*

**Tuesday, July 31, 2018**

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[Can rainfall be a useful predictor of epidemic risk across temporal and spatial scales?](#)

**Emerson M. Del Ponte**, *Universidade Federal de Vicosa, Vicosa, BRAZIL, Adam H. Sparks, University of Southern Queensland, Toowoomba, AUSTRALIA, Nik J. Cunniffe, University of Cambridge, Cambridge, UNITED KINGDOM*

and Laurence V. Madden, The Ohio State University, Wooster, OH

**Tuesday, July 31, 2018**

**08:50 - 09:10**

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Upscaling models, downscaling data or the right model for the right scale of application?

**Adam H. Sparks**<sup>1</sup>, Karen A. Garrett<sup>2</sup>, Christopher A. Gilligan<sup>3</sup>, Andrew Nelson<sup>4</sup> and Keith Pembleton<sup>1</sup>, (1)University of Southern Queensland, Toowoomba, AUSTRALIA, (2)Plant Pathology Department, University of Florida, Gainesville, FL, (3)University of Cambridge, Cambridge, UNITED KINGDOM, (4)University of Twente, Enschede, NETHERLANDS

**Tuesday, July 31, 2018**

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Stability of the Spread Parameter of the Power Law Model for Dispersal Gradients of Disease Epidemics

**Peter Sande Ojiambo**<sup>1</sup>, Gent David<sup>2</sup>, Lucky Mehra<sup>3</sup>, David Christie<sup>1</sup> and Roger D. Magarey<sup>1</sup>, (1)North Carolina State University, Raleigh, NC, (2)USDA ARS, Corvallis, OR, (3)US Horticultural Research Lab, Fort Pierce, FL

**Tuesday, July 31, 2018**

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Using Predictions from a Fusarium Head Blight Risk Assessment Tool as Predictors of the risk of Deoxynivalenol Contamination of Wheat Grain

**Wanderson Bucker Moraes**<sup>1</sup>, Erick D. De Wolf<sup>2</sup>, Denis A. Shah<sup>2</sup>, Jorge David Salgado<sup>1</sup>, Laurence V. Madden<sup>1</sup> and Pierce A. Paul<sup>1</sup>, (1)The Ohio State University, Wooster, OH, (2)Kansas State University, Manhattan, KS

**Tuesday, July 31, 2018**

**09:50 - 10:00**

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Evaluation of weather-based foliar fungicide applications for soybean in the mid-Atlantic U.S

**Tian Zhou**<sup>1</sup>, David L. Holshouser<sup>1</sup> and Hillary L. Mehl<sup>2</sup>, (1)Virginia Tech, Suffolk, VA, (2)Virginia Tech Tidewater AREC, Suffolk, VA

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