

**INTERNATIONAL COURSE ON DENGUE AND OTHER EMERGING ARBOVIRUSES. AUGUST 2024 THEORETICAL COURSE/CONFERENCES/SYMPOSIA/ROUND TABLES**

MONDAY 19		TUESDAY 20		WEDNESDAY 21		THURSDAY 22		FRIDAY 23		
8:30	Registration	8:20 Theater	<b>Conference:</b> Guideline for the clinical diagnosis and treatment of dengue, chikungunya and Zika. Osvaldo Castro, IPK, Cuba	8:30 Theater	<b>Conference:</b> The complex interactions between dengue and Zika virus immunology and epidemiology. Eva Harris. Berkeley University, USA	8:30 Theater	<b>Conference:</b> Innovative tools and approaches to prevent and control vector-borne diseases on the most vulnerable F. Fouque, TDR/WHO	8:30 Theater	<b>Conference:</b> Mechanisms of emergence & propagation of diseases; epidemic models using genomic data. Ana Bento, Cornell University USA	
9:45 Theater	Welcome Remarks	8:50 Theater	<b>Round table:</b> The clinic of dengue, Zika and chikungunya. Differential diagnosis. Oropouche Fever. Daniel González, IPK, Cuba, Kleber Luz, PAHO, André Ricardo Ribas Freitas, Brazil	9:00 Theater	<b>Conference:</b> What do we know about the quantification and risk co-factors for congenital anomalies in ZIKV infections? Thomas Jaenisch, Heidelberg University, Germany	9:10 Theater	<b>Round table: Oropouche fever.</b> María G. Guzmán, IPK, Cuba. Carilda Peña, MINSAP, Cuba, Felipe Naveca, Brasil, Ana Cecilia Ribeiro, rasil, José R de Armas, Minsap, Cuba, Mayling Alvarez, IPK, Cuba, Rosario Gravier, Melissa Pérez, Ariamys Companioni, IPK, Cuba	9:00 Theater	<b>Conference:</b> Evidence of Zika circulation and coherence of temporal-spatial patterns with dengue. Gonzalo Vazquez Prokopec, Emory University, Milton García Borroto, Universidad de La Habana, Cuba	
				9:20 Theater	<b>Discussion</b>			9:30 Theater	<b>Symposium:</b> New evidences on human mobility's role in dengue epidemics' dispersion. Veerle Vanlerberghe, ITM, Belgium, Maria Eugenia Toledo Romani, IPK, Cuba, Nildimar Honorio, FIOCRUZ, Brazil, Pablo Manrique, UADY, Yucatan, Mexico	
10:00 Theater	<b>Conference:</b> Confronting epidemiological emergencies in Cuba. Minister of Public Health	10:00 Theater	<b>Round table:</b> How to avoid death from dengue? Angel Alvarez, PAHO, Kleber Luz, PAHO, Ana Medina. GT-Arbovirus International, Eric Martinez & Osvaldo Castro, IPK, Cuba	9:35 Theater	<b>Round table: Lessons in the dengue response emergence. Country experiences.</b> Guillermo Gonzalvez, OPS, Livia Vinhal, Ministerio de Salud, Brasil, <b>COL (TBD)</b> , Carlos Saenz, Ministerio de Salud, Nicaragua, Martha Torales, Ministerio de Salud, Paraguay	9:10 Room 7	<b>Symposium:</b> OMICs approaches to Host-Flavivirus Interaction symposium . Beatriz Sierra, IPK, Cuba, Xaveer Van Ostade, UA, Belgium, Lissette Gil, IPK, Cuba, Aleem Siddiqui, California University USA, Ana B. Pérez, IPK, Cuba	9:00 Room 7	<b>Symposium:</b> The OMICs & the Artificial Intelligence in the flaviviruses research. Beatriz Sierra, IPK, Cuba, Xaveer Van Ostade, Wim Vander Bergh, UA, , Tania Valdez, CEADEN, Cuba, Ana B. Perez, Waldemar Baldoquin, IPK, Cuba, Hichem Sahi, VUB, Belgium	
<b>10:30</b>	<b>Coffee break</b>	<b>11:15</b>	<b>Coffee break</b>	<b>11:15</b>	<b>Coffee break</b>	<b>11:15</b>	<b>Coffee break</b>	<b>10:30</b>	<b>Coffee break</b>	
11:00 Theater	<b>Conference:</b> Dengue Global Emergence, 2023-2024. Diana Rojas. WHO	11:30 Theater	<b>Conference:</b> Dengue in times of COVID-19. Wilmer Villamil, Colombia	11:30 Theater	<b>Round table:</b> Genomic surveillance. Leticia Franco, PAHO, Vivian Kouri, IPK, Cuba, Luiz Alcantara, FIOCRUZ, Brazil, Maria Alejandra Morales, I. Maiztegui, Argentina, Melisa Perez, IPK, Cuba	11:30 Theater	<b>Round table:</b> Other emerging arboviruses. Gretza Sanchez, MINSAP, Cuba, Maria A Morales, I. Maiztegui, Argentina, Erin Staples, CDC, USA, Cornelius Prospeau, Carol Davila University of Medicine & Pharmacy, Romania Silvia Serrano, IPK, Cuba, Diana Ferriol, CPGM, Cuba	11:00 Theater	<b>Symposium:</b> New evidences on human mobility's role in dengue epidemics' dispersion. (cont.)	
11:30 Theater	<b>Conference:</b> Current epidemiological situation of dengue, Zika & chikungunya in the American region. Jose Cruz Rodriguez, PAHO	11:50 Theater	<b>Conference:</b> Dengue warning signs: How good are they at predicting severe dengue a day in advance? Thomas Jaenisch, Heidelberg University, Germany	10:45 Room 7		<b>Symposium:</b> OMICs approaches to Host-Flavivirus Interaction symposium (cont.)		11:00 Room 7		<b>Symposium</b> The OMICs and the Artificial Intelligence in the flaviviruses research (cont.)
12:00 Theater	<b>Conference:</b> Emerging arboviruses. Jairo Méndez, PAHO	12:10 Theater	<b>Conference:</b> Clinical classification of cases: 15 years later. Olaf Horstick, Heidelberg University, Germany						11:30 Room 6	<b>Round table:</b> Entomovirologic surveillance. Country experiences. Ana C Ribeiro, Instituto Evandro Chagas, Brazil, Leticia Franco, PAHO, Gladys Gutiérrez, IPK, Cuba, Betzabe Mara Rodriguez, CNDR, Nicaragua
12:30 Theater	<b>Discussion</b>	12:30	<b>Discussion</b>							
<b>12:45</b>	<b>LUNCH</b>	<b>12:45</b>	<b>LUNCH</b>	<b>13:00</b>	<b>LUNCH</b>	<b>13:00</b>	<b>LUNCH</b>	<b>12:50</b>	<b>LUNCH</b>	
14:00 Theater	<b>Conference:</b> Lessons learned during the COVID-19 pandemic to strengthen our preparedness and response to arbovirus. Maria Van Kerkhove, WHO	14:00 Theater	<b>Conference:</b> Pathophysiology of dengue. Eric Martínez, IPK, Cuba	13:30 Biblioteca	TDR/IPK meeting. Climatic change and its influence on the vector control strategies (by invitation)	14:00 Theater	<b>Symposium:</b> Arbovirus vectors and their control. María C Marquetti, IPK, Cuba, Haroldo Bezerra, PAHO, Anna Bella Failloux, Instituto Pasteur, France, Carilda Peña, MINSAP, Cuba, Gladys Gutiérrez, IPK, Cuba, Olaf Horstick,	14:00 Theater	Panel: Theoretical-methodological approaches from the Social Sciences for dengue and other emerging arbovirus prevention and control initiatives. Dennis Pérez, IPK, Cuba, Linda Lloyd, USA, Yisel Hernández, IPK, Cuba,	
		14:30	<b>Conference:</b> The Flavivirus NS1	14:00	<b>Conference:</b> Global arbovirus initiative:					

DURING  
THEATER

		Theater	viral toxin: Novel mechanisms of pathogenesis. Eva Harris, University of Berkeley, USA	Theater	two years of progress in its implementation. Diana Rojas Alvarez. WHO		Heidelberg University, Germany, George Dimopoulos, John Hopkins University, USA, Nelson Grisales, World Mosquito Program, Norma Pavia, Pablo Manrique, UADY, México, Domingo Montada, Maureen Leyva, IPK, Cuba		Adolfo Alvarez, INHEM, Cuba
14:30 Theater	<b>Conference:</b> Dengue Laboratory diagnosis. María G. Guzmán, IPK, Cuba								
15:00 Theater	<b>Conference:</b> Relevance of the One Health approach for arboviral diseases. Andrea Vicari, PAHO	15:00 Theater	<b>Conference:</b> Arboviral threats for Europe. Anna-Bella Failloux. Pasteur Institute, France.	14:30 Theater	<b>Symposium:</b> Advances in dengue vaccines. Rosa Ramirez, IPK, Cuba, Jairo Méndez, PAHO, Gabriela Paz Bailey, CDC Puerto Rico, Anna Durbin, Johns Hopkins University, USA, Steve Whitehead, NIH, USA, Aravinda da Silva, Universityd Carolina del Norte, USA, Iris Valdes, CIGB, Cuba, Carsten S Larsen, Dinamarca, Ana Cecilia Ribeiro, Instituto Evandro Chagas, Brazil, María Alejandra Morales, Instituto Maiztegui, Argentina.	14:00 Room 7	<b>Symposium:</b> Advances and challenges in the diagnosis of dengue and other emerging arboviruses. Mayling Alvarez, IPK, Cuba, Leticia Franco, PAHO, Kevin Arien, IMT, Belgium, Darien Ortega, CIE, Cuba, Lionel Gresh, PAHO, María Alejandra Morales, Instituto Maiztegui, Argentina, Felipe Naveca, FIOCRUZ, Brazil, Prem Lakshmanane, North Carolina University, USA, Luiz Alcantara, FIOCRUZ, Brazil.		<b>Closing of the theoretical course</b> María G. Guzmán, IPK, Cuba
15:30 Theater	<b>Discussion</b>	15:30 Theater	<b>Discussion</b>						
15:45	<b>Coffee break</b>	16:00	<b>Coffee break</b>	15:45	<b>Coffee break</b>	15:30	<b>Coffee break</b>	16:30	<b>Coffee break</b>
16:00 Theater	<b>Conference:</b> <i>Aedes aegypti</i> (Diptera:Culicidae) surveillance: Advances and challenges. Maria C. Marquetti, IPK, Cuba	16:15 Theater	<b>Round table:</b> Entomological surveillance and control of <i>Aedes aegypti</i> . Oscar Mesones, PAHO, Haroldo Bezerra, PAHO, Rene Gato, IPK, Cuba, Poliana Da Silva Lemos, Ministerio de Salud, Brazil	16:00 Theater	<b>Symposium:</b> Advances in dengue vaccines (cont.)	16:00 Theater	<b>Symposium:</b> Arbovirus vectors and their control (cont.)		
16:30 Theater	<b>Round table:</b> Advances in the epidemiological surveillance in the Americas. Fabiano Pimenta, PAHO, Douglas Elizondo, PAHO, José Rodríguez, PAHO, COL (TBD)			17:30 Theater		<b>Conference:</b> Dengue virus interactome in human plasma distinguishes between viral serotypes and provides novel targets for antiviral Research. Vivian Huerta, CIGB, Cuba		16:00 Room 7	
17:45 Theater	<b>Discussion</b>	17:30 Theater	<b>Conference:</b> Opportunities and Challenges of virological surveillance in the American region. Jairo Méndez, PAHO						
19:00	<b>Welcome Cocktail</b>	18:00	<b>Discussion</b>						

PRESENTATIONS, SIMULTANEOUS INTERPRETING WILL BE AVAILABLE

## Symposia and Round Tables, 19-23 August. FIRST WEEK

### 1. ROUND TABLE: ADVANCES IN THE EPIDEMIOLOGICAL SURVEILLANCE IN THE AMERICAS. MONDAY 19, 16:30-18:00

**Coordinador: Fabiano Pimenta, PAHO**

- Collaborative surveillance. Douglas Elizondo, PAHO
- Presentation of the new surveillance guideline. José Rodríguez, PAHO
- Colombian experience. **TBD**

### 2. ROUND TABLE: THE CLINIC OF DENGUE, ZIKA AND CHIKUNGUNYA. DIFFERENTIAL DIAGNOSIS. OROPOUCHE FEVER. TUESDAY 8:50-10:00

**Coordinador: Daniel Gonzalez, IPK, Cuba**

Kleber Luz, PAHO, André Ricardo Ribas Freitas, Brazil

### 3. ROUND TABLE: HOW TO AVOID DEATH FROM DENGUE? TUESDAY 10:00-11:15

**Coordinator: Angel Álvarez, PAHO, El Salvador**

- Clinical cooperation. Ana Medina, GT-Arbovirus international
- Analysis of fatalities by dengue. Kleber Luz, PAHO
- Cuban experience. Eric Martínez, Osvaldo Castro, IPK

### 4. ROUND TABLE: ENTOMOLOGICAL SURVEILLANCE AND CONTROL OF AEDES AEGYPTI. TUESDAY 16:00-17:30

**Coordinadores: Oscar Mesones, PAHO**

- The risk stratification and the new technologies in surveillance & control for *Aedes aegypti*. Haroldo Bezerra, PAHO
- Country experiences in the use of risk stratification and the new technologies  
-Cuba. René Gato, IPK, Cuba  
-Brazil. Poliana Da Silva Lemos, Ministerio de Salud, Brazil

### 5. ROUND TABLE: LESSONS IN THE DENGUE RESPONSE EMERGENCE. COUNTRY EXPERIENCES. WEDNESDAY 21, 9:35-11:15.

**Coordinador: Guillermo Gonzalvez, PAHO.**

- Brazil experience. Livia Vinhal, Ministerio de Salud de Brazil

- Colombia experience. **TBD**
- Nicaragua experience. Carlos Saenz, Ministerio de Salud, Nicaragua
- Paraguay experience. Martha Torales, Ministerio de Salud, Paraguay

#### **6. ROUND TABLE: GENOMIC SURVEILLANCE, WEDNESDAY 21, 11:30-13:00**

**Coordinators: Leticia Franco, PAHO, Vivian Kouri, IPK, Cuba**

- Genomic surveillance as a component of integrated surveillance. Leticia Franco, PAHO
- Genomic Surveillance in Cuba. Vivian Kouri, IPK, Cuba
- Building capacities in arbovirus genomic surveillance, south-south cooperation. Luiz Alcantara, Fiocruz, Brazil.
- Results of arbovirus genomic surveillance in Argentina. Alejandra Morales. Maiztegui Institute, Argentine
- Results of dengue genomic surveillance in Cuba. Melissa M. Pérez, IPK, Cuba

#### **7. SYMPOSIUM: ADVANCES IN DENGUE VACCINES, WEDNESDAY, 14:30-17:30**

**Chairs: Rosa Ramírez, IPK, Cuba, Jairo Méndez, PAHO**

- Advances and challenges of a dengue vaccine. Gabriela Paz Bayley, CDC, Puerto Rico (**recorded**)
- Dengue & Zika Controlled Human Infection Models for Development of Countermeasures.” Anna Durbin, Johns Hopkins Bloomberg School of Public Health, USA
- NIH vaccine, Steve Whitehead, NIH, USA
- Current state of dengue vaccines, lessons learned and the path forward. Aravinda DeSilva, North Carolina University, USA (**recorded**)
- Formulations of a recombinant protein combined with nucleotide-based immunopotentiators as a vaccine candidate against Zika. Iris Valdes, CIGB, Cuba
- Zika Vaccine advances and challenges. Carsten Schade Larsen, Aarhus University Hospital, Denmark
- Challenges of dengue diagnosis in the context of a vaccine introduction. Ana Cecilia Ribeiro Cruz, Evandro Chagas Institute, Brazil; Maria Alejandra Morales, Maiztegui Institute, Argentine; Jairo Mendez, PAHO

#### **8. ROUND TABLE: OROPOUCHE FEVER. THURSDAY 22, 9:00-11:15**

**Coordinators: Maria G Guzman, IPK, Carilda Peña, Minsap, Cuba**

- New findings in the Oropouche study
  - The virus, its evolution & expansion. Felipe Naveca, FIOCRUZ, Brazil
  - Epidemiological observations of Oropouche virus in Brazil. Ana Celicia Ribeiro, Instituto Evandro Chagas, Brazil
- Oropouche Fever in Cuba
  - Outbreak characterization. Jose R de Armas, Minsap, Cuba
  - Clinical characterization of cases. Osvaldo Castro, IPK, Cuba
  - Laboratory studies. Mayling Alvarez, IPK, Cuba
  - Molecular characterization of the agent. Rosario Gravier, Melissa Pérez. IPK, Cuba

- Entomological studies. Ariamys Companioni, IPK, Cuba
- Strategy of surveillance and control. Carilda Peña, Minsap, Cuba

#### **9. SYMPOSIUM: OTHER EMERGING ARBOVIRUS, THURSDAY 22, 11:30-13:00**

**Chairs: Gretza Sanchez, Minsap, Cuba, Maria Alejandra Morales, Maiztegui Institute, Argentine**

- Western equine encephalitis in Argentine, Alejandra Morales, Maiztegui Institute, Argentine
- West Nile Virus and other neurotropic arboviruses. Erin Staples, CDC, Fort Collins, USA (**recorded**).
- European arboviruses (TBEV, Toscana virus, CCHF) and challenges of new Arboviruses in Europe. Corneliu Popescu, Carol Davila University of Medicine and Pharmacy, Bucharest, Romania
- Zika studies in a pregnant woman, Cienfuegos, Cuba. Silvia Serrano, IPK, Cuba and Diana Ferriol, CPGM Cienfuegos, Cuba

#### **10. SYMPOSIUM: THE OMICS AND THE ARTIFICIAL INTELLIGENCE IN THE FLAVIVIRUSES RESEARCH. THURSDAY 22, 9:10-12:45**

**Chairs: Beatriz Sierra, IPK, Cuba, Xaveer Van Ostade, UA, Belgium**

- Echinacea Purpurea For the Long-Term Prevention and treatment of Viral Respiratory Tract Infections During Covid-19 Pandemic: Systems immune biology insights of a Randomized, Open, Controlled, Exploratory Clinical Study. Wim Vanden Berghe, UA, Belgium
- Interplay between oxidative stress and epigenetic modifications triggered by Flaviviridae viruses. Lizette Gil, IPK, Cuba
- Role of oxysterol binding protein (OSBP) in hepatitis C virus and Dengue virus infections. Aleem Siddiqui, UCSD, USA
- Pathogenesis match points between dengue and COVID-19: Immune response markers. Ana B Perez, IPK, Cuba
- Genomic and Transcriptomic in Dengue research: Cuban results. Beatriz Sierra, IPK, Cuba

#### **11. SYMPOSIUM: ARBOVIRUS VECTORS AND THEIR CONTROL. THURSDAY 22, 14:00-18:00**

**Chairs: Maria del Carmen Marquetti, IPK, Cuba, Haroldo Bezerra, PAHO**

- The risk of a return of an old disease: Yellow fever. Anna-Bella Failloux, Pasteur Institute, France.
- Cuban strategy of vector control. The last 10 years. Carilda Peña, Minsap, Cuba
- Introduction and settlement of *Aedes albopictus*: Implications for vector surveillance and arbovirus transmission in Cuba. Maria del Carmen Marquetti, IPK, Cuba
- Vertical transmission of arbovirus *in Aedes aegypti*: an infrequent phenomenon? Gladys Gutiérrez, IPK, Cuba
- Dengue and vector control. Evidences. Olaf Horstick, Heidelberg University, Germany
- Emerging technologies for vector-targeted dengue control. George Dimopoulos, John Hopkins University, USA
- Advances in *Wolbachia* implementation for arboviruses transmission control. Nelson Grisales, Director of Field Entomology at World Mosquito Program, Colombia.

- Mexican experience “Mosquitos buenos” for *Aedes aegypti* control Norma Pavia Ruz & Pablo Manrique Saide, UADY, Mexico.
- Chemical control of arbovirus vectors in Cuba. Results of the evaluation of Cytrol 10.8 ULV and Cytrol 0.4 LPU in the control of *Aedes aegypti* (*Diptera: Culicidae*). Domingo Montada Dorta, IPK, Cuba
- Other Arbovirus vectors. Chemical control of *Culex quinquefasciatus*. Maureen Leyva, IPK, Cuba

**12. SYMPOSIUM: ADVANCES AND CHALLENGES IN THE DIAGNOSIS OF DENGUE AND OTHER ARBOVIRUS. THURSDAY 22, 14:00 - 18:00**

**Chairs: Leticia Franco, PAHO, Mayling Alvarez, IPK, Cuba**

- New tools for dengue virus diagnostics and serosurveillance. Kevin Arien, ITM, Belgium
- Laboratory surveillance of arbovirus, Cuba. Mayling Alvarez, IPK, Cuba
- Advances in the development of an immunochromatographic assay for the rapid detection of dengue virus NS1 protein. Darien Ortega León, Centro Inmunoensayo, Cuba
- Diagnostic algorithms for emerging arboviruses. Lionel Gresh, PAHO (**recorded**)
- Laboratory diagnosis of SLE, WNF and WEE. María Alejandra Morales. Maiztegui Institute, Argentina
- Laboratory diagnosis of Oropouche and Mayaro. Felipe Naveca, FIOCRUZ, Brazil
- Co-circulation of two lineages of Oropouche Virus in the Amazon Basin, Colombia 2024. Laboratory Genomic One Health, Colombia
- Multiplex arbovirus serology. Prem Lakshmanane, North Carolina University, USA
- NAVIO project. Luiz Alcantara, FIOCRUZ, Brazil

**13. SYMPOSIUM: THE OMICS AND THE ARTIFICIAL INTELLIGENCE IN THE FLAVIVIRUSES RESEARCH. FRIDAY 23, 9:10-12:50**

**Chairs: Beatriz Sierra, IPK, Cuba, Xaveer Van Ostade, UA, Belgium**

- Proteomics and A.I.: a partnership with powerful possibilities in the fight against the dengue plagues, Xaveer Van Ostade, UA, Belgium
- The Cuban natural product Curmeric: a possible OMICs modulator, in therapy and prevention of infectious respiratory diseases. Tania Valdez, Teragnostic Lab, Habana, Cuba
- Using Machine Learning approach for optimizing an instrument predictor of severity in Cuban COVID-19 patients. Possible application to Dengue. Waldemar Baldoquin, IPK, Cuba
- Forecasting Dengue and Other Emerging Arboviruses: Temporal & Spatiotemporal Machine Learning Approaches. Hichem Sahli, VUB, Belgium

**14. ROUND TABLE: ENTOMOVIROLOGIC SURVEILLANCE TOOLS FOR ARBOVIRUS SURVEILLANCE FRIDAY 23, 11:15-12:50**

**Coordinators: Ana Cecilia Ribeiro, Instituto Evandro Chagas, Brazil, Madelaine Rivera, MINSAP, Cuba**

- Importance of entomo-virological surveillance as a tool in the surveillance and control of Arbovirus. Leticia Franco, PAHO
- Brazilian experiences. Ana Cecilia Riberiro, Instituto Evandro Chagas, Brazil
- Nicaraguan experience. Betzabe Mara Rodriguez, CNDR, Nicaragua
- Cuban experiences. Gladys Gutierrez, IPK, Cuba