TOMÁS MARTÍN LEÓN

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EDUCATION

UNIVERSITY OF CALIFORNIA, BERKELEY, EHS Graduate Group **Berkeley, California**

Doctor of Philosophy in Environmental Health Sciences, *2018*

Designated Emphasis in Development Engineering

Dissertation: Elucidating Liver Fluke Transmission Dynamics: Synthesizing Lab, Field, & Modeling Methods

- National Science Foundation Graduate Research Fellow 2012-2017
- Foreign Language & Area Studies Fellowship 2016-2017
- Fulbright Thailand Research Scholar 2014-2015
- Graduate Student Instructor for Intro to Environmental Health Sciences Spring 2017
- Graduate Student Instructor for Intervention Trial Design Fall 2016

Master of Science in Global Health and Environment *2014*

GPA: 3.98

- Thesis: Environmental Factors Impacting Liver Fluke Transmission in Natural Waters and Aquaculture Systems

GEORGIA INSTITUTE OF TECHNOLOGY, College of Engineering **Atlanta, Georgia**

Bachelor of Science in Environmental Engineering *2012*

- Minor: Sociology GPA: 3.97
- Teaching Assistant for Environmental Engineering Principles

EXPERIENCE

UNIVERSITY OF CALIFORNIA, BERKELEY, Marshall Lab **Berkeley, California**

Postdoctoral Researcher *2018 - Present*

- Researching the role of the environment in gene drive spread of modified *Aedes aegypti* and *Anopheles gambiae* mosquitoes with an emphasis on fine-scale movement
- Studying the impact of temperature, precipitation, and wind on disease host/vector movement in different disease transmission systems

TROPICAL DISEASE RESEARCH LABORATORY/CHINESE CENTER FOR DISEASE CONTROL AND PREVENTION **Khon Kaen, Thailand/ Jiangmen and Chengdu, China**

Graduate Researcher/Fulbright Scholar *2013 - 2018*

- Conducted field work for M.S. and Ph.D. in Thai and Chinese villages studying the transmission of *Opisthorchis viverrini* and *Clonorchis sinensis* in aquaculture and natural settings
- Planned and coordinated research experiments and lab operations with collaborators and local field teams, processing water, snail, fish, and reservoir host samples

AMERICAN JOBS PROJECT **Berkeley, CA**

State of Georgia Intern *2014*

- Researched Georgia's competitive advantages in the clean energy economy, identifying key clusters for job creation and development
- Interviewed major stakeholders in government, industry, non-profit, and academia, generating memos for use in shaping state clean energy policy

CENTERS FOR DISEASE CONTROL AND PREVENTION (NCEH/ATSDR) **Chamblee, GA**

Collegiate Leader in Environmental Health Intern/ORISE Fellow *2011 - 2012*

- Prepared environmental chemical exposure reports for brownfield sites across United States
- Developed programming tool to calculate doses of chemical and particulate emission exposures
- Modeled and analyzed emissions from contaminated Chinese drywall to determine human health effects

ENVIRONMENTAL MICROBIAL GENOMICS LABORATORY **Georgia Tech, Atlanta, GA**

Undergraduate Researcher with Dr. Konstantinidis *2010 - 2012*

- Studied strains of *E. coli* to differentiate between them in order to better determine which species indicate fecal contamination in water sources through isolation work and metagenomic mapping
- Awarded President's Undergraduate Research Award for Spring 2011

PIEDMONT PARK CONSERVANCY **Atlanta, GA**

Sustainability Intern *2010*

- Pursued and fostered collaborative partnerships for the park with environmental and arts groups
- Learned grant-writing and about nonprofit funding

MISSION IMPACT, HECHOS 2:8 **Antigua/Ixcan, Guatemala**

Intern *2009*

- Worked in rural northern Guatemala implementing biosand water filter projects in poor communities
- Gave presentations in Spanish to communities about health and hygiene and tested water quality of filtered and unfiltered water

ACTIVITIES & AFFILIATIONS

Prison University Program Math Instructor *2013 - Present*

- Co-taught six semesters of math courses (Pre-Algebra and Algebra) for inmates at San Quentin State Prison
- Led teaching team and contributed to syllabus and course content development

Homeless Ministry at Berkeley *2012 - 2018*

- Co-led campus organization conducting weekly service projects meeting needs of homeless population and connecting them with service providers

Environmental Health Sciences Student Representative *2012 - 2016*

- Represented department in school-wide government, planning school-wide events and making policy
- Participated in graduate admissions process and advised department on student issues
- Organized department-specific events, including student orientations and community-building activities

Center for Health Leadership Association *2012 - 2013*

- Developed leadership skills within public health via trainings, workshops, and symposia

Hunger and Homelessness Chair for MOVE Service Organization *2011 - 2012*

- Organized and led Hunger and Homelessness Awareness Week, a series of service projects, programming, and awareness events to get students involved with these causes in metro Atlanta
- Engaged other students in service through volunteering regularly overnight at Central Night Shelter and with Atlanta Community Food Bank

Sustainability Committee Co-Chair for Student Government Association *2009 - 2011*

- Worked with students, faculty, and administration to promote sustainability across Georgia Tech's campus
- Implemented double-sided printing to reduce paper usage, improved biking infrastructure with $20,000 allocation, and supported and expanded the Greek and Game Day Recycling programs

Georgia Tech Trailblazers Local Projects Coordinator *2010 - 2011*

- Planned environmental service projects in the Southeast for the undergraduate student body focused on developing trail infrastructure in state and national parks and fostering a love of the outdoors

City of Refuge Community Garden Coordinator *2010 - 2011*

- Developed and expanded the nonprofit's community garden

SKILLS

Languages: English - native; Spanish - conversational; Thai - conversational
Computing: R - advanced; QGIS/ArcGIS – intermediate; C++/Python – beginner

AWARDS & SCHOLARSHIPS

2017: EHS Block Grant Fellowship; **2016:** Foreign Languages & Area Studies Fellowship (Southeast Asia); **2015:** EHS Block Grant Fellowship; **2014:** Fulbright U.S. Student Award (Thailand); **2013:** C.C. Chen Funding; **2012**: NSF Graduate Research Fellowship, J. Erskine Love, Jr. Philanthropy Award, Hannabach Achievement Award, Visionary Service and Leadership Award; **2011:** Outstanding Senior Award in Civil and Environmental Engineering, GT Internship Student of the Year Award, Pay it Forward Grant Recipient, Henry Ford II Scholar Award, Faculty Women's Club Scholarship, Outstanding Journal Club Presentation Award; **2010:** President's Undergraduate Research Award, George G. Mooney Scholarship, Fleet Scholarship, Mundy Global Learning Experience Travel Award; **2009:** Omicron Delta Kappa Freshman Leadership Award; **2008:** Georgia Tech President's Scholarship, Robert C. Byrd Scholarship, Kathleen C. Spicer Scholarship

MANUSCRIPTS

T.M. León, T.C. Porco, C.S. Kim, S. Kaewkes, W. Kaewkes, B. Sripa, R.C. Spear (2018). Modeling liver fluke transmission in northeast Thailand: impacts of development, hydrology, and control. *Acta Tropica*.

J.C. Utazirubanda, T.M. León, P. Ngom (*in revision*). Variable selection via Group LASSO Approach: Application to the Cox Regression and frailty model.

P. Echaubard, T.M. León, K. Suwanatrai, J. Chaiyos, C.S. Kim, F.F. Mallory, S. Kaewkes, R.C. Spear, B. Sripa (2017). Experimental and Modeling Investigations of *Opisthorchis viverrini* Miracidium Transmission Over Time and Across Temperatures: Implications for Control. *International Journal for Parasitology* 47(5): 257-270.

X. Li, X. Chen, X. Yuan, G. Zeng, T.M. León, J. Liang, G. Chen, X. Yuan (2017). Characteristics of Particulate Pollution ($PM_{2.5}$ and PM_{10}) and Their Spacescale-Dependent Relationships with Meteorological Elements in China. *Sustainability* 9(12): 2330.

X. Li, W. Liu, Z. Chen, G. Zeng, C. Hu, T.M. León, J. Liang et al. (2015). The application of semicircular-buffer-based land use regression models incorporating wind direction in predicting quarterly NO_2 and PM_{10} concentrations. *Atmospheric Environment* 103: 18-24.

W. Liu, X. Li, Z. Chen, G. Zeng, T.M. León, J. Liang, G. Huang et al. (2015). Land use regression models coupled with meteorology to model spatial and temporal variability of NO 2 and PM 10 in Changsha, China. *Atmospheric Environment* 116: 272-280.

RECENT CONFERENCE PRESENTATIONS

H.M. Sánchez Castellanos, J. Bennett, S. Wu, V. Vazquez, T.M. León, J.M. Marshall. MGDrivE: A simulation framework for gene drive in spatially-explicit mosquito populations and its application to threshold-dependent systems. Poster presentation given at 2018 Annual Meeting of American Society of Tropical Medicine and Hygiene, New Orleans, USA.

T.M. León, R.C. Spear, K. Kuntiyawichai, V. Plermakamon, S. Kaewkes, W. Kaewkes, B. Sripa. Changing patterns of liver fluke transmission in northeast Thailand: integrating data in the context of Lawa model control efforts. Poster presentation given at Epidemics6 International Conference on Infectious Disease Dynamics (2017), Sitges, Spain.

T.M. León, R.C. Spear, K. Kuntiyawichai, V. Plermakamon, B. Sripa. Development impacts on water-related transmission of *Opisthorchis viverrini* in northeast Thailand. Oral presentation given at Impact of Environmental Changes on Infectious Diseases 2017 Conference, Trieste, Italy.