

CURRICULUM VITAE
STEVEN T. STODDARD, PH. D.

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SUMMARY

I started my career in science as an undergraduate research assistant studying intercellular signaling in airway epithelia during *Bordetella* infection. As a graduate student, I spent time on problems in animal behavior, neurophysiology, reproductive physiology, molecular biology, and physical biochemistry (why don't fish freeze in the antarctic sea?) before moving out of the lab to study endangered species conservation with computer simulation models and geospatial analyses. I moved on to specialize in the ecology and epidemiology of the vector-borne disease, dengue, conducting projects that ranged from mosquito population genetics and behavior to the modulatory effects of human immunological responses on virus transmission patterns. I also developed important methods and theory for understanding the role of human mobility in the transmission of infectious disease. Throughout my career I have been deeply involved in every detail of primary research, from study conception to design and, especially, implementation and direction in the field. Intimate with the data, able to conduct analyses, and fortunate to work with talented colleagues, I have written or co-written >25 peer reviewed publications, many in high impact journals, and successfully secured extramural funding. I have mentored numerous students across levels of preparation and taught in the US and Colombia.

EDUCATION

- UNIVERSITY OF ILLINOIS AT URBANA-CHAMPAIGN, **PhD, Biology**, Urbana, IL (2006). Dissertation: *Predicting Mobile Species Response to Landscape Structure: The Roles of Spatiotemporal Pattern and Individual Dispersal*.
- UNIVERSITY OF ILLINOIS AT URBANA-CHAMPAIGN, **MS, Molecular and Integrative Physiology**, Urbana, IL (2001). Thesis: *Antifreeze Potentiating Protein in Antarctic Notothenioid Fishes*.
- UNIVERSITY OF WYOMING, **BS, Biology and Spanish**, Laramie, WY (1999). With Honors.
- PONTIFICIA UNIVERSIDAD JAVERIANA, International Exchange, Bogotá, Colombia (1997)

PROFESSIONAL HISTORY

PAXVAX INC., REDWOOD CITY, CA

- Apr. 2017 – Present. **Medical Science Liaison**, Medical Affairs.
 - Liaison tasked with educating health care providers about the scientific basis of vaccines for cholera and typhoid.

SAN DIEGO STATE UNIVERSITY, SAN DIEGO, CA

- Jan. 2015 – Present. **Adjunct Associate Professor**, Graduate School of Public Health.
 - Professor of epidemiology and public health. Expert on human mobility and mosquito-borne disease epidemiology and control, especially *Aedes* mosquitoes that transmit dengue, Zika, and chikungunya viruses.
 - Spearheading an international exchange program of courses and scientific collaboration between San Diego State University and the Universidad del Valle, in Cali, Colombia.

UNIVERSIDAD DEL VALLE, CALI, COLOMBIA

- Aug. 2016 – Present. **Lecturer**, School of Public Health.
 - Teaching topics in epidemiology and public health for the Masters in Public Health and Medicine programs.

INDEPENDENT

- April 2015 – April 2017. **Science Consultant.**
 - Independent science consultant specialized in infectious disease epidemiology, virology, and mosquito-borne diseases. Expert in field epidemiology trial design and implementation, best practices, data architecture and management, statistical analysis, and writing/editing.
 - Clients have included Notre Dame University, Universidad Autonoma del Yucatan, Cactus Communications, and Bioedit.

UNIVERSITY OF CALIFORNIA, DAVIS, CA

- Sept. 2010 - Mar. 2015. **Assistant Project Scientist**, Ecology and Epidemiology of Vector-borne Disease, Department of Entomology and Nematology.
 - Directed complex, multi-annual, field epidemiological research in Peru (case-control, longitudinal cohorts, surveillance). Managed 20 project personnel. Conducted de novo analysis and modeling of complex serological and mobility data sets; wrote and published results in high-impact publications including the *Proceedings of the National Academy of Sciences* and *The Journal of Infectious Diseases* (15 publications in this period) and presented at international science congresses.
 - Data Core Leader (Director/PI of data operations): Directed and led development of information systems to support multiple long-running epidemiological trials based in Peru that involved more than 15,000 participants. Oversaw 8 personnel in Peru and the US. Managed ~\$130K annual budget.
 - Wrote grant proposals and prepared budgets for extramural funding from the NIH, Gates Foundation, and DoD. Secured over \$9.5M in research allocations, including ~\$700K for the Data Core under my direction. Wrote human subjects and Institutional Review Board (regulatory) protocols and reports.
 - Managed laboratory research (8 technicians and students) focused on molecular genotyping and population genetics of insects; Mentored numerous students in Peru and in California at all levels of preparation (undergraduate through post-doctoral).
- Jan. 2007 - Aug. 2010. **Post-Doctoral Scholar**, Ecology and Epidemiology of Vector-borne Disease, Department of Entomology.
 - Developed novel theoretical, methodological and analytical tools and models for the acquisition and spatial analysis of behavioral (human movement) and epidemiological data; co-wrote and published research findings in the scientific literature (7 publications in this period).
 - Directed team-based research studies and supervised and trained research technicians (9 personnel) and data personnel (3) in Iquitos, Peru. Collaborated effectively with researchers from diverse backgrounds (geography, social science, math, medicine, engineering).
 - Designed and developed a database management application (MySQL/PHP) and trained project personnel, tripling the research program's operational capacity.

FOGARTY INTERNATIONAL CENTER, BETHESDA, MD

- Sept. 2010 - Mar. 2015. **Affiliate Member**. Mosquito Working Group, Research and Policy for Infectious Disease Dynamics, Department of Homeland Security.
 - Participated as a subject-matter expert (epidemiology, dengue, mosquito-borne disease, human movement) in workshops and publications.

UNIVERSITY OF ILLINOIS AT URBANA-CHAMPAIGN, URBANA, IL

- 2002 - 2006. **Research Assistant**, Program in Ecology and Evolutionary Biology (agent-based modeling, GIS, databases).
- 1999 - 2002. **Research Assistant**, Department of Molecular and Integrative Physiology (molecular biology, protein biochemistry).

- 1999 - 2001. **Teaching Assistant**, Department of Molecular and Integrative Physiology (laboratory courses, human physiology, comparative physiology).

UNIVERSITY OF WYOMING, LARAMIE, WY

- 1997 - 1999. **Research Assistant**, Department of Biology (cellular biology, microscopy).

ACADEMIC PUBLICATIONS, REFEREED

1. Hau M, **Stoddard ST** and Soma KK (2004) Territorial aggression and hormones during the non-breeding season in a tropical bird. *Hormones and Behavior* **45**, 40-49.PMCID: 14733890
2. Vazquez-Prokopec GM, **Stoddard ST**, Paz-Soldan V, Morrison AC, Elder JP, Kochel TJ, Scott TW and Kitron U (2009) Usefulness of commercially available GPS data-loggers for tracking human movement and exposure to dengue virus. *International Journal of Health Geographics* **8**, 68.PMCID: 19948034
3. **Stoddard ST**, Morrison AC, Vasquez-Prokopec GM, Paz Soldan V, Kochel TJ, Kitron U, Elder JP and Scott TW (2009) The role of human movement in the transmission of vector-borne pathogens. *PLoS Neglected Tropical Diseases* **3**, e481.PMCID: 19621090
4. Lambrechts L, Knox TB, Wong J, Liebman KA, Albright RG and **Stoddard ST** (2009) Shifting priorities in vector biology to improve control of vector-borne disease. *Trop Med Int Health* **14**, 1505-1514.PMCID: 19807899
5. Paz-Soldan VA, **Stoddard ST**, Vazquez-Prokopec G, Morrison AC, Elder JP, Kitron U, Kochel TJ and Scott TW (2010) Assessing and Maximizing the Acceptability of Global Positioning System Device Use for Studying the Role of Human Movement in Dengue Virus Transmission in Iquitos, Peru. *American Journal of Tropical Medicine and Hygiene* **82**, 723-730.PMCID: 20348526
6. **Stoddard ST** (2010) Continuous versus binary representations of landscape heterogeneity in spatially-explicit models of mobile populations. *Ecological Modelling* **221**, 2409-2414.
7. Forshey BM, Laguna-Torres VA, Vilcarrromero S, Bazan I, Rocha C, Morrison AC, **Stoddard ST**, Alegre Y, Gomez J, Scott TW and Kochel TJ (2010) Epidemiology of influenza-like illness in the Amazon Basin of Peru, 2008-2009. *Influenza and Other Respiratory Viruses* **4**, 235-243.PMCID: 20836798
8. Morrison AC, Minnick SL, Rocha C, Forshey BM, **Stoddard ST**, Getis A, Focks DA, Russell KL, Olson JG, Blair PJ, Watts DM, Sihuinchu M, Scott TW and Kochel TJ (2010) Epidemiology of Dengue Virus in Iquitos, Peru 1999 to 2005: Interepidemic and Epidemic Patterns of Transmission. *PLoS Neglected Tropical Diseases* **4**, e670.PMCID: 20454609
9. Wong J, **Stoddard ST**, Astete H, Morrison AC and Scott TW (2011) Oviposition site selection by the dengue vector *Aedes aegypti* and its implications for dengue control. *PLoS Neglected Tropical Diseases* **5**, e1015.
10. Wong J, Chu YY, **Stoddard ST**, Lee Y, Morrison AC and Scott TW (2012) Microsatellite-Based Parentage Analysis of *Aedes aegypti* (Diptera: Culicidae) using Nonlethal DNA Sampling. *Journal of Medical Entomology* **49**, 85-93.PMCID: PMC3312012
11. Wong J, Morrison AC, **Stoddard ST**, Astete H, Chu YY, Baseer I and Scott TW (2012) Linking Oviposition Site Choice to Offspring Fitness in *Aedes aegypti*: Consequences for Targeted Larval Control of Dengue Vectors. *PLoS Negl Trop Dis* **6**, e1632.PMCID: PMC3341338
12. Liebman KA, **Stoddard ST**, Morrison AC, Rocha C, Minnick S, Sihuinchu M, Russell KL, Olson JG, Blair PJ and Watts DM (2012) Spatial Dimensions of Dengue Virus Transmission across Interepidemic and Epidemic Periods in Iquitos, Peru (1999--2003). *PLoS Neglected Tropical Diseases* **6**, e1472.PMCID: PMC3283551
13. Halsey ES, Vilcarrromero S, Forshey BM, Rocha C, Bazan I, **Stoddard ST**, Kochel TJ, Casapia M, Scott TW and Morrison AC (2013) Performance of the tourniquet test for diagnosing dengue in Peru. *Am J Trop Med Hyg* **89**, 99-104.PMID: 23716410

14. Forshey BM, **Stoddard ST** and Halsey ES (2013) Direct feeding on dengue patients yields new insights into human-to-mosquito dengue virus transmission. *Future Virology* **8**, 1145-1149.
15. Olkowski S, Forshey BM, Morrison AC, Rocha C, Vilcarromero S, Halsey ES, Kochel TJ, Scott TW and **Stoddard ST** (2013) Reduced risk of disease during post-secondary dengue virus infections. *Journal of Infectious Diseases* **208**, 1026-1033. PMID: PMC3749012
16. Vazquez-Prokopec GM, Bisanzio D, **Stoddard ST**, Paz-Soldan V, Morrison AC, Elder JP, Ramirez-Paredes J, Halsey ES, Kochel TJ, Scott TW and Kitron U (2013) Using GPS Technology to Quantify Human Mobility, Dynamic Contacts and Infectious Disease Dynamics in a Resource-Poor Urban Environment. *PLoS One* **8**, e58802. PMID: PMC3620113
17. **Stoddard ST**, Forshey BM, Morrison AC, Paz-Soldan VA, Vazquez-Prokopec GM, Astete H, Reiner RC, Vilcarromero S, Elder JP, Halsey ES, Kochel TJ, Kitron U and Scott TW (2013) House-to-house human movement drives dengue virus transmission. *Proceedings of the National Academy of Sciences* **110**, 994-999. PMID: PMC3549073
18. Reiner RC, **Stoddard ST** and Scott TW (2014) Socially-structured human movement shapes dengue transmission despite the diffusive effect of mosquito dispersal. *Epidemics* **6**, 30-36. PMID: 24593919
19. Liebman KA, **Stoddard ST**, Reiner RC, Perkins TA, Astete H, Sihuincha M, Halsey ES, Kochel TJ, Morrison AC and Scott TW (2014) Determinants of heterogeneous blood feeding patterns by *Aedes aegypti* in Iquitos, Peru. *PLoS Neglected Tropical Diseases* **8**, e2702.
20. Reiner Jr. RC, **Stoddard ST**, Forshey BM, King AA, Ellis AM, Lloyd AL, Long KC, Rocha C, Vilcarromero S, Astete H, Bazan I, Lenhart A, Vazquez-Prokopec GM, Paz-Soldan VA, McCall PJ, Kitron U, Elder JP, Halsey E, Morrison AC, Kochel TJ, et al. (2014) Time-varying, serotype-specific force of infection estimates for dengue virus. *Proceedings of the National Academy of Sciences* **published ahead of print May 20, 2014**, .
21. Paz-Soldan VA, Reiner, Jr. RC, Morrison AC, **Stoddard ST**, Kitron U, Scott TW, Elder JP, Halsey ES, Kochel TJ, Astete H and Vazquez-Prokopec GM (2014) Strengths and weaknesses of Global Positioning System (GPS) data-loggers and semi-structured interviews for capturing fine-scale human mobility: findings from Iquitos, Peru. *PLoS Neglected Tropical Diseases* **8(6)**: e2888. doi: 10.1371/journal.pntd.0002888.
22. **Stoddard ST**, Wearing HJ, Reiner RCJ, Morrison AC, Astete H, Vilcarromero S, Alvarez C, Ramal-Asayag C, Sihuincha M, Rocha C, Halsey ES, Scott TW, Kochel TJ and Forshey BM (2014) Long-term and seasonal dynamics of dengue in Iquitos, Peru. *PLoS Neglected Tropical Diseases* **8**: e3003. doi: 10.1371/journal.pntd.0003003.
23. LaCon G, Morrison AC, Astete H, **Stoddard ST**, Paz-Soldan VA, Elder JP, Halsey ES, Scott TW, Kitron U and Vazquez-Prokopec GM (2014) Shifting patterns of fine scale spatial clustering of *Aedes aegypti* abundance in Iquitos, Peru. *PLoS Neglected Tropical Diseases* **8**, e3038. doi: 10.1371/journal.pntd.0003038.
24. Perkins TA, Garcia AJ, Paz-Soldan VA, **Stoddard ST**, Reiner Jr. RC, Vazquez-Prokopec GM, Bisanzio D, Morrison AC, Halsey ES, Kochel TJ, Smith DL, Kitron U, Scott TW and Tatem AJ (2014) Theory and data for simulating fine-scale human movement in an urban environment. *Proceedings of the Royal Society Interface* **11(9)**. doi: 10.1098/rsif.2014.0642.
25. Forshey BM, Reiner RC, Olkowski SM, Morrison AC, Espinoza A, Long KC, Vilcarromero S, Casanova W, Wearing HJ, Halsey ES, Kochel TJ, Scott TW, and **Stoddard ST**. Incomplete protection against dengue virus type 2 reinfection in Peru. *PLoS Neglected Tropical Diseases* **10**, e0004398. doi: 10.1371/journal.pntd.0004398.
26. Forshey BM, **Stoddard ST**, and Morrison, AC. Dengue viruses and lifelong immunity: re-evaluating the conventional wisdom. *Journal of Infectious Diseases*. doi: 10.1093/infdis/jiw102.
27. Perkins TA, Paz-Soldan VA, **Stoddard ST**, Morrison AC, Forshey BM, Long KC, Halsey ES, Kochel TJ, Elder JP, Kitron U, Scott TW, and Vazquez-Prokopec GM. Calling in sick: impacts of fever on intra-urban human mobility. *Proceedings of the Royal Society B*. **283(1834)**, 20160390. doi: 10.1098/rspb.2016.0390.

28. Cromwell EA, **Stoddard ST**, Barker CM, Van Rie A, Messer WB, Meshnick SR, Morrison AC, and Scott TW. The relationship between entomological indicators of *Aedes aegypti* abundance and dengue infection. *PLoS NTDs*. **In press**.

OTHER PUBLICATIONS AND WORKSHOPS

1. Thesis: **Steven T. Stoddard**. 2006. Predicting mobile species response to landscape structure: The roles of spatiotemporal pattern and individual dispersal. Dissertation. University of Illinois at Urbana-Champaign.
2. Software: **Steven T. Stoddard**. SMITHCA. 2006. An individual based simulation model developed in NetLogo for my dissertation research. Urbana, IL. (limited distribution)
3. Software: **Steven T. Stoddard**. LSyn. 2006. Utilities for synthesizing static and dynamic neutral landscape models developed in the R programming language as part of my dissertation research. Urbana, IL. (limited distribution)
4. Software: **Steven T. Stoddard**. Proyecto Dengue Data Server (<http://dengue.ucdavis.edu>). 2007-2010. A web-based application for collaboration, data entry, data access, and analysis developed to facilitate collaborative research in Iquitos, Peru (MySQL, PHP, Apache).
5. Report: Helvio Astete and **Steven T. Stoddard**. 2010. "Efecto del uso de envases de agua sobre la eficacia del Abate (temephos) contra larvas y pupas de *Aedes aegypti*". Report to the Ministry of Health, Iquitos, Peru.
6. Workshop: Movement and the Spatial Dynamics of Mosquito-Transmitted Diseases, Washington D.C., January 2010. Mosquito Working Group, Research and Policy for Infectious Disease Dynamics, Department of Homeland Security and Fogarty International Center, National Institutes of Health.
7. Workshop: Network Modeling for Vector-borne Disease, The Pennsylvania State University, June 2010. Mosquito Working Group, Research and Policy for Infectious Disease Dynamics, Department of Homelands Security and Fogarty International Center, National Institutes of Health.
8. Workshop: Quantification of Fine Scale Human Movement, Emory University, November 2011. Mosquito Working Group, Research and Policy for Infectious Disease Dynamics, Department of Homeland Security and Fogarty International Center, National Institutes of Health.
9. Workshop: Dengue workshop. National Institute of Mathematical and Biological Synthesis, July 2012. Knoxville, TN.
10. Workshop: Quantification of Fine Scale Human Movement II, Emory University, August 2012. Mosquito Working Group, Research and Policy for Infectious Disease Dynamics, Department of Homeland Security and Fogarty International Center, National Institutes of Health.
11. Workshop: Quantifying Fine Scale Human Movement. Johns Hopkins Bloomberg School of Public Health in Baltimore, Maryland, September 2013. Mosquito Working Group, Research and Policy for Infectious Disease Dynamics, Department of Homeland Security and Fogarty International Center, National Institutes of Health.
12. Workshop: Workshop on Mosquitoes, Maps and Models. University of California, Davis, April, 2014. Mosquito Working Group, Research and Policy for Infectious Disease Dynamics, Department of Homeland Security and Fogarty International Center, National Institutes of Health.

POPULAR PUBLICATIONS

WRITING AS S. S. DUDLEY

1. **Dudley, S. S.** (2015) *Butterfly Wish. Selara Leda and Burt Adventure #1*. Stoddard Books, Davis, California. ISBN: 978-1-942609-02-5.
2. **Dudley, S. S.** (2015) *Elf Hills*. Stoddard Books, Davis, California. ISBN: 978-1-942609-00-1

CURRENT RESEARCH CONTRACTS

- **Familias Sin Dengue**

Grant from Sanofi Pasteur to La Universidad Autónoma del Yucatan (PI: Hector Gomez, Instituto Nacional de Salud, Mexico).

Overview: The objective of the project is to measure the impact of the dengue vaccine rollout in Mérida, Mexico.

Role: Consultant. Information system design and implementation to support research operations, oversight and management of database related operations.

COMPLETED RESEARCH SUPPORT

- **Spatial Repellants for Control of Vector-borne Disease**

Grant No.: OPP1081737 from Notre Dame University (Nicole Achee and Neil Lobo, Project Leaders). 04/01/2015 - 03/31/2016

Overview: The objective of this project was to test the protective efficacy of spatial repellent projects for dengue prevention.

Role: Consultant. Theory and model development. Statistics and data management, analysis, study design, manuscript writing.

- **Heterogeneities in Dengue Virus Transmission**

Grant No.: P01 AI098670-01A1 from the National Institute of Allergy and Infectious Diseases for \$7,319,879 to Thomas W. Scott, PI. 05/01/2014 - 04/30/2019

Overview: The goal of this project is to measure key heterogeneities in individual host contribution to dengue virus contribution due to variability in transmissibility and exposure to vectors. This Program Project has three project components and three core components, with all field work based in Iquitos, Peru.

Roles: Core Leader and Consultant. Data management, operations, and field study design.

- **Measuring Entomological Risk for Dengue**

Grant No.: NIH R01AI069341 for \$2,249,318 to Thomas W. Scott, PI. 04/01/ 2006 – 03/31/ 2011

Overview: The goal of this project is to test the hypothesis that spatial dimensions of dengue virus transmission are defined by daily patterns of human movement. We currently our monitoring the movements of a cohort of participants (n = 2400) in Iquitos, Peru as well as populations of mosquitoes at the places they visit in order to better understand factors defining individual risk of infection and population level patterns of transmission.

Role: Co-investigator. Developed methods for measuring human movement, developed database system, directed field research, analyzed data and wrote scientific papers and presentations.

- **Innovative Vector Control Consortium**

Bill and Melinda Gates Foundation: \$50,744,497 to J Hemingway Principal Investigator, TW Scott, Co-Investigator and Coordinator, Interventions Consortium. 10/15/05-10/15/10. No-cost extension through October 2011.

Role: Post-doctoral researcher. Field research, data analysis, wrote scientific papers and presentations.

- **Genetic strategies for control of dengue virus transmission**

Grand Challenges in Global Health, NIH and Bill and Melinda Gates Foundation: \$19,679,891 to AA James, Principal Investigator, TW Scott, Collaborating Researcher and Field Site Activities Coordinator. 09/01/05-08/31/10. No-cost extension through June 2012.

Role: Post-doctoral researcher. Field research, data analysis, wrote scientific papers and presentations.

INVITED AND CONFERENCE PRESENTATIONS

1. Dengue immunity: Re-evaluating the conventional wisdom and assessing the implications for disease prevention. August 31, 2016. Invited talk, Kaohsiung Medical University, Kaohsiung City, Taiwan.
2. Zika, dengue, malaria—Don't blame (just) the mosquito: Human behavior and the transmission and control of mosquito-borne pathogens. August 30, 2016. Invited talk. Academia Sinica, Taipei, Taiwan.
3. Zika, dengue, malaria—Don't blame (just) the mosquito: Human behavior and the transmission and control of mosquito-borne pathogens. March 18, 2016. Invited talk. Graduate School of Public Health, San Diego State University, San Diego, California.
4. The influence of human movement on dengue transmission and its implications for the control of *Aedes aegypti*. November 20, 2013. II International Meeting on "Control of *Aedes aegypti*: Why can't we control *Aedes aegypti*? Current status and future perspectives." Organized by the Pan American Health Organization, the US Centers for Disease Control, and The Gorgas Commemorative Institute. Panamá City, Panamá. Given in Spanish.
5. Reciprocal human movement among common places shapes the spread of dengue virus. Annual meeting of the American Society for Tropical Medicine and Hygiene, Atlanta, GA. November 2012
6. Vectors in disease models: perspectives from Iquitos, Peru. Round-table discussion, Vectors in disease models. Dengue Workshop. National Institute of Mathematical and Biological Synthesis, Knoxville, TN. July 2012.
7. Fine-scale human mobility defines patterns of dengue virus transmission. Guest speaker, Infectious Diseases Directorate, Naval Medical Research Center, Silver Spring, MD. January 20, 2012.
8. Human movement determines risk of infection with dengue virus. Annual meeting of the American Society for Tropical Medicine and Hygiene, Philadelphia, PA. December 2011.
9. Seasonal patterns of dengue virus transmission in Iquitos, Peru. Annual meeting of the American Society for Tropical Medicine and Hygiene, Philadelphia, PA. December 2011.
10. Association between pre-existing DENV antibody and the occurrence of symptomatic illness due to DENV-4 infection, Iquitos, Peru. Annual meeting of the American Society for Tropical Medicine and Hygiene, Philadelphia, PA. December 2011.
11. Importancia del movimiento humano en la propagación y control de dengue [Importance of human movement in the transmission and control of dengue]. Curso Internacional de Enfermedades Tropicales e Infecciosas, Iquitos, Peru. October 2011 (presented in Spanish).
12. Ecological and behavioral considerations for the auto-dissemination of lethal agents to aquatic habitats for mosquito population control. Symposium: Critical Vector Ecology Questions Relevant to Autocidal Mosquito Control Approaches. Organized by Stephen Dobson, U. Kentucky. Annual meeting of the Society for Vector Ecology, Flagstaff AZ. September 26, 2011
13. Seasonal patterns of dengue virus transmission in Iquitos, Peru. Ecology and Evolution of Infectious Diseases Conference, Santa Barbara, California. June 2011.
14. Contact cluster investigations reveal a key role of human movement patterns in the transmission of dengue virus. American Society of Tropical Medicine and Hygiene Annual Meeting, Atlanta, GA November 2010.
15. Context-dependent oviposition strategies by *Aedes aegypti*. American Society of Tropical Medicine and Hygiene Annual Meeting, Atlanta, GA November 2010.
16. Spatial scale of dengue virus transmission in Iquitos, Peru. American Society of Tropical Medicine and Hygiene Annual Meeting, Atlanta, GA November 2010.
17. Using human movement data to derive dengue virus transmission networks. American Society of Tropical Medicine and Hygiene Annual Meeting, Atlanta, GA November 2010.
18. Human movement and mosquito-borne disease dynamics. Movement and the Spatial Dynamics of Vector Borne Diseases Workshop, Research and Policy for Infectious Disease Dynamics, Washington D.C. January 2010.

19. Assessing the role of human movement in the transmission dynamics of dengue virus in Iquitos, Peru. American Society for Tropical Medicine and Hygiene Annual Meeting, Washington D. C. November 2009.
20. Oviposition site selection in the dengue vector, *Aedes aegypti*. Annual Meeting of the American Society for Tropical Medicine and Hygiene, Washington D.C. November 2009.
21. Population-based studies to investigate the expansion of a newly-introduced dengue virus serotype in Iquitos, Peru. Annual Meeting of the American Society for Tropical Medicine and Hygiene, Washington D.C. November 2009.
22. Usefulness of commercially available GPS data-loggers for tracking human movement and risk of dengue virus infection. Annual Meeting of the American Society for Tropical Medicine and Hygiene, Washington D.C. November 2009.
23. Local spatiotemporal patterns of dengue virus transmission in Iquitos, Peru. Annual Meeting of the American Society for Tropical Medicine and Hygiene, Washington D.C. November 2009.
24. Assessing the role of human movement in the transmission dynamics of dengue virus in Iquitos, Peru. Dengue/*Aedes aegypti* workshop, Davis, CA. May 2009.
25. Spatial patterns of dengue transmission in Iquitos, Peru. Dengue/*Aedes aegypti* workshop, Davis, CA. May 2009.
26. Assessing container suitability for larval development and adult production of *Aedes aegypti* in Iquitos, Peru. Dengue/*Aedes aegypti* workshop, Davis, CA. May 2009.
27. The spatial dimension of dengue transmission in Iquitos, Peru. American Society for Tropical Medicine and Hygiene Annual Meeting, New Orleans, Louisiana. December 2008.
28. Using GPS technology to study disease transmission: What do potential study participants think about this? American Society for Tropical Medicine and Hygiene Annual Meeting, New Orleans, Louisiana. December 2008.
29. Effects of food availability and density dependence on larval development and adult production of *Aedes aegypti* in Iquitos, Peru. Society for Vector Ecology Annual Conference, Fort Collins, Colorado. October 2008.
30. Container productivity, density dependence, and larvicide strategies for *Aedes aegypti*. Dengue/*Aedes aegypti* workshop, North Carolina State University. April 2008.
31. Estimating entomological risk in space and time; the Activity Space project (Iquitos). Dengue/*Aedes aegypti* workshop, North Carolina State University. April 2008.
32. Information systems for large scale eco-epidemiological research. Dengue/*Aedes aegypti* workshop, North Carolina State University. April 2008.
33. Population success in dynamic landscapes: individual dispersal and spatiotemporal pattern. Ecological Society of America Meeting, San Jose, CA. August 2007.
34. Predicting mobile species response to landscape structure: The roles of spatiotemporal pattern and individual dispersal. Program in Ecology and Evolutionary Biology, University of Illinois at Urbana-Champaign. Urbana, IL. September 2006.
35. Critical extinction thresholds: The role of dispersal behavior. US International Association of Landscape Ecology Symposium, San Diego, CA. April 2006.
36. Extinction thresholds in complex landscapes: The role of dispersal behavior. Graduates in Ecology and Evolutionary Biology Annual Symposium, University of Illinois, Champaign, IL. February 2006.
37. A GIS-based predictive habitat model for the gopher tortoise (*Gopherus polyphemus*), Graduates in Ecology and Evolutionary Biology Annual Symposium, University of Illinois, Champaign, IL, 2004.
38. Modeling the effects of landscape change on populations of rare species. Construction Engineering Research Laboratory, Champaign, IL, 2003.
39. Antifreeze potentiating protein. Society for Integrative and Comparative Biology, Chicago, IL. 2001.
40. Antifreeze potentiating protein. Molecular and Cellular Biology Symposium, University of Illinois, Champaign, IL, 2000.

41. Tracheal epithelial cell calcium signaling in response to infection by *Bordetella bronchiseptica*.
Conference for Undergraduate Research, Washington, D.C., 1998.

AWARDS, FELLOWSHIPS, HONORS, GRANTS

- Academic Federation Research Travel Award, University of California Davis, 2011
- Academic Federation Research Travel Award, University of California Davis, 2010
- NASA-MSU Professional Enhancement Award, U.S. International Association of Landscape Ecology, 2006
- Graduate College Conference Travel Grant, University of Illinois at Urbana-Champaign, 2006
- Program in Ecology and Evolutionary Biology Travel Grant, University of Illinois at Urbana-Champaign, 2006
- Trainee, National Institutes of Health Systems and Integrative Biology Training Grant, University of Illinois at Urbana-Champaign, 2002
- University of Illinois Block Fellowship, University of Illinois at Urbana-Champaign, fall 1999
- NSF/EPSCoR summer undergraduate research grant, University of Wyoming, 1998

TEACHING

- 2017 Spring. Public Health Challenges, Colombia, Graduate School of Public Health, San Diego State University (taught in Cali, Colombia). MPH and undergraduate students.
- 2016 Fall. Infectious disease epidemiology, School of Public Health, Universidad del Valle, Cali, Colombia. MPH students.
- 2016 Fall. Research methodology. School of Public Health, Universidad del Valle, Cali, Colombia. Medicine students.
- 2009 - 2015. Guest Lecturer for Changing Patterns of Vector-borne Infections (PHR 214) course at the University of California, Davis.
- 2011 - 2015. Guest Lecturer for Medical Entomology, University of California, Davis.
- 2001. T.A. for Comparative Physiology (MCB 441), Department of Molecular and Integrative Physiology.
- 2000. T.A. for Introduction to Human Physiology Lab (MCB 104), Department of Molecular and Integrative Physiology.

MENTORING/SUPERVISING

- Undergraduate students (10):
Peru: Marlon Piero Saavedra, Gabriela Vazquez, Angelo Mitidieri
UC Davis: Dan O'Brien, Ray Yue, Angie Tu, Imaan Baseer, Stephanie Ravelo
Other institutions: Brittany Prescott (Princeton), Caitlin Bradley (NCSU)
- Graduate students (7):
Peru: Helvio Astete, John Ramirez
UC Davis: Dr. Jacklyn Wong, Dr. Kelly Liebman, Dr. Sandra Olkowski
Other institutions: Du Nguyen (Tulane), Elizabeth Cramer (UNC)
- Post-doctoral scholars (3):
UC Davis: Dr. Kanya C. Long, Dr. Robert C. Reiner, Dr. T. Alex Perkins
- Technicians (16):
UC Davis: Katey Glunt, Yui Yin Chu, Stephanie Siefert
Peru: Jenifer Rios Lopez, Shirly Guedez Gonzalez, Wilder Carrasco Huaman, Wendy Lorena Quiroz, Helvio Astete, John Ramirez, Alan Lozano, Angelo Mitidieri, Gerson Perez, Hugo Jaba, Edwin Requena, Jorge Belchoir Vazquez, Jimmy Espinoza

PROFESSIONAL DEVELOPMENT

- Ecology and Evolution of Infectious Diseases workshop. University of California, Santa Barbara, June 22-25, 2011
- Ecology and Evolution of Infectious Diseases workshop. Cornell University, June 6-9, 2010.
- Bayesian Disease Mapping. Andrew B. Lawson. Medical University of South Carolina, Charleston, SC. September 24-25, 2009
- Spatial Analysis. Workshop organized by Dr. Uriel Kitron (University of Illinois at Urbana-Champaign) and Dr. Oswaldo Cruz (FIOCRUZ, Brazil). Universidad de Buenos Aires, Buenos Aires, Argentina. May 3 - 11, 2007.
- Introduction to Bayesian Modeling in Ecology. Workshop organized by Dr. Kiona Ogle (University of Wyoming). Annual Meeting of the Ecological Society of America, San Jose, California. August 5, 2007.
- Graduate Teaching Certificate, University of Illinois at Urbana-Champaign, 2001

ACADEMIC SERVICE

- Spearheading international exchange program between the Graduate School of Public Health at San Diego State University and the Escuela de Salud Publica at the Universidad del Valle in Cali, Colombia.
- Entomology and Nematology Academic Review Committee, 2013-2014.
- Session Chair, Flavivirus - Dengue - Epidemiology. American Society for Tropical Medicine and Hygiene Annual Conference, 2010.
- Brokered a Memorandum of Agreement between the University of California, Davis and the Universidad Nacional de la Amazonia Peruana (UNAP) for teaching, mentoring, and research, 2010.
- Basic Science Trainee Representative, American Society for Tropical Medicine and Hygiene Annual Business Meeting, 2010.
- Reviewer: Wellcome Trust, *The Journal of Medical Entomology*, *Evolutionary Applications*, *The Open Infectious Diseases Journal*, *The American Journal of Tropical Medicine and Hygiene*, *Ecological Modeling*, *Tropical Medicine & International Health*, *Malaria Journal*, *Ecography*, *PLoS Computational Biology*, *PLoS One*, *PLoS NTDs*, and others.
- Program in Ecology and Evolutionary Biology. A/V assistant, 2003
- Evolution Conference, University of Illinois, Champaign, IL. A/V assistant, 2002
- Activities and symposium committee, Department of Molecular and Integrative Physiology, University of Illinois at Urbana-Champaign, 2001

ADDITIONAL INFORMATION

- *Languages*: Fluent in Spanish
- *Computational skills*: Geographic Information Systems, Spatial (gridded) simulation, Systems dynamics modeling, Agent-based Simulation, Multivariate statistics, Linear models, Spatial statistics, Programming, Database design and management, Data entry form development, NetLogo, Stella, R, BASH, UNIX, Excel, Word, PowerPoint, Arc-View, MySQL, SQL, PHP, Linux
- *Laboratory skills*: PCR, sample preparation for protein and DNA sequencing, protein and DNA sequence analysis, microscopy, sterile technique, tissue dissection, mosquito rearing
- *Field biology/epidemiology*: Mist-netting, mosquito collection, GPS, longitudinal cohorts, febrile surveillance, cluster sampling
- *Writing and research*: Manuscript editing and preparation, grant proposal preparation. Web content. Creative writing—published two children's books under pseudonym (S. S. Dudley).