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José Guillermo Juárez Valdez

Personal Information
Nationality: Guatemalan
Civil State: Married

Education

- 2017 – current: PhD student at the Department of Entomology, Texas A&M University.
- 2013 Master's in Science: Biology and control of parasites and disease vectors, University of Liverpool (Merit)
- 2011 Certificate: "Introduction of principles and practices of clinical investigation" from the National Institute of Health (NIH) Clinical Center.
- 2010 Licentiate: Biology, Universidad del Valle de Guatemala (Cum Laude):
- 2004 Bachelor: Science and letters, Guatemalteco Bilingüe School

Scholarships

- 2017 C.O.A.L.S. Texas A&M Excellence Fellowship
- 2014 To attend: "III Course in Molecular Biology of Tripanosomatids and III Symposium of Molecular Biology of Chagas disease"
- 2012 Guatefuturo Scholarship-Credit Award to study a Master's degree in the UK.

Work Experience

- July 2017 – Current: Research Assistant at Hamer´s Laboratory in the Department of Entomology, Texas A&M University.
- September 2016 – June 2017: Associate Investigator for the Center of Health Studies (CES)/UVG, laboratory of Medical Entomology.
- September 2010 – August 2016: Research Assistant for the Center of Health Studies (CES)/UVG, laboratory of Medical Entomology.
- December 2015 – June 2016: Intern in the Insect Pest Control Laboratory, Insect Pest Control Section, Joint FAO/IAEA Division of Nuclear Techniques and Agriculture, Department of Nuclear Science and Applications.
- January 2011 – September 2012: Head supervisor for the insectary facilities CES/ UVG/CDC-CAP.
- February 2010- August 2010: Technical advisor in Molecular Biology, Ingeniería y Biotecnología S. A. (InBiotec).

- March 2009 – June 2009: Molecular Biology Technician in the Department of Biology, Universidad del Valle de Guatemala.
- November 2007 – June 2009 Entomology technician. Chagas Laboratory Center of Health Studies/ UVG.

Committee and Societies

- 2007 – 2008 President of the Faculty of Science and Humanity studies at Universidad del Valla de Guatemala
- 2012 – 2017 Member of the Guatemalan National Committee for the control of Chagas disease
- 2019 – 2020 Member of The American Society of Tropical Medicine and Hygiene

Grants

- 2014: CDC-SP-CoAg – 3U51GH000970-01S1 – Evidence & Innovation for Public Health Actions in Guatemala & Central America. $75,000

Involvement in research project

- 2018 – 2020 Evaluating an Auto Dissemination Station (ADS) to control *Aedes aegypti* in the "Colonias" of South Texas.
- 2017 – 2019 An eco-bio-social approach for the surveillance and control of *Aedes aegypti* in the Lower Rio Grande Valley, Texas.
- 2017 – 2019 Non-radioactive isotopic marking and tracking of *Aedes* spp in the Lower Rio Grande Valley, Texas.
- 2016 – 2017 Intensive surveillance of *Aedes* spp in high risk zones of Coatepeque, Guatemala, for arboviral disease transmission.
- 2015 – 2017 Participatory development of a community-based protocol for detection of congenital Chagas disease in rural Comapa, Guatemala
- 2014 – 2015 Evaluation of the durability of Long Lasting Insecticidal Nets PermaNet 2.0 in Escuintla, Guatemala
- 2014 Studies of host seeking mosquito interactions with treated and untreated bed nets in laboratory and field settings and in-house assessments of mosquito distribution around treated bed nets in Escuintla, Guatemala.
- 2013 – 2015 Prevalence of infections with *Trypanosoma cruzi* in a region of Guatemala with persistent infestation of triatomines, (Comapa, Jutiapa)
- 2013 Role of *Glossina morsitans morsitans* phospholipase A2 (GmmPLA2) in trypanosome infection.
- 2010 – 2013 Peridomestic animals as risk factors for *Triatoma dimidiata* infestation in an area endemic for Chagas disease in Southeast Guatemala.

- 2009 Evaluating the methodology for inducing RNA interference by means of double stranded RNA on the gene expression of RHBP (Rhodnius Heme-Binding Protein) on nymphs of *Rhodnius prolixus* Sthal 1859, the vector for Chagas disease.
- 2007 – 2009 Evaluation of a molecule as a molecular candidate for the development of a microbial insecticide for the control of Chagas disease.
- 2009 Quantification and analysis of the genetic diversity of White pine (*Pinus ayacahuite*. Ehren) inside the strategies of management and conservation in the republic of Guatemala.

Scientific publications

Juárez JG, Garcia-Luna SM, Valdez E, Carbajal E, Tang W, Mutebi J, Hemme R, Barrera R, Badillo I and Hamer G (In Press: Scientific Reports) Dispersal of female and male *Aedes aegypti* from discarded container habitats using a stable isotope mark-capture study design in South Texas.

Olson, M.F.; Ndeffo-Mbah, M.L.; **Juarez, J.G**.; Garcia-Luna, S.; *et al*. High Rate of Non-Human Feeding by *Aedes aegypti* Reduces Zika Virus Transmission in South Texas. *Viruses* **2020**, *12*, 453. https://doi.org/10.3390/v12040453

Mark F. Olson, Selene Garcia-Luna, **Jose G. Juarez**, Estelle Martin, Laura C. Harrington, Micky D. Eubanks, Ismael E. Badillo-Vargas, Gabriel L. Hamer (2020) Sugar feeding patterns for *Aedes aegypti* and *Culex quinquefasciatus* (Diptera: Culicidae) Mosquitoes in South Texas. Journal of Medical Entomology, tjaa005. https://doi.org/10.1093/jme/tjaa005

Zachary J. Madewell, Silvia Sosa, Kimberly C. Brouwer, **Jose Guillermo Juarez**, Carolina Romero, Audrey Lenhart and Celia Cordon-Rosales (2019) Associatios between household environmental factors and immature mosquito abundance in Quetzaltenango, Guatemala. BMC Public Health, 19:1729. https://doi.org/10.1186/s12889-019-8102-5

Hanano Yamada, Hamidou Maiga, **Jose Juarez**, Danilo De Oliveira Carvalho, Wadaka Mamai, et al. (2019) Identification of critical factors that significantly affect the dose-response in mosquitoes irradiated as pupae. Parasites and Vectors, 12:435. https://doi.org/10.1186/s13071-019-3698-y

Selene M. Garcia-Luna*, **Jose G. Juarez***, Sofia Cabañas, Wendy Tang, Brendan Roark, Christopher Maupin, Ismael Badillo-Vargas and Gabriel L. Hamer (2019) Short communication: Stable isotope marking of laboratory-reared *Aedes aegypti* (Diptera: Culicidae). Journal of Medical Entomology. (*Co-first authorship) doi: 10.1093/jme/tjz210

Selene M. Garcia-Luna, Luis Fernando Chaves, **Jose G. Juarez**, Bethany G. Bolling, Arturo Rodriguez, et al. (2019) From Surveillance to control: Evaluation of a larvicide intervention

against *Aedes aegypti* in Brownsville, Texas. Journal of the American Mosquito Control Association, 35 (3): 233–237. https://mosquito-jamca.org/doi/10.2987/19-6858.1

Estelle Martin, Matthew C.I. Medeiros, Ester Carbajal, Edwin Valdez, **Jose G. Juarez**, Selene Garcia-Luna, Aaron Salazar, et al. (2019) Surveillance of Aedes Aegypti Indoors and Outdoors Using Autocidal Gravid Ovitraps in South Texas during Local Transmission of Zika Virus, 2016 to 2018. *Acta Tropica* 192 (April): 129–37. https://doi.org/10.1016/j.actatropica.2019.02.006.

Juárez JG, Pennington PM, Bryan JP, Klein RE, Beard CB, Berganza E, Rizzo N and Cordón-Rosales C (2018) A decade of vector control activities: Progress and limitations of Chagas disease prevention in a region of Guatemala with persistent *Triatoma dimidiata* infestation. PLoS Negl Trop Dis 12(11): e0006896. https://doi.org/10.1371/journal.pntd.0006896

Pennington PM, **Juárez JG**, Arrivillaga MR, De Urioste-Stone SM, Doktor K, Bryan JP, Escobar CY, Cordón-Rosales C (2017) Towards Chagas disease elimination: Neonatal screening for congenital transmission in rural communities. PLoS Negl Trop Dis 11(9): e0005783. https://doi.org/10.1371/journal.pntd.0005783

Wadaka Mamai, Nanwintoum S. Bimbile-Somda, Hamidou Maiga, **José Guillermo Juarez**, Zaynab A. I. Muosa, Adel Barakat Ali, Rosemary Susan Lees and Jeremie R. L. Gilles (2017) Optimization of mosquito eggs production under mass rearing setting: effects of cage volume, blood meal source and adult population density for the malaria vector, *Anopheles arabiensis,* Malaria Journal; 16:41. DOI 10.1186/s12936-017-1685-3

Pennington PM, Messenger LA, Reina J, **Juárez JG**, Lawrence G, Dotson EM, Llewellyn MS, Cordón-Rosales C (2015) The Chagas disease domestic transmission cycle in Guatemala: parasite-vector switches and lack of mitochondrial co-diversification between *Triatoma dimidiata* and *Trypanosoma cruzi* subpopulations suggest non-vectorial parasite dispersal across the Motagua valley. Acta Tropica Journal doi: 10.1016/j.actatropica.2015.07.014.

De Urioste-Stone SM, Pennington PM, Pellecer E, Aguilar T, Samayoa G, Perdomo H, Enríquez H, **Juárez JG** (2015) Development of a community-based intervention for the control of Chagas disease based on peridomestic animal management: An eco-bio-social perspective. Trans R Soc Trop Med *Hyg; 109: 159–167 doi:10.1093/trstmh/tru202*

Bustamante DM, De Urioste-Stone SM, **Juárez JG**, Pennington PM (2014) Ecological, Social and Biological Risk Factors for Continued *Trypanosoma cruzi* Transmission by *Triatoma dimidiata* in Guatemala. PLoS ONE 9(8): e104599. doi:10.1371/journal.pone.0104599

Congress and Courses

49th Society of Vector Ecology. Symposium conference: "An engaged community, the key to surveillance and control of Aedes aegypti in the "Colonias" of the US-Mexico border". September 2019 San Juan, Puerto Rico

67th American society of tropical medicine and hygiene. Symposium conference: "An eco-bio-social approach for the surveillance and control of *Aedes aegypti* in the Lower Rio Grande Valley,Texas". October 2018 New Orleans LA, USA

6th Pan-American Dengue Research Network Meeting. Abstracts: "A stable isotope mark-capture study of *Aedes aegypti* source habitat in South Texas"; "Perspectives of South Texas communities regarding Aedes aegypti and Zika" April 2018 Galveston TX, USA

3rd Annual South Texas Tropical Medicine & Vector Borne Disease Conference. February 2018, South Padre Island, TX, USA.

18th TWAS-ROLAC Young Scientist Conference. Cross-Talk of Biology with other Sciences. Conferencia: "Tackling an Old Foe: above and beyond Integrated Vector Management (IVM) for Chagas disease control". November 2015 Rio de Janeiro, Brasil.

III Curso Biología Molecular De Tripanosomatidos y III Simposio Biología Molecular de la enfermedad de Chagas. October 2014 Medellín, Colombia.

Teacher Experience

- 2020 Assisted and developed the online course of Medical Entomology (laboratory and lecture) and Veterinary Entomology (laboratory) for undergraduate courses of Texas A&M, Department of Entomology
- 2020 Invited guest lecturer for Dipterans in the Medical Entomology undergraduate course of Texas A&M, Department of Entomology
- 2020 Teacher Assistant for the courses Medical Entomology and Veterinary Entomology for undergraduate courses of Texas A&M, Department of Entomology
- 2019 Teacher Assistant for the courses Medical Entomology and Veterinary Entomology for undergraduate courses of Texas A&M, Department of Entomology
- 2015 Teacher for the course Research Methods at Universidad del Valle de Guatemala, Department of Chemistry
- 2012, 2014, 2015 Laboratory instructor (two courses per year): Introduction to life science at Universidad del Valle de Guatemala, Department of Biology

Thesis supervisor

- 2018 Decay over time of non-radioactive isotopic marking of *Aedes aegypti* under field conditions.
- 2016 Feeding dynamic of Triatoma dimidiata, vector of Chagas disease, in a region of Guatemala with persistent infestation (Comapa, Jutiapa).

- 2016 Development of an Indirect Immunofluorescent Assay (IFA) with local parasites for the diagnostics of Chagas disease.

Languages

- Spanish maternal language
- English 100% written and 100% spoken
- German 70% spoken and 50% written
