



ID der Kurzfassung : 470

Land-Use Change and Zoonotic Spillover Risk in the Amazon: An Integrative One Health Approach

Inhalt

Rapid Land-Use Change (LUC) across the Amazon is transforming biodiverse forests into fragmented agricultural landscapes, creating novel interfaces among wildlife, livestock, and people. Despite recognition of LUC as a major driver of pandemic risk, the interacting ecological, physiological, and social mechanisms remain insufficiently understood. The SIMPEL project (IZW-WCS, Volkswagen Foundation) applies an integrative One Health approach in Bolivia and Colombia to support evidence-based interventions that protect both biodiversity and human health.

Using a space-for-time design, we investigate four components across a disturbance gradient: (1) human-nature relations and spillover risks with local and indigenous communities; (2) wildlife host community dynamics in bats, rodents, their ectoparasites and vectors; (3) physiological and immune responses of wildlife hosts to habitat degradation; and (4) pathogen diversity and dynamics.

Early results confirm that LUC restructures wildlife communities and modulates pathogen dynamics in taxon- and site-specific ways. People living in areas bordering deforestation become vulnerable due to the degradation of their environment, their livelihoods, and their health. By integrating ecological, molecular, immunological, and social data, the project aims to generate actionable evidence to inform surveillance, land-use planning, and risk reduction in a biodiverse region where deforestation is outpacing our understanding of its consequences.

Keywords

Land-use change; Zoonotic pathogens; Wildlife communities; Pandemic prevention; Amazon; SIMPEL

Registration ID

OHS26-100

Professional Status of the Speaker

Postdoc

Junior Scientist Status

No, I am not a Junior Scientist.

Autor: JARAMILLO, Maricruz (Wildlife Conservation Society)

Co-Autoren: ACEVEDO-CENDALES, Luz Dary (Wildlife Conservation Society); BELTRÁN-SAAVEDRA, Fabián (Wildlife Conservation Society); ALIAGA-SAMANEZ, Gabriela (Leibniz Institute for Zoo and Wildlife Research); GARCÍA-BONILLA, Erika (Instituto Humboldt); AYALA, Glenda (Wildlife Conservation Society); LARA, Kantuta (Wildlife Conservation Society); Y. XU, Charles Cong (Wildlife Conservation Society, University of Calgary Faculty of Veterinary Medicine); MOLINA-RODRIGUEZ, Jorge (Wildlife Conservation Society); MIRANDA, Cecilia (Wildlife Conservation Society); POHLE, Katja (Leibniz Institute for Zoo and Wildlife Research); REYNE, Marina

(Leibniz Institute for Zoo and Wildlife Research); QUENEVO, Celin (Wildlife Conservation Society, Consejo Indígena del Pueblo Tacana); LEHM ARDAYA, Zulema (Wildlife Conservation Society); Dr. GONZALEZ, Mailyn (Instituto Humboldt); Dr. ÑIGUEZ ROJAS, Volga (Instituto de Biotecnología y Biología Molecular de la Universidad Mayor de San Andrés); Dr. CZIRJÁK, Gábor Á. (Leibniz Institute for Zoo and Wildlife Research); Dr. PRUVOT, Mathieu (Wildlife Conservation Society, University of Calgary Faculty of Veterinary Medicine); Dr. WALLACE, Robert (Wildlife Conservation Society); Dr. FORERO, German (Wildlife Conservation Society); Dr. KEATTS, Lucy (Wildlife Conservation Society); H. OLSON, Sarah (Wildlife Conservation Society); Dr. GREENWOOD, Alex (Leibniz Institute for Zoo and Wildlife Research)

Vortragende: JARAMILLO, Maricruz (Wildlife Conservation Society); Dr. CZIRJÁK, Gábor Á. (Leibniz Institute for Zoo and Wildlife Research); Dr. GREENWOOD, Alex (Leibniz Institute for Zoo and Wildlife Research)

Track Klassifizierung: Conservation, Biodiversity & Wildlife Health

Typ des Beitrags: Both options possible

Kommentare:

I would like to be considered for a travel grant.

Eingereicht von **JARAMILLO, Maricruz** <mjaramillo@wcs.org> am **Montag, 22. Juni 2026**