



William Pan



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Population, Health, and Environment Interactions

Research emphasis:

Dr. Pan's interdisciplinary research group focuses broadly on population, health, and environment interactions in developing countries, particularly the Madre de Dios (MDD) region of the Peruvian Amazon. He is interested in the impact of land use change on risk for environmental exposures, including infectious diseases. Dr. Pan will launch two new studies in 2016: a new birth cohort study in MDD to study the impact of El Nino on environmental mercury exposure near small-scale gold mining operations and development of an early warning system for malaria in Peru.

Selected publications:

- Pan, WK and D. Lopez-Carr "Land use as a mediating factor of fertility in the Amazon". *Population and Environment*. DOI: 10.1007/s11111-016-0253-z
- Pizzitutti, F., WK Pan, A Barbieri, et.al. (2015) "A validated agent-based model to study the spatial and temporal heterogeneities of malaria incidence in the rainforest environment" *Malaria Journal*, V15: 514
- Diringer S, Feingold BJ, Ortiz E, Berky A, Pan WK, Hsu-Kim H. (2015) "River transport of Hg from ASGM and risks for dietary Hg exposure in Madre de Dios, Peru." *Environmental Science: Processes & Impact*, V17(2):478-87
- Salmon-Mulanovich, G., DL Blazes, AG Lescano, DG Bausch, JM Montgomery, and WK Pan (2015) "Economic Burden of Dengue Virus Infection at the Household Level Among Residents of Puerto Maldonado, Peru" *American Journal of Tropical Medicine & Hygiene*, V93(4): 684-90
- Danysh, H., R. Gilman, JC Wells, WK Pan, B Zaitchik, G. Gonzalez, M. Alvarez, W. Checkley (2014), "Effects of El Nino on childhood stature and lean mass in northern Peru." *Climate Change Responses*, V1(7)

Application:

- Strong collaborations with universities and government agencies in Peru
- Spatial transmission and statistical analyses
- Expertise in biostatistics, demography, human-environment dynamics

Collaboration potential:

- Biological samples from n=240 mother-child pairs in Peru (collection beginning March 2016)
- Remote sensing data on deforestation in MDD, Peru
- Entomological samples from 2013-15