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WILLIAM KUANG-YAO PAN
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EDUCATION AND TRAINING

- Dr.P.H. / 2003 University of North Carolina at Chapel Hill, Biostatistics & Demography
“Multilevel spatial and statistical analyses to example the relationship between population and environment: A case study of the Ecuadorian Amazon”
- M.S. / 1999 UNC, Biostatistics. “Methods of National Population Forecasting: Comparison & Contrasts”
- M.P.H. / 1997 Emory University Rollins School of Public Health, International Health. “Poverty Assessment and Nutritional Surveillance Systems”
- B.A. / 1994 Boston College, Mathematics & Computer Science

Postdoctoral Training

- 2003-2004 Carolina Population Center, University of North Carolina at Chapel Hill.
- 2004-2005 Department of International Health, The Johns Hopkins University Bloomberg School of Public Health (JHSPH)

PROFESSIONAL EXPERIENCE

- June 2011-Present **Assistant Professor of Global Environmental Health**, Division of Environmental Science and Policy, Nicholas School of the Environment (NSOE), Duke University
- June 2011-Present **Affiliate**, Duke Global Health Institute, Duke University
- 2011- Present **Associate**, Duke Population Research Institute, Duke University.
- 2005-2011 **Assistant Professor & Assistant Scientist**. Department of International Health, JHSPH.
- 1997-1998 **Environmental Statistician**, Human Studies Division, Clinical Research Branch, EPA.
- 1996-1997 **Association of School of Public Health Research Intern**, Division of Unintentional Injury Prevention, The Centers for Disease Control and Prevention (CDC).

Professional Memberships:

- American Public Health Association (APHA)
Governing Counselor, 2011-Present
Chair/Past Chair & Nomination Chair/Program Chair (2008-12)
Secretary / Secretary Elect (2005-07)
- International Biometric Society - Eastern North American Region (ENAR)
- International Union for the Scientific Study of Population (IUSSP), 2001-present
- Population Association of America (PAA), 2000-present
- American Geophysical Union (AGU), 2011-present

Participation on Advisory Panels

- Expert-Group Meeting on Population Dynamics and Climate Change*, UNFPA & IIED, June 2009
- Specialist Meeting, *Future Directions in Spatial Demography* (UCSB, U-PENN, NIH) Dec 12-13, 2011, Santa Barbara

Awards

- James B. Grizzle Award for Outstanding Contributions to Public Health by a Biostatistician, University of North Carolina at Chapel Hill, 2012
- Outstanding Contributions to the Statistics Section of APHA, 2007 and 2009
- International Young Scientists Award for Global Change Research, System for Analysis Research and Training Secretariat (START) and the Third World Academy of Sciences (TWAS), Trieste, Italy, 2003.
- Mindel C. Sheps Dissertation Fellowship in Mathematical Demography, 2003
- Student Paper Award, American Association of Geographers Population Group, 2002

PUBLICATIONS (since 2008, * indicates student publication)

- Barbieri A., and **WK Pan** "People, Land, and Context: Multilevel Determinants of Off-farm Employment in the Ecuadorian Amazon" *Population, Space and Place* (in press)
- * Lee, G, P Yori, M Parades, **WK Pan**, L. Caufield, R. Gilman, J Sanders, H. Silva, MN Kosek (2012) "Comparative effects of vivax malaria, fever, and diarrhea on child growth" *International Journal of Epidemiology*
- * Singh, A, PK Pathak, RK Chauhan, **WK Pan** (2011) "Infant and child mortality in India in the last two decades: A Geospatial Analysis" *PLOS ONE* 6(11): e26856.
- * Farley, J., M. Ram, **WK Pan**, SM Waldman, GH Cassell, RE Chaisson, K Weyer, J. Lancaster, M. Van der Walt. (2011) "Outcomes of Multi-drug Resistant Tuberculosis (MDR-TB) Among a Cohort of South African Patients with High HIV Prevalence" *PLOS ONE* V6(7): e20436
- * Franklin, F, TA Laviest, DW Webster, **WK Pan** (2010) "Alcohol outlets and violent crime in the Nation's capital" *Western Journal of Emergency Medicine* v11(3): 283-90
- * Maciel, EL, **WK Pan**, RC Vieira, E Zandonade, M Palaci, R Dietze, R Ribeiro-Rodriguez, CM Moriera, JE Golub (2010). "Spatial patterns of pulmonary tuberculosis incidence and the relationship with socioeconomic status in Vitória, Brazil" *International Journal of Tuberculosis and Lung Disease*, V14(11): 1395-1402.
- Labrique, A., **WK Pan** (2010) "Tests: Understanding results, assessing utility and predicting performance" *American Journal of Ophthalmology*, V149(6): 878-881.
- Zevallos, K, G. Sandhu, K Sacksteder, P Yori, M Kosek, **WK Pan**, C Banda, B Herrera, T Valencia, RH Gilman, C Vidal, G Meza, KC Vergara, HH Garcia, CA Evans. "Human immunity against *Mycobacterium tuberculosis* antigens is augmented by deworming" *Journal of Infectious Disease* (accepted with revision).
- Pan, WK**, C Erlie, RE Bilsborrow (2010) "Morbidity and mortality disparities among colonist and indigenous populations in the Ecuadorian Amazon." *Social Science and Medicine*, V70(3): 401-411.
- Salmon, DA, PJ Smith, **WK Pan**, AM Navar, SB Omer, N Halsey. "Disparities in Preschool Immunization Coverage Associated with Maternal Age: United States, 2001-2003" (2009) *Human Vaccines*, V5(8)
- * Villaran, M., SM Montano, G Gonzalvez, LM Moyano, JC Chero, S Rodriguez, AE Gonzalez, **WK Pan**, VCV Tsang, RH Gilman and H. Garcia (2009) "Epilepsy and Neurocysticercosis: an Incidence Study in a Peruvian Rural Population" *Neuroepidemiology*, V33: 25-31
- * Vittor, AY, **WK Pan**, RH Gilman, J Tielsch, G Glass, T Shields, WS Lozano, VV Pinedo, JA Patz. (2009) "Ecological characteristics of *Anopheles darlingi* breeding habitat in the Amazon." *American Journal of Tropical Medicine & Hygiene*, V81(1): 5-12
- Pan, WK** (2009) "Population-Deforestation Dynamics and associations with Climate Change" Expert Group Meeting on Population Dynamics and Climate Change, June 25 2009, UN Population Fund and IIED.
- Walkup, JT, A Barlow, BC Mullany, **WK Pan**, N Goklish, R Hastings, B Cowboy, P Fields, EV Baker, K Speakman, G Ginsburg, R Reid (2009) "Randomized controlled trial of a paraprofessional-delivered in-home intervention for young reservation-based, American Indian mothers" *Journal of the American Academy of Child and Adolescent Psychiatry*, V48 (6): 591-601
- Salmon, DA, M Sotir, **WK Pan**, J Davis, SB Omer, J Berg, S Stokley, D Hopfensberger, N Halsey (2009) "Parental Vaccine Refusal in Wisconsin: A Case Control Study" *Wisconsin Medical Journal*, V108(1): 17-23
- * Escombe, R., D.A.J. Moore, R.H. Gilman, **WK Pan**, M. Navincopa, E. Ticona, C. Martinez, L. Caviedes, P. Sheen, A. Gonzalez, C.J. Noakes, J.S. Friedland, C. Evans. (2008) "The infectiousness of tuberculosis patients co-infected with HIV." *PLoS Medicine*, September 2008, V5(3): e188.
- * Oswald, WE, GC Hunter, AG Lescano, L. Cabrera, E Leontsini, **WK Pan**, V Paz-Soldan, RH Gilman (2008) "Direct observation of hygiene in a Peruvian shantytown: Not enough handwashing and too little water" *Tropical Medicine & International Health*. V13(11): 1421-8
- Kosek, M., P Yori, **WK Pan**, M. Paredes-Olortegui, RH Gilman, J Peres, CB Chavez, GM Sanchez, R Burga, E Hall (2008) "Epidemiology of highly endemic multiply antibiotic resistant Shigellosis in children in the Peruvian Amazon". *Pediatrics*, 122(3): e541-549
- Carr, DL, **WK Pan**, RE Bilsborrow, C Suchindran, TM Whitmore, F Murtinho (2008) "Un análisis multi-nivel de población y deforestación en El Parque Nacional Sierra de Lacandón, Petén, Guatemala" *Documents d'Anàlisi Geogràfica*
- Salmon, DA, **WK Pan**, SB Omer, AM Navar, W Orenstein, EK Marcuse, J Taylor, MP deHart, S Stokley, T Carter, N Halsey (2008). "Vaccine knowledge and practices of primary care providers of exempt vs. vaccinated children" *Human Vaccines*, V4 (4)

- * Beck, AL., RH Gilman, L Cabrera, **WK Pan**, V Cama, JS Friedland, J Lewis, MA Gatei, SR Bloom (2008) "Peptide YY: A gut hormone associated with anorexia during infectious diarrhea in children" *Journal of Pediatrics*, V153(5): 677-82.
- * Gavidia, C., AE Gonzalez, W Zhang, DP McManus L Lopera, B Ninaquispe, HH Garcia, S Rodriguez, M Verastegui, C Calderon, **WK Pan**, RH Gilman (2008) "Study of cystic echinococcosis in nine Peruvian highland communities using four diagnostic methods" *Emerging Infectious Diseases*, V14(2): 260-266.

CLASSROOM INSTRUCTION (since 2009)

Population-Environment Dynamics Influencing Human Health: 2009-2010 AY at JHSPH, 4th term; 2011-2012 AT at Duke, 2nd semester (GLHTL237S)

Spatial Methods in Epidemiology and Demography: 2012-2013 AY at Duke, 1st semester

Spatial Data Collection for Public Health Studies, Gates Institutes for Reproductive Health, Addis Adaba, Ethiopia June 2009

RESEARCH GRANT PARTICIPATION

Current Research Participation

"Population-Environment Dynamics influencing Malaria risk in the Peruvian Amazon"

Principal Investigator: William Pan 1K01HD055415-01A1

Agency: NICHD/NIAID

Period: 09/01/2008 - 08/31/2013

Goal: This is a K01 Mentored Career Development Award to improve skills and understanding of factors associated with malaria vector presence, vector parasitemia, and human malaria risk in the Peruvian Amazon.

Effort: 75%

Role: PI

"Development of a Detection and Early Warning System for Malaria Risk in the Amazon"

Principal Investigator: Ben Zaitchik

Agency: NASA

Period: 07/01/2011 - 06/30/2013

Goal: Determine the feasibility of developing an early warning system for malaria in the Amazon, focusing on data collected in Peru.

Effort: 10%

Role: co-PI

"Road construction, colonization, and epidemic malaria in Peru's Northern Amazon"

Principal Investigator: William Pan

Agency: JHSPH Faculty Research Initiatives Fund

Period: 01/01/2008 - 12/31/2009

Goal: Begin preliminary collection of vector, land use, and human infection data for the purpose of submitting a larger R01 proposal.

Donated effort: 5%

Role: PI

"CREATE: Consortium to Respond Effectively to the AIDS-TB Epidemic"

Principal Investigator: Richard Chaisson

Agency: Bill and Melinda Gates Foundation

Period: 07/01/2004 - 07/01/2013

Goal: Develop, evaluate, and if appropriate, promote new applications of existing tools so as to reduce the incidence of tuberculosis in settings of high HIV prevalence.

Role: Statistician, spatial analysis.

Donated Effort: 15%
Role: co-I

“Family Planning Plus”

PI: Amy Tsui

Period: 03/09/2009 – 02/29/2014

Agency: Bill and Melinda Gates Institute for Population and Reproductive Health

Goal: To improve our understanding of the role of household wealth and individual employment on reproductive health

Role: Co-Investigator

Comprehensive Investigation into the Risk Factors of Malnutrition and the Consequences for Child Health

PIs: Mark Miller (mult-site PI), Laura Caulfield (JHSPH PI), Margaret Kosek (Peru PI)

Period: 12/1/2008-11/30/2013

Agency: Foundation of the NIH

Goal: Multi-country diarrhea etiology study to determine factors associated with timing of diarrheal disease during the first two years of life and the impact of specific pathogens on growth trajectories.

Effort: 20%

Role: Statistician & Spatial Epidemiologist

Novel techniques for the detection of Pediatric TB in Ethiopia

PI: Robert Gilman

Period: 9/30/2008-6/30/2013

Agency: NIH

Goal: To determine if the diagnosis of active TB in children and the recovery of Mtb isolates from these children can be done more quickly, efficiently, and cost-effectively using alternative clinical specimens in combination with more rapid diagnostic methods for both confirmation of TB and detection of drug resistance compared to current standard techniques.

Role: Statistician

“Migration along the Transoceanic Highway: Prerequisites for understanding changes in population, disease and environment”

Principal Investigator: William Pan

Agency: Hopkins Population Center

Goal: To better understand migration dynamics, household structure and health issues near the border of Peru and Brazil along the Transoceanic Highway.

Role: PI