

**JAPANESE ENCEPHALITIS VIRUS SYMPOSIUM SUMMARY**  
**Center for the Ecology of Infectious Diseases (CEID), University of Georgia**  
**Global Infectious Disease Intelligence Consortium (GIDIC), University of Georgia**  
**John M. Drake, Director of the CEID and GIDIC**  
**November 3, 2022**

**Summary:** The symposium [Japanese Encephalitis Virus: Emerging Global Threat to Humans and Livestock \(October 17 - 19, 2022\)](#) produced by the Center for the Ecology of Infectious Diseases and the Global Infectious Disease Intelligence Consortium, University of Georgia, successfully brought together leaders in academia, government, and industry to discuss both the 2022 Australian Japanese encephalitis virus (JEV) outbreak that impacted the Australian swine industry and the need to develop JEV surveillance and JEV outbreak response plans to support the North American pork industry if JEV is discovered in the United States.

Symposium registrants included 27 in-person and 129 virtual attendees from Australia, Canada, France, Mexico, the Philippines, Singapore, the United States, and Vietnam. Participants represented academia, federal and state governments, industry, non-governmental organizations, and press.

The chronological order of symposium speakers included:

- [Dr. John M. Drake, Director of the CEID and GIDIC, University of Georgia](#)  
“JEV Symposium Welcome Address”
- [Dr. Mark Schipp, Australian Chief Veterinary Officer](#)  
“Australia’s Response to the 2022 Japanese Encephalitis Virus Outbreak and Lessons Learned”
- [Drs. Bernie Gleeson](#) and [Kirsty Richards, SunPork Group Veterinarians, Australia](#)  
“Japanese Encephalitis Virus - an Australian Industry Experience”
- [Dr. Natalia Cernicchiaro, Associate Professor of Epidemiology, Kansas State University](#)  
“A Model of JEV Importation Risk”
- [Dr. John M. Drake, Director of the CEID and GIDIC, University of Georgia](#)  
“Path to a Spread Model for JEV in North America”
- [Dr. Michael F. Neafsey, Assistant Director, Animal Welfare Operations, USDA-APHIS](#)  
“The Federal Strategy for Animal Surveillance, Information Sharing, and Disseminating Guidance”
- [Charles Taylor, Associate Wildlife Biologist, Graduate Research Assistant, Savannah River Ecology Laboratory \(SREL\), University of Georgia](#)  
“History, Management, and Current Research on Wild Pigs (*Sus scrofa*) in the United States”

- [Anna Willoughby, PhD Candidate, Odum School of Ecology, University of Georgia](#)  
“Swine Pathogen Horizon Scan with Estimates and Experts”
- [Dr. David Williams, Australian Centre for Disease Preparedness, CSIRO](#)  
“Arbovirus Surveillance in Australia: Pivoting to JEV”
- [Diyar Mailepessov, National Environment Agency, Singapore](#)  
“JEV Ecology in Singapore”

The panel discussion “What Happens if JEV Comes to North America” included:

- [Dr. John M. Drake, Moderator, Director of the CEID and GIDIC](#)
- [Dr. Susan Hills, Medical Epidemiologist, US Centers for Disease Control and Prevention](#)
- [Dr. Michael F. Neafsey, USDA-APHIS](#)
- [Dr. Paul Sundberg, Executive Director, Swine Health Information Center \(SHIC\)](#)

**Conclusions:** There was consensus among participants that post-coordinating activities should be maintained after the symposium to ensure active and timely communication. High-priority activities identified during “JEV Known and Unknown” and “JEV Data” brainstorm sessions included:

- Ecological research on JEV should be conducted to understand:
  - Global distribution of competent reservoir species such as Ardeid birds.
  - Global distribution of competent amplifying hosts such as domestic and wild pigs (*Sus scrofa*).
  - Global distribution of competent mosquito vectors.
- Mapping the spatial distribution of genotypes I through V.
- Modeling the spatiotemporal spread of the 2022 Australian JEV outbreak.
  - Collecting and cataloging pertinent JEV data with sufficient time resolution was identified as a predominant objective.
- Models of importation risk into the United States should be updated.
- A model should be developed for the possible spatiotemporal spread of JEV in the United States.
  - Since JEV has not yet been introduced to North America, it was proposed that a retrospective model of West Nile virus be developed; such a model could then be adapted for JEV in the future.
- Developing robust disease preparedness plans to control a JEV outbreak in the United States.
- Assessing the continued development and distribution of JEV swine vaccines.
- Modeling the potential economic impact of a JEV outbreak in the United States.

**Action Items:** The CEID and the [Swine Health Information Center \(SHIC\)](#) have agreed to develop a JEV Information Sharing Network website that will be used to catalog pertinent information that will be accessible to JEV symposium speakers, in-person and virtual attendees, and others who become interested in JEV ecology. With financial support from SHIC, the CEID will launch the JEV Information Sharing Network website in the near future. The website launch will be communicated via email and shared with all symposium speakers and attendees.

**Symposium Registrant Information:** Pursuant to the Georgia Open Records Act, some symposium registrant information can be shared. If you would like to receive a copy of in-person and virtual symposium registrant information, please contact Mr. Bob Taylor, Open Records Manager, University of Georgia ([btaylor@uga.edu](mailto:btaylor@uga.edu)).

**Concluding Remarks:** The CEID and GIDIC thank everyone who attended and participated in the symposium Japanese Encephalitis Virus: Emerging Global Threat to Humans and Livestock (October 17 - 19, 2022). The CEID especially thanks the Swine Health Information Center, [Boehringer Ingelheim Animal Health](#), and the University of Georgia for their contributions.

Dr. John M. Drake ([jdrake@uga.edu](mailto:jdrake@uga.edu))

Director, Center for the Ecology of Infectious Diseases, University of Georgia

Director, Global Infectious Disease Intelligence Consortium, University of Georgia