

# Saul Lozano-Fuentes

Dec, 2013

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Work: [slozano@rams.colostate.edu](mailto:slozano@rams.colostate.edu)

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## EDUCATION

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### Ph.D. in Microbiology

2004

Dept. of Microbiology, Immunology and Pathology (MIP), Colorado State University (CSU), Fort Collins, CO, US. Dissertation: “*Aedes aegypti* Vector Competence and Gene Flow in Mexico. Association Mapping Software for Testing Candidates Genes Associated With a Phenotype”

### M.Sc. in Medical Entomology

2000

Sch. of Biological Sciences, Universidad Autónoma de Nuevo León (UANL), San Nicolás de los Garza, NL, MX. Thesis: “Spatial and temporal analysis of dengue cases in the metropolitan area of Monterrey, N.L., during 1998”

### B.Sc. in Biology

1998

Sch. of Biological Sciences, UANL, MX. Thesis: “Spatial distribution of *Aedes aegypti* on a neighborhood in Guadalupe, N.L., Mexico”

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## PROFESSIONAL APPOINTMENTS

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### Research Scientist

2008-present

Dept. of MIP, CSU, Fort Collins, CO, US

### Research Associate

2006-2008

Dept. of MIP, CSU, Fort Collins, CO, US

### Postdoctoral employee

2005-2006

Dept. of Ecology and Evolutionary Biology, UCLA, Los Angeles, CA, US

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## PUBLICATIONS: PEER-REVIEWED

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**Lozano-Fuentes, Saul**, Fadi Wedyan, Edgar Hernandez-Garcia, Devadatta Sadhu, Sudipto Ghosh, James M. Bieman, Diana Tep-Chel, Julián E. García-Rejón, and Lars Eisen. Cell Phone-Based System (Chaak) for Surveillance of Immatures of Dengue Virus Mosquito Vectors, *Journal of Medical Entomology* Vol. 50, No. 4, 879-889, 2013.

**Lozano-Fuentes, S.**, A. Bandyopadhyay, L. G. Cowell, A. Goldfain, and L. Eisen. 2013. Ontology for Vector Surveillance and Management, *Journal of Medical Entomology* Vol. 50, No. 1, 1-14

Loroño-Pino, María Alba, Julián E. García-Rejón, Carlos Machain-Williams, Salvador Gomez-Carro, Guadalupe Nuñez-Ayala, Maria del Rosario Nájera-Vázquez, Arturo Losoya, et al. “Towards a Casa Segura: A Consumer Product Study of the Effect of Insecticide-Treated Curtains on *Aedes Aegypti* and Dengue Virus Infections in the Home.” *The American Journal of Tropical Medicine and Hygiene* 89, no. 2 (2013): 385–397. doi:10.4269/ajtmh.12-0772.

**Lozano-Fuentes S**, Hayden M. H., Welsh-Rodriguez C., Ochoa-Martinez C., Tapia-Santos B., Kobylnski, Uejio C. K., Zielinski-Gutierrez E., Delle Monache L., Monaghan A. J., Steinhoff D. F, Eisen L. 2012. The Dengue Virus Mosquito Vector *Aedes aegypti* at High Elevation in Mexico. *American Journal of Tropical Medicine and Hygiene* Vol. 87, No. 5, 902-909, 2012.

Salomon-Grajales, J., Lugo-Moguel, G. V., Tinal-Gordillo, V. R., De La Cruz-Velazquez, J., Beaty, B. J., Eisen, L., **Lozano-Fuentes, S.**, Moore, C. G. & Garcia-Rejon, J. E. 2012.

*Aedes albopictus* Mosquitoes, Yucatan Peninsula, Mexico. Emerging Infectious Diseases, 18, 525-527.

- Lozano-Fuentes, S.**, Saavedra-Rodriguez, K., Black, W. C. & Eisen, L. 2012. QCal: A Software Application for the Calculation of Dose–Response Curves In Insecticide Resistance Bioassays. Journal of the American Mosquito Control Association, 28, 59-61.
- Lozano-Fuentes, S.**, Welsh-Rodriguez C., Hayden M. H., Tapia-Santos B., Ochoa-Martinez C., Kobylinski K.C., Uejioo C.K., Zielinski-Gutierrez E., Delle-Monache L., Monaghan A.J., Steinhoff D.F., Eisen L. *Aedes (Ochlerotatus) epactius* Dyar & Knab along an elevation and climate gradient in Veracruz and Puebla States, México. J. Medical Entomology, in press.
- García-Rejón J. E., López-Uribe M. P., Loroño-Pino M. A., Arana-Guardia R., Puc-Tinal M., López-Uribe G. M., Coba-Tún C., Baak-Baak C. M, Machain-Williams C., Reyes-Solis G. C., **Lozano-Fuentes S.**, Saavedra-Rodriguez K., Black IV W. C. , Beaty B. J., Eisen L. *Aedes (Stegomyia) aegypti* and *Aedes (Howardina) cozumelensis* in Yucatán State, México, with a summary of published collection records for Ae. Cozumelensis. Journal of Vector Ecology, in press
- Eisen, L., Coleman, M., **Lozano-Fuentes, S.**, Mceachen, N. & Orlans, M. 2011. Multi-Disease Data Management System Platform for Vector-Borne Diseases. PLoS Neglected Tropical Diseases, 5, 12.
- García-Rejón, J. E., López-Uribe, M. P., Loroño-Pino, M. A., Farfan-Ale, J. A., Najera-Vazquez, M. D., **Lozano-Fuentes, S.**, Beaty, B. J. & Eisen, L. 2011. Productive Container Types for *Aedes aegypti* Immatures in Merida, Mexico. Journal of Medical Entomology, 48, 644-650.
- Siller, Q., Ponce, G., **Lozano, S.** & Flores, A. E. 2011. Update On the Frequency of Ile1016 Mutation In Voltage-Gated Sodium Channel Gene of *Aedes aegypti* In Mexico. Journal of the American Mosquito Control Association, 27, 357-362.
- Eisen, L. & **Lozano-Fuentes, S.** 2009. Use of Mapping and Spatial and Space-Time Modeling Approaches in Operational Control of *Aedes aegypti* and Dengue. Plos Neglected Tropical Diseases, 3, 7.
- García, G. P., Flores, A. E., Fernandez-Salas, I., Saavedra-Rodriguez, K., Reyes-Solis, G., **Lozano-Fuentes, S.**, Bond, J. G., Casas-Martinez, M., Ramsey, J. M., Garcia-Rejon, J., Dominguez-Galera, M., Ranson, H., Hemingway, J., Eisen, L. & Black, W. C. 2009. Recent Rapid Rise of a Permethrin Knock Down Resistance Allele in *Aedes aegypti* in Mexico. Plos Neglected Tropical Diseases, 3, 10.
- Lozano-Fuentes, S.**, Fernandez-Salas, I., Munoz, M. D., Garcia-Rejon, J., Olson, K. E., Beaty, B. J. & Black, W. C. 2009. The Neovolcanic Axis Is a Barrier to Gene Flow among *Aedes aegypti* Populations in Mexico That Differ in Vector Competence for Dengue 2 Virus. Plos Neglected Tropical Diseases, 3, 10.
- Beck E. T., **Lozano-Fuentes, S.**, Geske D. A., Blair C. D., Beaty B. J., Black Iv W. C. 2009. Patterns of Variation in the Inhibitor of Apoptosis 1 Gene of *Aedes triseriatus*, a Transovarial Vector of La Crosse Virus. Journal of Molecular Evolution, 68, 403-413.
- Lozano-Fuentes, S.**, Elizondo-Quiroga, D., Farfan-Ale, J. A., Loroño-Pino, M. A., Garcia-Rejon, J., Gomez-Carro, S., Lira-Zumbardo, V., Najera-Vazquez, R., Fernandez-Salas, I., Calderon-Martinez, J., Dominguez-Galera, M., Mis-Avila, P., Morris, N., Coleman, M., Moore, C. G., Beaty, B. J. & Eisen, L. 2008. Use of Google Earth (TM) to strengthen public health capacity and facilitate management of vector-borne diseases in resource-poor environments. Bulletin of the World Health Organization, 86, 718-725.
- García-Rejón, J., Loroño-Pino, M. A., Farfan-Ale, J. A., Flores-Flores, L., Rosado-Paredes, E. D., Rivero-Cardenas, N., Najera-Vazquez, R., Gomez-Carro, S., Lira-Zumbardo, V., Gonzalez-Martinez, P., **Lozano-Fuentes, S.**, Elizondo-Quiroga, D., Beaty, B. J. &

- Eisen, L. 2008. Dengue Virus-Infected *Aedes aegypti* in the Home Environment. American Journal of Tropical Medicine and Hygiene, 79, 940-950.
- Winters, A. M., Eisen, R. J., **Lozano-Fuentes, S.**, Moore, C. G., Pape, W. J. & Eisen, L. 2008. Predictive spatial models for risk of West Nile virus exposure in eastern and western Colorado. American Journal of Tropical Medicine and Hygiene, 79, 581-590.
- Flores, A. E., Grajales, J. S., Salas, I. F., Garica, G. P., Becerra, M. H. L., **Lozano, S.**, Brogdon, W. G., Black, W. C. & Beaty, B. 2006. Mechanisms of insecticide resistance in field populations of *Aedes aegypti* (L.) from Quintana Roo, Southern Mexico. Journal of the American Mosquito Control Association, 22, 672-677.
- Flores, A. E., Albeldano-Vazquez, W., Salas, I. F., Badii, M. H., Becerra, H. L., Garcia, G. P., **Lozano-Fuentes, S.**, Brogdon, W. G., Black, W. C. & Beaty, B. 2005. Elevated alpha-esterase levels associated with permethrin tolerance in *Aedes aegypti* (L.) from Baja California, Mexico. Pesticide Biochemistry and Physiology, 82, 66-78.
- Gorrochotegui-Escalante, N., **Lozano-Fuentes, S.**, Bennett, K. E., Molina-Cruz, A., Beaty, B. J. & Black, W. C. 2005. Association mapping of segregating sites in the early trypsin gene and susceptibility to dengue-2 virus in the mosquito *Aedes aegypti*. Insect Biochemistry and Molecular Biology, 35, 771-788.
- Garcia-Franco, F., Munoz, M. D., **Lozano-Fuentes, S.**, Fernandez-Salas, I., Garcia-Rejon, J., Beaty, B. J. & Black, W. C. 2002. Large genetic distances among *Aedes aegypti* populations along the south Pacific coast of Mexico. American Journal of Tropical Medicine and Hygiene, 66, 594-598.
- Gorrochotegui-Escalante, N., Gomez-Machorro, C., **Lozano-Fuentes, S.**, Fernandez-Salas, I., Munoz, M. D., Farfan-Ale, J. A., Garcia-Rejon, J., Beaty, B. J. & Black, W. C. 2002. Breeding structure of *Aedes aegypti* populations in Mexico varies by region. American Journal of Tropical Medicine and Hygiene, 66, 213-222.
- Mercado, R., Fernandez, I., **Lozano, S.** 2002. Spatial analysis of dengue cases in Guadalupe, Nuevo Leon, Mexico 1995-96. Southwestern Entomologist, 27, 85-90.

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#### **PUBLICATIONS: BOOK CHAPTERS**

- Saul Lozano-Fuentes**, Christopher M. Barker, Marlize Coleman, Michael Coleman, Bborie Park, William K. Reisen and Lars Eisen (2011). Emerging Information Technologies to Provide Improved Decision Support for Surveillance, Prevention, and Control of Vector-Borne Diseases, Efficient Decision Support Systems - Practice and Challenges in Biomedical Related Domain, Chiang Jao (Ed.), ISBN: 978-953-307-258-6, InTech. DOI: 10.5772/16703
- Beaty, B.J., S. Bernhardt, W.C. Black IV, C.D. Blair, L. Eisen, D. Elizondo-Quiroga, J.A. Farfan-Ale, **S. Lozano-Fuentes**, A. Franz, K.E. Olson, and I. Sanchez-Vargas. 2008. Novel strategies to control *Aedes aegypti* and dengue. - Vector Biology, Ecology and Control. Atkinson, Peter W. (Ed.) Elsevier, New York, N.Y. ISBN 978-90-481-2457-2 DOI: 10.1007/978-90-481-2458-9\_7

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#### **PUBLICATIONS: CONFERENCE PROCEEDINGS**

- Lozano-Fuentes S**, Ghosh S, Bieman J, Sadhu D, Eisen L, et al. Using cell phones for mosquito vector surveillance and control, pp. 763-767.; 2012. Proc. 24th Int. Conf. Software Engineering and Knowledge Engineering (SEKE 2012)

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#### **HONORS**

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| <b>Travel Award</b>  | 2013 |
| 6th International Congress of the Society for Vector Ecology, Palm Springs, California, US |      |
| <b>Doctoral Scholarship</b>  | 2000 |
| Fogarty International Center, National Institutes of Health, US                            |      |

**Honorable Mention on M.Sc. Thesis** 2000  
Sch. of Biological Sciences, UANL, MX

**Valedictorian for the B.Sc. in Biology** 1998  
Sch. of Biological Sciences, UANL, MX

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#### **CURRENT FUNDED PROJECTS**

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**Co-Investigator**

Title: Yellow Fever/Dengue Virus Competence in *Aedes aegypti aegypti/formosus* in Senegal.  
Funding agency: National Institute of Health (\$1,434,215)

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#### **PAST FUNDED PROJECTS**

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**Co-Investigator**

Title: "Disease Vector Mapping via Environmental / Climatological / Sociological Factors".  
Funding agency: STAR institute (<http://www.starinst.org/>)

**Co-Investigator**

Title: "Dengue in Mexico: A Coupled Systems Approach to Climate Change and Socio-ecological Factors". Funding agency: National Science Foundation

**Co-Principal Investigator**

Title: "Vector Surveillance Ontology and Vector Management Ontology".  
Funding agency: National Institute of Health

**Co-Principal Investigator**

Title: "Use of Cell Phones for Field Data Capture in a Dengue Decision Support System".  
Funding agency: National Institute of Health

**Co-Principal Investigator**

Title: Malaria Decision Support System Software Development  
Funding agency: Innovative Vector Control Consortium

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#### **INVITED TALKS**

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**Invited speaker** to the II International Meeting on "Control of *Aedes aegypti*" 2013  
PAHO/CDC/Gorgas Institute, Panama City, Panama

**Invited speaker** to the 6th International Congress of the SoVE, 2013  
Society for Vector Ecology, Palm Springs, California, US

**Invited speaker** to the "Workshop on Kala-azar control" 2009  
(UNICEF/UNDP/World Bank/WHO) International Center for Diarrhoeal Disease Research,  
Dhaka, Bangladesh

**Invited speaker**, talk: "Dengue Decision Support System project" 2007  
Centers for Disease Control and Prevention, Fort Collins, CO, US

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#### **CONFERENCE AND SYMPOSIA ACTIVITY/PARTICIPATION**

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**Lozano-Fuentes S**, Ghosh S, Bieman J, Sadhu D, Eisen L, et al. "Using cell phones for mosquito vector surveillance and control." 24th Int. Conference in Software Engineering and Knowledge Engineering. 2012.

Ponce G., Saavedra K., **Lozano S.** and Flores A.E. "Detection of knockdown resistance (1014) mutation in *Culex quinquefasciatus* Nuevo Leon, Mexico." 21th Latin American Symposium of the 77th American Mosquito Control Association Meeting. 2011, Vol 27(3):291

Lorono-Pino, M. A., J. Garcia-Rejon, J. A. Farfan-Ale, A. Losoya, L. Aguilar, J. Trapaga-Barrientos, **S. Lozano-Fuentes**, L. Eisen, and B. J. Beaty. 'A "Consumer Product" Study for Use of Insecticide Treated Curtains to Reduce Mosquitoes and Dengue Infections in Homes', 59<sup>th</sup> Meeting of the American Society of Tropical Medicine and Hygiene. 2010, Vol. 83, No. 5, 185-185.

- Ponce G., Flores A.E., Saavedra K., **Lozano S.**, and William C. Black IV. "Knockdown resistance mutation (Val1016) in *Aedes aegypti* from Mexico." 20th Latin American Symposium of the 76th American Mosquito Control Association Meeting. 2010, Vol 26(3):308
- Lozano-Fuentes Saul.** "Monitoring of Insecticide Resistance Data in a Dengue Decision Support System." 58<sup>th</sup> Meeting of the American Society of Tropical Medicine and Hygiene, 2009.
- Elizondo-Quiroga D., Gamboa-Garcia F., **Lozano-Fuentes S.**, Farfan-Ale J.A., Lorono-Pino M.A., Garcia-Rejon J., Gomez-Carro S., Lira-Zumbardo V., Najera-Vazquez R., Gonzalez-Martinez P., Moore Ch. G., Beaty B., and Lars Eisen. "Use of a Dengue Decision Support System to manage geographic data for dengue cases in the city of Merida, Mexico. 19th Latin American Symposium of the 75th American Mosquito Control Association Meeting. 2009, Vol 25(4):488
- Ponce G., Flores A.E., Saavedra K., **Lozano S.**, Reyes G. and William C. Black IV. "The rise of a KDR mutation in *Aedes aegypti* in Mexico." 19th Latin American Symposium of the 75th American Mosquito Control Association Meeting. 2009, Vol 25(4):496
- Eisen L., Barry J. Beaty, **Saul Lozano-Fuentes**, Jose Arturo Farfan-Ale, Maria Alba Lorono-Pino, Guadalupe Nunez-Ayala and Julian Garcia-Rejon. "Aedes aegypti females, dengue viruses, and the great indoors". Proceeding of the 5th International Congress of Vector Ecology. Society of Vector Ecology. 2009.
- Garcia-Rejon, J., M. Lorono-Pino, J. A. Farfan-Ale, L. Flores-Flores, E. D. Rosedo-Paredes, N. Rivero-Cardenas, R. Najera-Vazquez, S. Gomez-Carro, V. Lira-Zumbardo, P. Gonzalez-Martinez, **S. Lozano-Fuentes**, D. Elizondo-Quiroga, B. Beaty, and L. Eisen. "Dengue Virus-Infected *Aedes Aegypti* in the Home Environment." 57<sup>th</sup> Meeting of the American Society of Tropical Medicine and Hygiene. 2008, Vol. 79, No. 6, 216-216
- Coleman, M., L. Eisen, **S. Lozano-Fuentes**, S. Chitari, C. G. Moore, and N. Morris. "Development of Controlled Vocabularies and Ontologies for Surveillance and Control of Vectors of Human Disease Agents." 57<sup>th</sup> Meeting of the American Society of Tropical Medicine and Hygiene. 2008, Vol. 79, No. 6, 227-227
- Mis-Avila, P., M. Dominguez-Galera, W. May, I. Fernandez-Salas, L. Eisen, and **S. Lozano-Fuentes.** "*Aedes Aegypti* Monitoring in Public and Private Buildings Using Ovitraps, GPS and a Simple Computer System in the Cities of Chetumal and Playa Del Carmen Mexico", 57<sup>th</sup> Meeting of the American Society of Tropical Medicine and Hygiene. 2008, Vol. 79, No. 6, 313-313
- Ponce, G., K. Saavedra, **S. Lozano**, G. "Reyes, A. E. Flores, and W. C. Black. "The Rise of a Kdr Mutation in *Aedes Aegypti* (L) in Mexico." 57<sup>th</sup> Meeting of the American Society of Tropical Medicine and Hygiene. 2008, Vol. 79, No. 6, 313-314
- Elizondo-Quiroga D., **Lozano-Fuentes S.**, Farfan-Ale J.A., Lorono-Pino M.A., Garcia-Rejon J., Gomez-Carro S., Lira-Zumbardo V., Najera Vazquez R., Fernandez-Salas I., Calderon-Martinez J., Dominguez-Galera M., Mis-Avila P. Coleman M, Morris N., Moore Ch. G., Beaty B., and Eisen Lars. "Use of Google Earth for management of vector-borne diseases in resource-poor environments." 18th Latin American Symposium of the 74th American Mosquito Control Association Meeting. 2008, Vol 24(4):581
- Elizondo-Quiroja, D., **S. Lozano-Fuentes**, B. Beaty, and L. Eisen. "Use of Free Mapping Tools to Support the Development of a Local Dengue Information System", 56<sup>th</sup> Meeting of the American Society of Tropical Medicine and Hygiene. 2007, Vol. 77, No. 5, 255-255
- Lozano-Fuentes, S.**, D. Elizondo-Quiroja, J. Farfan-Ale, M. A. Lorono-Pino, I. Fernandez-Salas, J. Garcia-Rejon, M. D. R. Najera-Vazquez, S. Gomez-Carro, M. Dominguez-Galera, P. Mis-Avila, J. J. Calderon-Martinez, B. Beaty, and L. Eisen. "Preliminary Analysis of Spatial Patterns of Dengue Activity in Three States in Mexico", 56<sup>th</sup> Meeting of the American Society of Tropical Medicine and Hygiene. 2007 Vol. 77, No. 5, 255-255

- Lozano-Fuentes S.**, Elizondo-Quiroga D., Moore Ch. G., Eisen L. and Barry Beaty. "The Innovative Vector Control Consortium-Dengue. Decision Support System Project". 17th Latin American Symposium of the 73rd American Mosquito Control Association Meeting, 2007.
- Lozano-Fuentes, S.**, D. Elizondo-Quiroga, J.A. Farfan-Ale, I. Fernandez-Salas, B.J. Beaty, and L. Eisen. "Use of Google Earth to facilitate GIS-based decision support systems for arthropod-borne diseases". Advances in Disease Surveillance 6<sup>th</sup> annual conference. 2007.
- Lozano-Fuentes, S.**, S. K. Rian, Y. S. Lee, M. B. Toure, G. Lanzaro, A. J. Cornel, S. Doumbia, Y. K. Xue, S. F. Traore, and C. E. Taylor. "Improved Measurement of the Distribution Forms of *Anopheles Gambiae* Sensu Stricto Forms and Their Relation to the Environment", 55<sup>th</sup> Meeting of the American Society of Tropical Medicine and Hygiene. 2006, Vol. 75, No. 5, 172-172
- Mahamoudou B. Toure, Rian Sigrid, Levine Paul, **Lozano Saul**, Doumbia Seydou, Xue Yongkang, Traore Sekou F. Taylor Charles E. "Characterization of *Anopheles gambiae* habitats in Mail and Cameroon". 55<sup>th</sup> Meeting of the American Society of Tropical Medicine and Hygiene. 2006, Vol. 756, No. 5, 267
- Shah, K., **S. Lozano-Fuentes**, S. Rian, Y. K. Xue, and C. Taylor. "A Distribution Model of *Anopheles Gambiae* Sensu Stricto Molecular Forms in Africa", 55<sup>th</sup> Meeting of the American Society of Tropical Medicine and Hygiene. 2006, Vol. 75, No. 5, 267-267
- Lozano-Fuentes, S.**, N. Gorrochotegui-Escalante, K. E. Bennett, and W. C. Black. "*Aedes Aegypti* Vector Competence and Gene Flow in the State of Veracruz, Mexico", 54<sup>th</sup> Meeting of the American Society of Tropical Medicine and Hygiene. 2005, Vol. 73, No. 6, 148-148
- Lozano-Fuentes, S.** Presented research "Spatial analysis of dengue virus susceptibility in *Aedes aegypti* in Mexico" at the in the second symposium of Sociedad Mexicana de Medicina Tropical convened at Monterrey, Mexico, in 2000.
- Lozano-Fuentes, S.** Presented research "Distribution and abundance of *Aedes aegypti* using a GIS system in a community of Guadalupe, Nuevo Leon, Mexico" in the 46 annual meeting of the Southwestern association of naturalists convened at Monterrey, Mexico in 1999.
- Lozano-Fuentes, S.** Presented research "Spatial abundance and distribution of larvae of *Aedes aegypti* in a region of Guadalupe using a geographic information system", at the III symposium by the Consejo Nacional de Ciencia y Technology convened in Monterrey, Monterrey in 1998.

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#### TEACHING EXPERIENCE

<b>Guest Lecturer</b> , MIP 533: Epidemiology of Zoonotic and Infectious Diseases Microbiology, Immunology and Pathology, CSU	2014
<b>Guest Lecturer</b> , MIP 462: Parasitology and Vector Biology Microbiology, Immunology and Pathology, CSU	2013
<b>Guest Lecturer</b> , CS414: Object Oriented Design Computer Science, CSU	2012
<b>TA</b> , Veterinary Microbiology Laboratory Techniques Microbiology, Immunology and Pathology	2002-2003
<b>TA</b> , Micro-computing Applications in Microbiology Microbiology, Immunology and Pathology	2002-2003
<b>TA</b> , Anatomy and Physiology Sch. Of Biology, UANL, MX	1996-1998

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**PROFESIONAL AND ACADEMIC COMMUNITY CONTRIBUTIONS**

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**Peer Reviewer**

- PLoS Neglected Tropical Diseases; Topic: Spatial statistics, Epidemiology and, Remote Sensing, August, 2012
- PLoS Neglected Tropical Diseases; Topic: Spatial statistics and Vector Biology, December, 2011
- PLoS ONE; Topic: Population Genetics and Migration, August, 2011

**Ph.D. Committee Member**

*Dissertation:* "Bird Song Formal Language Modeling Base on Acoustic Syllable Detection", Topic: Creation of a Sensor Arrays for Acoustic Monitoring of Bird Behavior and Diversity. February, 2007

**Open-Source Software**

-*Insecticide Resistance Monitoring Application, The (Quick Calculator)*. The QCal is used to estimate response curves for insecticide bioassays and help in the evaluation of insecticide resistance of disease vectors without the need of complex software. Available from: <http://sourceforge.net/projects/irmaproj/files/Qcal/beta/>

-*Chaak* is a cell phone-based low-cost solution to operationally improve dengue control. Cell phones exploits existing communication infrastructure, introduces near real-time monitoring, and provides rapid feedback to field data collectors reducing time and errors in the during the data collection. Available from: <http://sourceforge.net/projects/chaak/files/>

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**BIOINFORMATICS SKILLS**

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**Biostatistics:** Regression, Univariate, Multivariate, Bayesian Inference

**Predictors and clustering analysis:** UPGMA, PCA, PLS

**Association studies analysis and tools:** Association Mapping, authored software.

**Semantic analysis (ontological analysis):** Ontology development, Basic Formal Ontology, Infectious Disease Ontology, RDF.

**Population Genetics/Genomics and tools:** Arlequin, Phylip, PAUP, Structure, authored software.

**Databases and repositories:** Ensembl, VectorBase, Gene ontology, OBO-Foundry, ...

**Libraries and Tools:** Ensemble API, GMAP, SAMTools, BioJava, OBO-Edit

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**COMPUTER SKILLS**

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**Languages:** Java, Java Android, .NET, OWL.

**Scientific computing:** R, Formulize.

**Relational Databases:** PostgreSQL, MySQL, SQLite.

**Markup:** HTML, CSS, XML

**Cloud Computing and Virtualization:** VMWare workstation, VMWare Server, and ESXi administration.

**Data Visualization and Geographic Information System:** ArcGIS, Google Maps API, PostGIS,

**Operating Systems and GNU/Linux administration:** Shell Script, Apache, Debian / Ubuntu, Windows, and ESXi

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**MOLECULAR BIOLOGY SKILLS**

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DNA and RNA extraction

PCR and Primer design

SSCP analysis, gel electrophoresis

Genetic Markers analysis: Mitochondrial DNA and Autosomal SNPs

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**LANGUAGES**

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English

Spanish