

EPIDEMIAS, PANDEMIAS Y ENFERMEDADES TRANSMISIBLES. HISTORIA DE LA CIENCIA COMÚN ENTRE CUBA Y LOS ESTADOS UNIDOS.



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ENFERMEDADES INFECCIOSAS. EPIDEMIAS Y PANDEMIAS.



SARS, MERS

MPOX

MEASLES

EBOLA

DENGUE, ZIKA,
CHIKUNGUNYA

WEST NILE



INFLUENZA
H1N1pdm09

CHOLERA

OROPUCHE

POLIOVIRUS

AVIAN FLU

SARS CoV-2

ENFERMEDAD X

- Las enfermedades infecciosas constituyen una amenaza para la salud pública mundial
- Las epidemias y pandemias se han vuelto más frecuentes en las últimas décadas con una rápida diseminación y efecto devastador
- Necesidad de un trabajo coordinado entre los países, principalmente entre aquellos más próximos (EU).

La cooperación en el ámbito de la salud y la ciencia entre Cuba y estados unidos ha sido un tema de interés mutuo, a pesar de las tensiones políticas y económicas.

ANTECEDENTES

Relaciones de colaboración con científicos norteamericanos en el campo de las enfermedades transmisibles data de mas de 50 años (intercambios académicos, capacitación, congresos, cursos, proyectos y publicaciones conjuntas)

- En las décadas del 90 y e inicios del 2000, auge en los intercambios científicos entre investigadores cubanos del IPK con investigadores de Universidades de EU
- Temáticas: VIH/SIDA, TB, Herpesvirus 8, Dengue y otras arbovirosis, estudios de inmunogenética, prevención y control de enfermedades transmisibles.
- Universidad de Chapell Hill, Harvard, Cornell, Columbia, Tulane, Universidad de Ohio, UMASS.

Profesionales de IPK en Harvard. 2000



Paul Farmer. Harvard



Jean Handy. Chapell Hill.
Hill. Carolina del Norte

VIRUS DE INMUNODEFICIENCIA HUMANA

Mary Ann Liebert, Inc. publishers

ABOUT US PUBLICATIONS FOR AUTHORS FOR LIBRARIANS OPEN ACCESS ADVERTISING

🏠 [AIDS Research and Human Retroviruses](#) > [Vol. 23, No. 3](#)

Research Article | 🔒 NO ACCESS | Published Online: 5 April 2007

Limitations to Contact Tracing And Phylogenetic Analysis in Establishing HIV Type 1 Transmission Networks in Cuba

Authors: [Sonia Resik](#), [Philippe Lemey](#), [Li-Hua Ping](#), [Vivian Kouri](#), [Jose Joanes](#), [Jorge Pérez](#), [Anne-Mieke Vandamme](#), and [Ronald Swanstrom](#) | [AUTHORS INFO & AFFILIATIONS](#)

Publication: *Aids Research And Human Retroviruses* • <https://doi.org/10.1089/aid.2006.0158>

***UNC Center for AIDS
Research, University of North
Carolina at Chapel Hill***



Primeros estudios sobre filogenia y evolución de VIH en mediante secuenciación del virus, de individuos cubanos infectados, relacionados epidemiológicamente (cadenas de transmisión)

HERPESVIRUS ASOCIADO AL SARCOMA DE KAPOSÍ, KSHV O VHH8

> Rev Panam Salud Publica: 2004 May;15(5):320-5. doi: 10.1590/s1020-49892004000500006.

Investigación original / Original research

Seroprevalence of Kaposi's sarcoma-associated herpesvirus in various populations in Cuba

Vivian Kourí,¹ Sybil M. Eng,² María E. Rodríguez,³ Sonia Resik,¹ Odalys Orraca,⁴ Patrick S. Moore,² and Yuan Chang²

- Seroprevalencia de KSHV en varios grupos de la población cubana
- Estudios de secuenciación y epidemiología molecular para detección de subtipos del KSHV en Cuba

AIDS
Articles & Issues ▾ For Authors ▾ Journal Info ▾

RESEARCH LETTER

Molecular epidemiology and KSHV K1 subtypes in a Cuban AIDS-Kaposi's sarcoma population

Kouri, Vivian^a; Liang, Xiaozhen^d; Rodríguez, María Elena^b; Capo, Virginia^c; Resik, Sonia^a; Barrios, Julio^a; Mantecon, Beatriz^b; Blanco, Orestes^b; Means, Robert^d; Jung, Jae U^d; Lee, Bok-Soo^d; Hengge, Ulrich R^e

[Author Information](#)

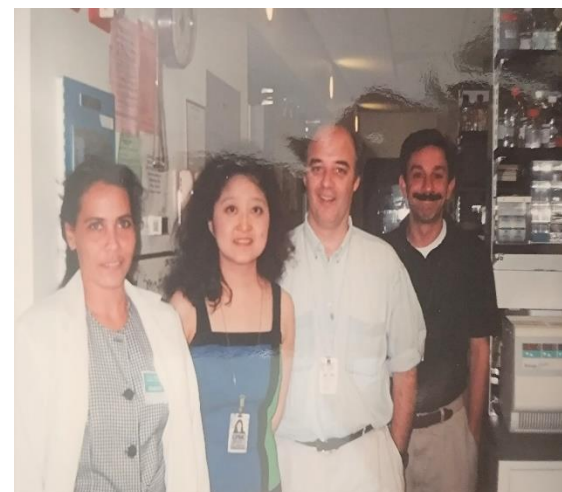
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^dDivision of Tumor Virology, New England Primate Research Center, Harvard Medical School, Southborough, MA, USA

^eDepartment of Dermatology, Heinrich-Heine University, Düsseldorf, Germany.



- Universidad de Columbia, New York



- New England Regional Primate Center, Harvard Medical School, MA

DENGUE



Human Immunology
Volume 68, Issue 6, June 2007, Pages 531-540



HLA-A, -B, -C, and -DRB1 allele frequencies in Cuban individuals with antecedents of dengue 2 disease: Advantages of the Cuban population for HLA studies of dengue virus infection

Beatriz Sierra ^a  , Roberto Alegre ^a, Ana B. Pérez ^a, Gissel García ^a, Katharina Sturn-Ramirez ^b, Olugbenga Obasanjo ^b, Egllys Aguirre ^a, Mayling Alvarez ^a, Rosmari Rodriguez-Roche ^a, Luis Valdés ^a, Phyllis Kanki ^b, María G. Guzmán ^a

^a Institute of Tropical Medicine "Pedro Kourí," WHO Collaborator Centre for Viral Diseases, Havana, Cuba

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Received 15 November 2006, Revised 2 February 2007, Accepted 1 March 2007, Available online 28 March 2007.

**ESTUDIOS DE INMUNOGENETICA
DEL INDIVIDUO ASOCIADA A
INFECCION POR DENGUE Y
EVOLUCION CLINICA**

ACTIVIDADES DE CAPACITACIÓN EN ESTADOS UNIDOS

- Universidad de Chapell Hill, Carolina del Norte: VIH y Neuropatía epidémica
- Universidad de Harvard: VIH, Dengue, Inmunogenética, Tuberculosis, KSHV, Salud Pública
- Universidad de Cornell: VIH, capacitación clínica
- Universidad de Columbia: KSHV
- Universidad de Tulane: VIH
- Universidad de Massachussets (UMASS): VIH
- Universidad de Ohio: Arbovirus e inmunología

ACTIVIDADES DE CAPACITACIÓN EN CUBA

- Curso Internacional de Dengue con participación de profesores de EU en todas las ediciones de este curso
- Curso Universidad de Harvard
- Simposio de Inmunología y Terapia en Enfermedades Infecciosas. Simposio de ITS (4 ediciones) en conjunto entre IPK e Universidad de Ohio
- Estudiantes de varias universidades realizaron capacitaciones clínicas y de laboratorio en el IPK



2015-2016

REACTIVACIÓN DE INTERCAMBIOS CON ENTIDADES DEL GOBIERNO, NO SOLO UNIVERSIDADES

- Serie de visitas a los EE.UU. de líderes científicos cubanos y funcionarios del NIAID/CDC visita a Cuba
- Junio de 2016 – El Departamento de Salud y Servicios Humanos (HHS) y el MINSAP firman un memorando de entendimiento para ampliar la amplia cooperación científica
- Publicaciones conjuntas



Lessons in International Cooperation

US and Cuban Scientists Forge Collaboration on Arbovirus Research

Jorge Pérez-Avila MD MS, María G. Guzmán-Tirado MD PhD DrSc, Jorge Fraga-Nardese PhD, F. Gray Handley MSPH, James Meegan MD, José L. Pelegrino-Martínez de la Cofera MS, Anthony S. Fauci MD

ABSTRACT

After December 17, 2014, when the US and Cuban governments announced their intent to restore relations, the two countries participated in various exchange activities in an effort to encourage cooperation in public health, health research and biomedical sciences. The conference entitled: Exploring Opportunities for Arbovirus Research Collaboration, hosted at Havana's Hotel Nacional, was part of these efforts and was the first major US-Cuban scientific conference in over 50 years. Its purpose was to share information about current arbovirus research and recent findings, and to explore opportunities for future joint research. The nearly 100 participants included leading arbovirus and vector transmission experts from ten US academic institutions, NIH, CDC, FDA and the US Department of Defense. Cuban participants included researchers, clinicians and students from Cuba's Ministry of Public Health, Pedro Kouri Tropical Medicine Institute, Center for Genetic Engineering and Biotechnology,

Center for State Control of Medicines and Medical Devices and other health research and regulatory organizations. Topics highlighted at the three-day meeting included surveillance, research and epidemiology; pathogenesis, immunology and virology; treatment and diagnosis; vector biology and control; vaccine development and clinical trials; and regulatory matters. Concurrent breakout discussions focused on novel vector control, nonvector transmission, community engagement, Zika in pregnancy, and workforce development. Following the conference, the Pedro Kouri Tropical Medicine Institute and the US National Institute of Allergic and Infectious Diseases have continued to explore ways to encourage and support scientists in Cuba and the USA who wish to pursue arbovirus research cooperation to advance scientific discovery to improve disease prevention and control.

KEYWORDS Arboviruses, flavivirus, Zika virus, chikungunya virus, dengue virus, research, disease vectors, Cuba, USA

INTRODUCTION

On December 17, 2014, when the US and Cuban governments announced their intent to restore relations, US President Barack Obama emphasized the implications of rapprochement for health cooperation.[1] Prior to this announcement, a group of US scientists and policy experts, sponsored by the American Association for the Advancement of Science (AAAS), traveled to Havana in April 2014 to meet Cuban scientists, physicians and policy makers; visit research and public health facilities; discuss opportunities for further interaction; and sign a memorandum of understanding between the Cuban Academy of Sciences and the AAAS to launch further exploration of mutual health research interests.[2]

In August 2015, the Cuba's Pedro Kouri Tropical Medicine Institute (IPK) sponsored the 14th edition of its research and training conference, the International Dengue Course, which it has organized in Havana since 1987. Participants included dengue viral disease scientists from the US National Institutes of Health (NIH) and CDC. In October 2015, Cuban scientific leaders attended, for the first time, the annual meeting of the American Society of Tropical Medicine and Hygiene (ASTMH) in New Orleans, where they participated in a US-Cuban information-sharing symposium organized by the NIH's Fogarty International Center, the ASTMH and PAHO.[3–4] This symposium, Cuba-US: Building Bridges Through Science and Global Health, was

followed by an unprecedented visit by the participating Cuban scientists to the NIH in Bethesda, Maryland. During the visit, NIH leadership explored opportunities for chronic and infectious disease research collaborations with Cuba.[5]

Following further official contacts and reestablished diplomatic relations, Cuba's Vice-Minister of Public Health, Dr. José Ángel Portal Miranda, visited the USA early in 2016. He included NIH and other agencies of the US Department of Health and Human Services (HHS) on his itinerary. In June, following the historic visit of President Obama to Cuba in March 2016, where health research was again highlighted as a key area for expanded cooperation, Cuba's Minister of Public Health, Dr. Roberto Morales Ojeda, visited Washington DC to meet with HHS Secretary Sylvia Burwell. During this visit, the two leaders signed a memorandum of understanding to establish cooperation in public health, health research and biomedical sciences, specifically calling for collaboration to confront Zika, dengue, chikungunya and other arboviruses.[6] Also during this visit, leadership from Cuba's Ministry of Public Health (MINSAP), IPK, and the NIH's National Institute of Allergy and Infectious Diseases (NIAID), agreed on the value of convening a scientific meeting to explore arbovirus research collaboration opportunities, given the emerging potential threat of Zika, dengue and chikungunya in the southern USA and the Caribbean region. A bilateral scientific planning committee was established with representation from NIH, CDC and the US FDA to assist the IPK in conference planning.

IMPORTANCE Cuba's experience in arbovirus research and health strategies for mosquito control complement US CDC's strengths in research and epidemiologic surveillance. Rapidly emerging threats from arboviral illness, extension of vector habitats, and proximity make US-Cuba collaboration not only mutually beneficial, but imperative.

Also significantly, on October 17, 2016, the US Department of the Treasury's Office of Foreign Assets Control (OFAC) issued a regulatory amendment that authorized (under general license) expanded US-Cuban engagement in commercial and noncommercial joint medical research and training.[7] Furthermore, during the same week (October 19) a preliminary US-Cuban arbovirus research meeting was held in Havana, in conjunction with a PAHO-organized regional arbovirus control

INICIATIVA DE INVESTIGACIONES EN ARBOVIRUS CUBA- EU

- Noviembre de 2016 – Reunión colaborativa en La Habana
- Explorando Oportunidades para la Colaboración en la Investigación de Arbovirus
- El resultado fue la concesión de 4 proyectos de colaboración en la investigación de Arbovirus
 - ✓ *Wolbachia studies as a new tool to control residual populations of Aedes aegypti and Aedes albopictus in Cuba; **University of Kentucky and IPK***
 - ✓ *Role of lipids associated with African-Ancestry protection against Dengue Hemorrhagic fever, in Dengue and Zika infectious process; **University of California San Diego and IPK***



- Presentación de investigaciones en
- VIH, Polio y Arbovirus
- Publicaciones conjuntas



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The Cuba–United States Thaw: Building Bridges through Science and Global Health

Daniel G. Bausch,^{1,2*} Vivian Kouri,³ Sonia Resik,³ Belsy Acosta,³ Gerardo Guillen,⁴ Karen Goraleski,¹ Marcos Espinal,⁵ and Maria G. Guzman³

¹American Society of Tropical Medicine and Hygiene, Oakbrook Terrace, Illinois; ²Tulane School of Public Health and Tropical Medicine, New Orleans, Los Angeles; ³Instituto de Medicina Tropical Pedro Kouri, Havana, Cuba; ⁴Centro de Ingenieria Genetica y Biotecnologia, Havana, Cuba; ⁵Pan American Health Organization, Washington, District of Columbia

Abstract. Beginning in 2014, there has been significant progress in normalization of relations between Cuba and the United States. Herein, we discuss the history and recent progress in scientific collaboration between the two countries as well as the continued challenges. Science and global health diplomacy can be key tools in reestablishing a trusting and productive relationship of mutual and global benefit, bringing about better and healthier lives for people in both Cuba and the United States.

INICIATIVAS DE COLABORACIÓN ENTRE NIH-NIAID E IPK

2015-Actualidad



NIH 2016

Los Institutos Nacionales de Salud (NIH) y el Instituto de Medicina Tropical Pedro Kourí (IPK) han estado colaborando en varias iniciativas de investigación en salud

En los últimos dos años se han potenciado los intercambios académicos, en el campo de las enfermedades transmisibles



IPK-2023

Funcionarios del Departamento de Salud y Servicios Humanos y del Instituto Nacional de Alergias y Enfermedades Infecciosas (NIAID), de los Estados Unidos, visitaron el IPK en marzo del 2023

INICIATIVAS DE COLABORACIÓN ENTRE NIH E IPK

- **2021** – Intercambios técnicos virtuales sobre COVID-19
- **Marzo 2023** – Simposio de Alto Nivel Cuba-Estados Unidos sobre el Futuro de la Cooperación Científica. La Habana (ACC y AAAS). Participación de científicos y académicos, incluido el IPK (Tema de Arbovirus)
- **Marzo 2023-** Visita de delegación de NIAID al IPK e intercambio sobre el futuro de las relaciones
- **Julio 2023 – hasta la actualidad.** Múltiples intercambios científicos virtuales (alrededor de 15) en temas variados principalmente en enfermedades infecciosas (TB, Resistencia antimicrobiana, preparación para pandemias, Oropouche, Dengue, ITS, vacunas, entre otros)



CONFERENCIA CUBA-EU. LA HABANA, FEBRERO 2024

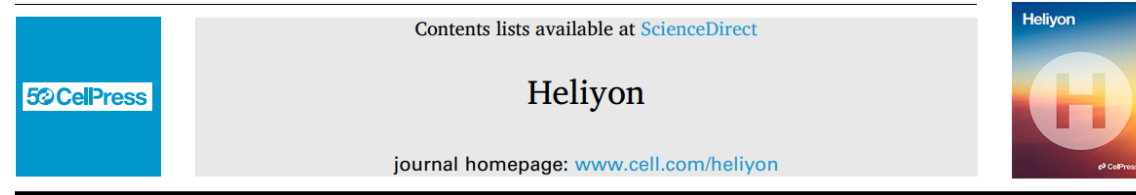
Addressing Global Health Challenges Through Scientific Innovation and Biomedical Research:

- Dos científicos estadounidenses recibieron la designación de Académicos Correspondientes al ACC
- Principales tópicos tratados:
 - Arbovirus
 - Preparación para pandemias
 - COVID
 - Ciencias Omicas
 - Medicina de Precisión
 - Cancer, enfermedades crónicas
 - Enfermedades neurológicas



INTERCAMBIO CON UNIVERSIDAD DE OHIO EN EL MARCO DE PROYECTO CONJUNTO

Heliyon 10 (2024) e37535



Research article

Possible effects of ancestry-related oxysterol-binding protein-like 10 genetic polymorphisms on dengue virus replication and anti-dengue immune response

Hector Granela^a, Ana B. Perez^a, Luis Morier^b, Mayling Alvarez^a,
Maria G. Guzmán^a, Beatriz Sierra^{a,*}

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^b Virology Department, Biology Faculty, University of Havana. 455, 25th Street. Havana, Cuba



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Publicaciones conjuntas

Visita de Investigadora del IPK a la
Universidad de Ohio. Septiembre de 2024

CONSIDERACIONES FINALES

- La cooperación entre Cuba y Estados Unidos en el campo de las enfermedades transmisibles presenta oportunidades significativas para mejorar la salud pública
- Los investigadores de ambos países reconocen la importancia de mantener intercambios científicos, con los cuales existe un beneficio mutuo
- Sin embargo, los desafíos políticos y económicos continúan afectando esta colaboración
- A medida que ambos países buscan formas de trabajar juntos, es crucial que se superen las barreras impuestas por las tensiones diplomáticas para maximizar el impacto positivo en la salud global