

3rd International Conference on
**ZIKA VIRUS AND
AEDES RELATED INFECTIONS**



February 13-16, 2020  Washington DC, USA



Thursday, February 13, 2020

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| 17:00 | Registration Opens at the Marriott at Metro Center |
| 18:00 | Welcome Reception |

Friday, February 14, 2020

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| 08:00 | Registration, Poster Viewing and Visit the Exhibition |
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09:00 Opening Remarks

09:15 - 10:30 SESSION 1 - FLAVIVIRUSES INTERACTION
Chairperson: **David Freedman**, USA

09:15 **KEYNOTE LECTURE: Friend or Foe - Antibody Responses to Dengue and Zika Virus Infections**
Eva Harris, Division of Infectious Diseases and Vaccinology,
School of Public Health, University of California, Berkeley, USA

09:45 Severity and Outcomes of Dengue in Hospitalized Children from Five Hospitals in Jamaica During the 2018-2019 Epidemic: Is this due to Antibody Dependent Immune Enhancement from ZIKA Virus Exposure?

Aileen Lue
1. Pediatric Residency, Bustamante Hospital for Children, Kingston, Jamaica
2. Pediatric Residency Program, University of the West Indies, Kingston, Jamaica

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Friday, February 14, 2020 (Cont.)

09:15 - 10:30 SESSION 1 - FLAVIVIRUSES INTERACTION (Cont)

09:55 Enhancement of Dengue Viremia is Apparent in both Plasma and Serum from Zika Virus Exposed Macaques and Correlates with Cross-reactive Non-neutralizing Antibody Responses

Joseph Mattapallil, Microbiology and Immunology, Uniformed Services University, Bethesda, MD, USA

10:05 The Frequency and Clinical Presentation of Zika Virus Co-Infections: A Systematic Review

Ludmila Lobkowicz, Infectious Disease Epidemiology, London School of Hygiene and Tropical Medicine, London, UK

10:15 Trends in Dengue – The Jamaican Experience

Karen Webster-Kerr

1. National Epidemiology Unit, Ministry of Health and Wellness, Kingston, Jamaica

2. Zik Action Research Initiative, The University of the West Indies, Mona, Kingston, Jamaica

10:25 Q & A

10:30 *Coffee, Poster Viewing and Visit the Exhibition*

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Friday, February 14, 2020 (Cont.)

11:00 - 12:15 **SESSION 2 - EPIDEMIOLOGY**
Chairperson: **Moritz Kraemer**, UK

KEYNOTE LECTURE: Aedes Transmitted Diseases - Beyond Flaviviruses

- 11:00 **Duane J. Gubler**, Programme in Emerging Infectious Diseases, Duke-NUS Medical School, Singapore
Chikungunya Virus Disease and Dengue among European Union Travellers, 2018
- 11:25 **Celine Gossner**, Surveillance and Response Support Unit, European Centre for Disease Prevention and Control (ECDC), Solna, Sweden
Portable DNA Sequencing in Brazil: Impacting the Response to the Arboviral Diseases on the Ground, Providing a Snapshot of their Complex Dynamic's Evolution
- 11:45 **Marta Giovanetti**, Reference Laboratory of Flavivirus, Instituto Oswaldo Cruz, Fiocruz, Rio De Janeiro, Brazil
Molecular Epidemiology of Chikungunya Outbreak in Republic of Congo in 2019 And its Correlation With The Invasion of Aedes Albopictus into the Country
- 11:55 **Eiji Ido**, Department of Molecular Virology, Graduate School of Medicine, Chiba University, Chiba, Japan
Leveraging Multiple Data Types to Estimate the True Size of the Zika Epidemic in the Americas
- 12:05 **Sean Moore**, Biology, University of Notre Dame, South Bend, USA

12:15 *Collect Lunch from the Buffet*

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Friday, February 14, 2020 (Cont.)

12:45 - LUNCH SYMPOSIUM: Novel Coronavirus (2019-nCoV)
14:00 Chair: **Eli Schwartz**, Israel

- 12:45 **Epidemiology and Clinical Aspects**
David Freedman, Travax, Shoreland, Inc & Division of Infectious Diseases, University of Alabama at Birmingham, Birmingham, Alabama, USA
- 13:05 **Coronavirus: The ECDC Perspective**
Celine Gossner, Surveillance and Response Support Unit, European Centre for Disease Prevention and Control (ECDC), Solna, Sweden
- 13:20 **What We Might Expect From the (Wuhan) Coronavirus 2019-nCoV In Pregnant Women: Evidence from SARS, MERS and Other Human Coronavirus Infections**
David Alan Schwartz, Clinical Professor, Medical College of Georgia, Augusta, United States & Springer Nature Series Editor, "Global Maternal and Child Health: Medical, Anthropological and Public Health Perspectives"
- 13:30 **Rapid Vaccine Development for Emerging Viruses – 2019-nCoV**
Kaitlyn Morabito, Vaccine Research Center, National Institute of Allergy and Infectious Diseases, National Institutes of Health, USA
- 13:50 **Interactive Discussion with Participants**

14:00 *Networking Break, Posters and Visit the Exhibition*

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14:30 - SESSION 3 - DIAGNOSIS & LABORATORY ASPECTS

16:05 Chairperson: **Martin P. Grobusch**, The Netherlands

KEYNOTE LECTURE: **Molecular Diagnostics and Surveillance of Dengueviruses**

14:30 **John WA Rossen**, Department of Medical Microbiology and Infection Prevention, University of Groningen, University Medical Center Groningen, Groningen, The Netherlands

14:55 Genomic Surveillance of Emerging and Re-Emerging Arboviruses in Brazil and Angola
Nuno Rodrigues Faria, Department of Zoology, Balliol College, University of Oxford, UK

15:15 Diagnosis of Zika Virus in Israeli Travelers - Can We Safely Get Pregnant?
Yaniv Lustig, Central Virology Laboratory, Ministry of Health, Tel Hashomer, Israel

15:35 Persistence of ZIKV-IgG overtime is not a useful marker of the infection in infants born to ZIKV-infected mothers.
Marisa Mussi-Pinhata, Pediatrics, Ribeirao Preto Medical School, University of Sao Paulo, Ribeirao Preto, Brazil

15:45 Detection of Chikungunya Virus in Bodily Fluids (INOVACHIK Study)
Guilherme Calvet, Acute Febrile Illnesses Laboratory, National Institute of Infectious Diseases, Oswaldo Cruz Foundation, Rio De Janeiro, Brazil

15:55 Genomic Surveillance of DENV-1 AND DENV-2 Viral Transmission in Brazil
Luiz Carlos Junior Alcantara
1. Laboratório De Genética Celular E Molecular, Universidade Federal De Minas Gerais, Belo Horizonte, Brazil
2. Laboratório De Flavivírus, Instituto Oswaldo Cruz, Fiocruz, Rio De Janeiro, Brazil

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16:05 Coffee, Poster Viewing and Visit the Exhibition

16:30 - 17:30 SESSION 4 - AEDES ENTOMOLOGY AND CONTROL
Chairperson: **Duane J. Gubler**, Singapore

16:30 **KEYNOTE LECTURE: Past and Future Spread of Aedes Borne Viruses**
Moritz Kraemer, Department of Zoology, University of Oxford, Oxford, UK

17:00 Moving the Needle for Genetic Control of Aedes Aegypti
Kevin Gorman, Field Operations, Oxitec Ltd, Abingdon, UK
Functional and Structural Characterization of Novel Insect-Restricted Negev Viruses and Their Interaction with Mosquito Host Cells

17:15 **Alexander Rouvinski**, Microbiology and Molecular Genetics, Hebrew University of Jerusalem, Imric, the Kuvim Center for the Study of Infectious and Tropical Diseases, Jerusalem, Israel

17:30 End of Day's Sessions

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Saturday, February 15, 2020

SESSION 5 - CLINICAL ASPECTS I

09:00 - 10:30 Moderator: **Celina Turchi-Martelli**, Microcephaly Epidemic Research Group, Instituto de Pesquisa Aggeu Magalhaes, Fiocruz Pernambuco, Recife, Brazil

ROUND TABLE: **Congenital Zika Syndrome -The Brazilian Experience**

Introduction

9:00 **Celina Turchi-Martelli**, Microcephaly Epidemic Research Group, Instituto de Pesquisa Aggeu Magalhaes, Fiocruz Pernambuco, Recife, Brazil

Surveillance of Congenital Anomalies in Brazil

9:05 **Valdelaine Etelvina Araújo**, Department of Health Analysis and Surveillance of Noncommunicable Diseases, Ministry of Health, Brasília, Brazil

Ongoing Brazilian Pregnant Cohort Studies: Findings and Research Challenges

9:20 **Ricardo Ximenes**, MERG- Microcephaly Epidemic Research Group, Federal University of Pernambuco and State University of Pernambuco, Recife, Pernambuco, Brazil

Neurodevelopment of Infants with Congenital Zika Syndrome

9:35 **Demócrito Miranda-Filho**, HUOC, Universidade De Pernambuco, Recife, Brazil

Early and Late Ophthalmologic Abnormalities in Congenital Zika Syndrome

9:50 **Liana Ventura**, Altino Ventura Foundation, Recife, Pernambuco, Recife, Brazil

10:05 Discussion

10:30 *Coffee, Poster Viewing and Visit the Exhibition*

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Saturday, February 15, 2020 (Cont.)

11:00 - SESSION 6 - MORE ON ZIKA

12:30 Chairperson: **David Alan Schwartz**, USA

Assessment of Surveillance and Screening Programs for
Congenital Zika Defects in the Americas

Luxi Qiao

- 11:00 1. School of Medicine, Washington University in St. Louis, St. Louis, USA
2. Dept. Of Infectious Disease Epidemiology, London School of Hygiene and Tropical Medicine, London, UK

Are Non-Microcephalic Infants Born to Mothers with ZIKA Virus Infection More Subject to Delayed Neurodevelopment than ZIKV-Exposed Infants?

- 11:10 **Marisa Mussi-Pinhata**, Pediatrics, Ribeirao Preto Medical School, University of Sao Paulo, Ribeirao Preto, Brazil

Overview and Preliminary Results of the ZIKAction Vertical Transmission Study in Jamaica

Celia DC Christie

- 11:20 1. Child and Adolescent Health, University of the West Indies, Kingston, Jamaica
2. ZIKAction Research Consortium, University of Padova, Padova, Italy

Early Epilepsy in Children with Zika-Related Microcephaly in a Cohort in Recife, Brazil: Characteristics, EEG Findings and

- 11:30 Treatment Response
Ricardo Ximenes, Universidade Federal De Pernambuco, Ufpe, Recife, Brazil

Birth Defects Associated with Microcephaly in Live Births in Brasil from 2010 to 2018

- 11:40 **Valdelaine Etelvina Araújo**, Department of Health Analysis and Surveillance of Noncommunicable Diseases, Ministry of Health, Brasília, Brazil

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11:00 - 12:30 SESSION 6 - MORE ON ZIKA (Cont)

11:50 Neurodevelopmental Screening of Infants with Prenatal Zika Virus Exposure with Comparison Groups
Celina Turchi-Martelli, Microcephaly Epidemic Research Group, Instituto de Pesquisa Aggeu Magalhaes, Fiocruz Pernambuco, Recife, Brazil

12:00 The Developmental and Physical Characteristics of Infants Born to Zika Virus Positive Mothers in Barbados after the 2016-2017 Outbreak
Kerriann Pereira, Paediatrics, Queen Elizabeth Hospital, Bridgetown, Barbados

12:10 Detection of Zika Antigens and RNA in Semen of Nicaraguan Adults Following Acute Infections
Filemón Bucardo, Faculty of Medical Sciences, National Autonomous University of León, Nicaragua., Leon, Nicaragua

12:20 Q & A

12:30 *Collect Lunch Boxes*

12:45 - 13:30 LUNCH SYMPOSIUM: Revolutionary Molecular Diagnostics: Multiplex PCR for Mosquito-Borne Diseases and Coronavirus Emergency Response

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13:30 - 15:00 **SESSION 7 - VACCINES & DRUGS**
Chairperson: **Lin Chen**, USA

KEYNOTE LECTURE: Dengue Vaccines Update

13:30 **Anna Durbin**, Professor, Johns Hopkins Bloomberg School of Public Health, Baltimore, MD, USA

14:00 Anti-Zika Virus Hyper-Immune IGs in Mice Model
Yuval Sagiv, Kamada, Israel

14:15 A Neonatal Nonhuman Primate Model of Gestational Zika Virus Infection With Evidence of Microcephaly, Seizures and Cardiomyopathy
Daniel Streblow, VGTI, Ohsu, Beaverton, United States, 2Onprc, Ohsu, Beaverton, USA

14:25 A Recombinant ZIKV Envelope Protein with Mutations in the Conserved Fusion Loop as a Subunit ZIKV Vaccine
Beatrice Sarah Berneck, Department of Immunology, Fraunhofer Institute for Cell Therapy and Immunology, Leipzig, Germany

14:35 NIAID Preclinical Services Facilitate ZIKV Vaccine Product Development by Standardizing Assays for Clinical and Preclinical Studies
Janet Lathey, NIAID, NIH, Rockville, USA

14:45 Zika Virus-Like Particle-Based Vaccine Evaluation in Mice and Rhesus Macaques
Alec Hirsch, Vaccine and Gene Therapy Institute, Oregon Health and Science University, Beaverton, USA

14:55 Q & A

15:00 *Coffee, Poster Viewing and Visit the Exhibition*

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15:30 - 16:30

SESSION 8 - VIROLOGY

Chairperson: **Alexander Rouvinski**, Israel

15:30

Recombination of Zika virus B- and T-cell epitope-rich loci from Aedes- and Culex-borne flaviviruses shapes Zika virus epidemiology

Michael W. Gaunt, London School of Hygiene and Tropical Medicine, Keppel Street, London, UK

16:00

Zika Virus Increases Mind Bomb 1 Levels, Causing Degradation of Pericentriolar Material 1 (PCM1) and Dispersion of PCM1-Containing Granules from the Centrosome

Qiyi Tang, Microbiology, Howard University College of Medicine, Washington, USA

16:15

Glycan Binding Specificity of Zika Virus Strains PRVABC-59 and MR-766

Meghan May, Department of Biomedical Sciences, University of New England College of Medicine, Biddeford, Maine, USA

16:30

End of Day's Session

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Sunday, February 16, 2020

09:00 - SESSION 9 - CLINICAL ASPECTS II
10:30 Chairperson: **TBA**

KEYNOTE LECTURE: Severe Dengue-Historical Perspective

9:00 **Scott Halstead**, Department of Preventive Medicine and Biometrics, Uniformed University of the Health Sciences, Bethesda, MD, USA

DENV Sexual Transmission

9:30 **Martin P. Grobusch**, Chair, Tropical Medicine and Travel Medicine; Head, Center for Tropical Medicine and Travel Medicine, Department of Infectious Diseases, Division of Internal Medicine, Academic Medical Center, University of Amsterdam, The Netherlands

9:40 Dengue - ADE & the Significance of Second Infection in Travellers
Eli Schwartz, The Center for Geographic Medicine and Tropical Diseases, The Chaim Sheba Medical Center, Tel Hashomer, Israel

Alphaviruses Arthropathy

10:00 **Lin Chen**, Director, Travel Medicine Center, Mount Auburn Hospital; Associate Professor of Medicine, Harvard Medical School, Cambridge, MA, USA

10:15 Clinical Features and Virologic Profiles of Acute and Post – Acute CHIK Virus (CHIKV) Infection in Arboviruses Co-transmission Areas.
Marta G Cavalcanti, Infectious Diseases Clinic, Hospital Clementino Fraga Filho, Federal University of Rio De Janeiro, Rio De Janeiro, Brazil

10:25 Q & A

10:30 Coffee & Poster Viewing

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SESSION 10 - CONCLUSION: LOOKING BACK AND LOOKING FORWARD
11:00 - 12:00
Chairperson: **Eli Schwartz**, Israel

- 11:00 Congenital Zika Virus Syndrome in Brazil in Live Births, 2015-2018: A Public Health Emergency of International Importance
Vivyanne Magalhaes, Department of Health Analysis and Surveillance of Noncommunicable Diseases, Ministry of Health, Brasília, Brazil
- 11:10 Four Years of the Zika Virus in Brazil: Consequences and Challenges for the National Health System (SUS)
Mariana Leal, Secretaria De Atenção Especializada a Saúde, Ministério Da Saúde, Brasília, Brazil
- 11:20 Looking into the Crystal Ball
Eli Schwartz, The Center for Geographic Medicine and Tropical Diseases, The Chaim Sheba Medical Center, Tel Hashomer, Israel
- 12:00 Conclusion of Conference