

BIOGRAPHICAL SKETCH

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NAME: Lopez Bolaños, Maria Renee

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POSITION TITLE: Associate Investigator

EDUCATION/TRAINING *(Begin with baccalaureate or other initial professional education, such as nursing, include postdoctoral training and residency training if applicable. Add/delete rows as necessary.)*

INSTITUTION AND LOCATION	DEGREE (if applicable)	Completion Date MM/YYYY	FIELD OF STUDY
Universidad del Valle de Guatemala	BS	06/2004	Biochemistry
Universidad del Valle de Guatemala	BS+1	06/2005	Biochemistry
Universidad del Valle de Guatemala	Diplomate	11/2008	Applied Epidemiology Specialization
Universidad del Valle de Guatemala	MSc	01/2017	Field Epidemiology training program, FETP

A. Personal Statement

I am a Biochemist and Epidemiologist with training in molecular and serological diagnostic tools. My experience includes research and detection of infectious and zoonotic diseases. I worked many years as a research assistant in West Nile virus surveillance, processing human and animal samples to detect flavivirus, WNV and dengue virus. At present, I am a research associate and the director of the Molecular Biology Laboratory of the Emerging Infectious Diseases Program, where I conduct research on respiratory, diarrheal and febrile diseases detecting endemic, emerging and re-emerging pathogens (SARS CoV2, Influenza, Other Non-flu virus, Bordetella, Rotavirus, Norovirus, Leptospira, Brucella and arbovirus) as part of a health services surveillance system which is carried out in some departments of Guatemala. My responsibility include training personal, standardization of sample collection procedures, laboratory tests implementation, quality control of sample testing, data collection and data analysis.

B. Positions, Scientific Appointments, and Honors**Positions and Scientific Appointments**

2009-present Associate Investigator, Director of the Emerging Infections Molecular Biology Laboratory, Center For Health Studies, Universidad del Valle de Guatemala

2020-present Professor of Public Health Surveillance, Public Health Laboratory and Outbreak Research, Universidad del Valle de Guatemala

2018-2019 Professor of Research Techniques. Universidad del Valle de Guatemala

2005-2009 Research Assistant: "West Nile Virus Ecology in a tropical Ecosystem in Guatemala", Center for Health Studies, Universidad del Valle de Guatemala

2002-2004 Research Assistant: Population Genetics of *Aedes aegypti* in Chiapas (México) and Central America." Center For Health Studies, Universidad del Valle de Guatemala

Honors

1996 Honors Student. Sagrado Corazón High School.

1999	Honors Student. Biochemistry. Universidad del Valle.
2000	Honors Student. Biochemistry. Universidad del Valle.
2008	Honors Student. Epidemiology Specialization. Universidad del Valle

C. Contributions to Science

Entomological surveillance. My early publications directly addressed to improve the knowledge of the arbovirus circulating in Guatemala. After the WNV outbreak in United States, I participated in a surveillance WNV to determine if the virus was in the country and in which vectors and host. These publications evidence the presence of WNV and other arbovirus in *Culex* and *Aedes* mosquitoes. My contribution in this studies was the implementation of the molecular test to determine the arbovirus etiology.

1. Morales-Betoulle ME, Monzón Pineda ML, Sosa SM, Panella N, **López MR**, Córdón-Rosales C, Komar N, Powers A, Johnson B. *Culex* Flavivirus Isolates from Mosquitoes in Guatemala. Short Communication. J Med Entomol 2008; 45(6): 1187-1190.
2. Morales-Betoulle ME, Komar N, Panella N, Alvarez D, **Lopez MR**, Betoulle JL, Sosa S, Muller ML, Kilpatrick M, Lanciotti R, Johnson BW, Powers A, Córdón-Rosales C and the arbovirus ecology group. West Nile Virus Ecology in a Tropical Ecosystem in Guatemala. The American Society of Tropical Medicine and Hygiene. 2012.

Human syndromic surveillance. In addition to the contributions described above, I joined to the Emerging Infectious Diseases Program to work in a respiratory, febrile and enteric surveillance implemented in health services in the country. The data collected in this surveillance improve the information of the burden and clinical profile of a few diseases, including COVID-19. Some of these publications presents the incidence of infectious diseases in children and adults, information that previously did not exist in the country. I served as co-investigator in all of these studies, contributing to the implementation and improvement of laboratory tests as well as the implementation of surveillance in other study sites.

3. Arvelo W, Hall A, Henao O, Lopez B, Bernart C, Moir JC, Reyes L, Montgomery SP, Morgan O, Estevez A, Parsons MB, **Lopez MR**, Gomez G, Vinje J, Gregoricus N, Parashar U, Mintz E, McCracken J, Bryan J, Lindblade KA. Incidence and etiology of infectious diarrhea from a facility-based surveillance system in Guatemala, 2008-2012. BMC Public Health. 2019.
4. Jennifer Milucky, Tracy Pondo, Christopher J. Gregory, Danielle Iuliano, Sandra S. Chaves, John McCracken, Adel Mansour, Yuzhi Zhang, Mohammad Abdul Aleem, Bernard Wolff, Brett Whitaker, Toni Whistler, Clayton Onyango¹, **Maria Renee Lopez**, Na Liu, Mohammed Ziaur Rahman, Nong Shang, Jonas Winchell, et al. The epidemiology and estimated etiology of pathogens detected from the upper respiratory tract of adults with severe acute respiratory infections in multiple countries, 2014–2015. Plos One. 2020.
5. Zachary J. Madewell, **Maria Renee Lopez**, Andres Espinosa-Bode, Kimberly, C. Brouwer, Cesar G. Sanchez, John P. McCracken. Inverse association between dengue, chikungunya, and Zika virus infection and indicators of household air pollution in Santa Rosa, Guatemala: A case-control study, 2011-2018. Plos One. 2020.
6. Jarquin C, Morales O, McCracken J, **Lopez MR**, Lopez B, Reyes L, Gomez GA, Bryan J, Peruski LF, Parsons M, Pattabiraman V. Burden of Diarrhoeagenic Escherichia coli in Santa Rosa, Guatemala in active health-services surveillance during 2008–2009 and 2014–2015. Trop Med Int Health. 2022. <https://doi.org/10.1111/tmi.13735>
7. Victoria J. Hicks, Cesar Sanchez, **Maria Renee Lopez**, Anna Gottschlich, Laura M. Grajeda, Amanda Balish, Ana Gomez, Nevis Nuñez, Julio Juarez, Beatriz Lopez, Mariangeli Freitas-Ning, Celia Cordon-Rosales, Manuel Sagastume, John P. McCracken, Andres Espinosa-Bode, Loren Cadena, Terrence Q. Lo. Seroprevalence of high incidence congenital infections among pregnant women in Coatepeque, Guatemala and surrounding areas, 2017–2018. PLoS Negl Trop Dis 17(4): e0011248. 2023. <https://doi.org/10.1371/journal.pntd.0011248>

8. Neudy Rojop, Diva M. Calvimontes, Edgar Barrios, Molly M. Lamb, Alejandra Paniagua-Avila, Jose Monzon, Lindsey M. Duca, Chelsea Iwamoto, Anna N. Chard, Melissa Gomez, Kareen Arias, Yannik Roell, Guillermo Antonio Bolanos, Emily Zielinski-Gutierrez, Eduardo Azziz-Baumgartner, **Maria Renee Lopez**, Celia Cordon-Rosales, Edwin J. Asturias and Daniel Olson. COVID-19 Attitudes and Vaccine Hesitancy among an Agricultural Community in Southwest Guatemala: A Cross-Sectional Survey. *Vaccines* 2023, 11, 1059. <https://doi.org/10.3390/vaccines11061059>
9. Laura M. Grajeda, Renata Mendizábal-Cabrera, Juan Carlos Romero, **María Renéé López**, Evelyn Morales, Beatriz López, Emily Zielinski and Celia Córdón-Rosales. Seroprevalence of IgA and IgG against SARS-CoV-2 and Risk Factors in Workers from Public Markets of Guatemala. *COVID* 2023, 3,1416–1428. <https://doi.org/10.3390/covid3090097>

Genetic diversity. All the samples collected in the surveillance studies have been a good source of information to go deeper into the molecular biology of some enteric pathogens. The following publications shown he genetic diversity found in norovirus, sapovirus and salivirus, information which is very important for the improvement of laboratory tests and the implementation of specific prevention and control measures. I served as co-investigator in all of these studies, contributing to processing the samples and participating in the genetic analysis.

10. Chhabra P, Aswath K, Collin N, Ahmed T, Parades M, Kosek M, Cebelinski E, Cooper PJ, Bucardo F, **Lopez MR**, Castro CJ, Marine R, Ng T, Vinjé J. Near-complete genome sequences of several new norovirus GII genotypes. 2018.
11. Diez-Valcarcea M, Castroa CJ, Marineb RL, Halasac N, Maytad H, Saitod M, Tsaknaridisf L, Pang CY, Bucardoh F, Becker-Drepsi S, **Lopez MR**, Magañaa LC, Fan Ngb TF, Vinjé J. Genetic diversity of human sapovirus across the Americas. *Journal of Clinical Virology*. 2018.
12. Marta Diez-Valcarcea, **Lopez MR**, Beatriz Lopez, Oneida Morales, Manuel Sagastume, Loren Cadena, Susan Kaydos-Daniels, Claudia Jarquin, John P. McCracken, Joe P. Bryan, Jan Vinjé. Prevalence and genetic diversity of viral gastroenteritis viruses in children younger than 5 years of age in Guatemala, 2014–2015. *Journal of Clinical Virology*. 2019.
13. Preeti Chhabraa, Hannah Browneb, Thalia Huynhc, Marta Diez-Valcarced, Leslie Barclaya, Margaret N. Koseke, Tahmeed Ahmedf, **Lopez MR**, Chao-Yang Panc, Jan Vinje. Single-step RT-PCR assay for dual genotyping of GI and GII norovirus strains. *Journal of Clinical Microbiology*. 2020.