

Maria D. Esteve-Gassent, Ph.D.

Assistant Professor

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Education

- **PhD Cum Laude** Department of Microbiology, University of Valencia, Valencia, Spain (European PhD degree) October 2003
- Advanced Studies Certificate, Cum Laude Department of Microbiology, University of Valencia, Valencia, Spain. November 2002
- **B.S.** Biology Department, University of Valencia, Valencia, Spain September 1998

Professional appointments

- Assistant Professor, Department of Veterinary Pathobiology, CVM, Texas A&M University (70% Research, 25% Teaching and 5% Service) 2013-Present
- Research Assistant Professor, Department of Veterinary Pathobiology, CVM, Texas A&M University (80% Research, 15% Teaching and 5% Service) 2010-2013
- Research Assistant Professor, Department of Biology, College of Sciences, The University of Texas at San Antonio 2008-2010
- Postdoctoral Research Associate, Department of Biology, College of Sciences, The University of Texas at San Antonio 2005-2008
- Postdoctoral Research Associate, Department of Medical Microbiology and Immunology, College of Medicine, Texas A&M Health Science Center 2004-2005
- Pre-doctoral Fellow, Department of Microbiology, University of Valencia, Valencia, Spain 2000-2003
- Pre-doctoral Fellow, Department of Veterinary Microbiology, The Royal Veterinary and Agricultural University (KVL), Frederiksberg, Denmark 1999-2000
- Undergraduate Research Scholar, Consejo Superior de Investigaciones Científicas (CSIC), Instituto de Acuicultura 'Torre de la Sal', Castellón, Spain. 1998

Affiliations/Memberships

- Member of the American Society for Microbiology (ASM) 2004-present
- Member of the European Association of Fish Pathologists (EAFP) 2003-2009

RESEARCH

(* Undergraduate, ** Master, *** Graduate student and † Postdoctoral trainees mentored)

Peer-Reviewed Publications

1. Christina Small ***, Dharini Ajithdoss, Aline Rodrigues-Hoffman, Waithaka Mwangi and **Maria D. Esteve-Gassent**. (2014) Immunization with a *Borrelia burgdorferi* BB0172-Derived Peptide protects mice against Lyme Disease. PLoS ONE 9(2): e88245 DOI: 10.1371/journal.pone.0088245
2. Carolina Guadalupe Sosa Gutierrez***, Maria Teresa Quintero Martinez, Soila Maribel Gaxiola Camacho, Silvia Cota Guajardo, **Maria Esteve-Gassent** and Guadalupe Gordillo-Pérez. (2013) Frequency and clinical epidemiology of Canine Monocytic Ehrlichiosis in dogs from Sinaloa, Mexico. Journal of Veterinary Medicine, ID797019 <http://dx.doi.org/10.1155/2013/797019>
3. Indumathi Srinath, Barbara Szonyi, **Maria Esteve-Gassent**, Blanca Lupiani, Raju Gautam, Alfonso Clavijo, Sang-shin Park and Renata Ivanek-Miojevic. (2013) Geographical Information Systems: A Tool to Map and Analyze Disease Spread. ISDS 2012 Conference Abstracts. Online Journal of Public Health Informatics 5(1):e129. ISSN 1947-2579
4. Elaine Wood*, Silvia Tamborero, Ismael Mingarro and **Maria D. Esteve-Gassent**. (2013) BB0172, A *Borrelia burgdorferi* Metal-Dependent Adhesin to $\alpha_3\beta_1$ integrin. Journal of Bacteriology 195(15): 3320-3330
5. B. V. Subba Raju, **Maria. D. Esteve-Gassent**, S. L. Rajasekhar Karna, Christine L. Miller and J. Seshu (2011) Role of OppA5, a plasmid-encoded oligopeptide permease A homologue, in the adaptation of *Borrelia burgdorferi* to vertebrate host conditions. Infection and Immunity 79(8): 3407-3420.
6. S. L. Rajasekhar Karna, Eva Sanjuan, **Maria. D. Esteve-Gassent**, Christine L. Miller, Mahulena Maruskova and J. Seshu. (2011) CsrAB modulates levels of lipoproteins and key regulators of gene expression critical for pathogenic mechanisms of *Borrelia burgdorferi*. Infection and Immunity. 79: 732-744.
7. Sanjuan-Caro, E., **Esteve-Gassent, M.D.**, Maruskova M. and J. Seshu. (2009) Overexpression of CsrA (BB0184) alters morphology and antigen profiles in *Borrelia burgdorferi*. Infection and Immunity 77(1):5149-62.
8. **Esteve-Gassent, MD.**, Elliott, NL, Seshu, J. (2009) *sodA* is essential for virulence of *Borrelia burgdorferi* in the murine model of Lyme disease. Molecular Microbiology 71(3): 594-612.
9. Maruskova, M., **Esteve-Gassent, MD**, Sexton, V., Seshu, J. (2008) Role of the BBA64 Locus of *Borrelia burgdorferi* in Early Stages of Infectivity in a Murine Model of Lyme Disease. Infection and Immunity 76(1):391-402.
10. Seshu, J., **Esteve-Gassent, M.D.**, Labandeira-Rey, M., Kim, J.H., Höök, M., Skare, J.T. (2006) Inactivation of the Fibronectin-binding adhesin gene *bbk32* significantly attenuates the infectivity potential of *Borrelia burgdorferi*. Molecular Microbiology 59(5):1591-1601.
11. Nielsen, M.E. & **Esteve-Gassent, M.D.** (2006) The eel immune system: present knowledge and the need for research. Journal of Fish Diseases, 29:65-78.
12. **Esteve-Gassent, M.D.**, Barrera, R., Amaro, C., (2004) Vaccination of marked-size eels against vibriosis due to *Vibrio vulnificus* serovar E. Aquaculture 241:9-19.
13. Esteve-Gassent, M.D., Amaro, C., (2004) Immunogenic antigens of the eel pathogen *Vibrio vulnificus* serovar E. Fish and Shellfish Immunology 17(3), 277-291.
14. **Esteve-Gassent, M. D.**, Barrera, R. & Amaro, C. (2004) Efficacy of oral re-immunisation after immersion vaccination against *Vibrio vulnificus* in farmed European eels. Aquaculture 231 (1-4): 9-22.
15. **Esteve-Gassent, M. D.**, Fouz, B. & Amaro, C. (2004) Efficacy of a bivalent vaccine against eel diseases caused by *Vibrio vulnificus* after its administration by four different routes. Fish and Shellfish Immunology 16(2) 93-105.

16. **Esteve-Gassent M.D.**, Nielsen, M.E., Amaro, C. (2003) The kinetics of antibody production in mucus and serum of European eel (*Anguilla anguilla* L.) after vaccination against *Vibrio vulnificus*: development of a new method for antibody quantification in skin mucus. *Fish and Shellfish Immunology*, 15, 51-61.
17. Alcaide, E., Gil-Sanz, C., Sanjuán, E., **Esteve, D.**, Amaro, C., Silveira, L. (2001). *Vibrio harveyi* causes disease in seahorse, *Hippocampus* sp. *Journal of fish Disease* 24, 311-313.
18. Fouz, B., **Esteve-Gassent, M.D.**, Barrera, R., Larsen J.L., Nielsen, M.E., Amaro, C. (2001). Field testing of a vaccine against eel diseases caused by *Vibrio vulnificus*. *Disease of Aquatic Organisms*. 45, 183-189.

Conference Proceedings

1. **M. Dolores Esteve-Gassent**, Rodolfo Barrera, Carmen Amaro. (2004) Oral vaccination against vibriosis caused by *Vibrio vulnificus* serovar E in anguilliculture. Acta IX Congreso Nacional de Acuicultura
2. Amaro, C., Fouz, B., Collado, R., **Esteve-Gassent, D.**, Marco-Noales, E., Esteve, C., Barrera, R. & Alcaide, E. "Design and development of a vaccine against eel vibriosis caused by *Vibrio vulnificus* serovar E (or biotype 2) applied to intensive culture facilities" MAPYA (2001) (former Spanish Ministry for Agriculture, Fisheries and Food. Currently is the Ministry for Agriculture, Food and the Environment).

Book Chapters

1. Seshu, J., Labandeira-Rey, M., **Esteve-Gassent, M.D.**, Hook, M, Skare, JT. (2006) The isolation and characterization of isogenic mutants in infectious *Borrelia burgdorferi*. Vol. 373 IOS Press, NATO Amsterdam pp: 25-41

Publications in Non-Peered Reviewed Journals

1. Erin McGregor* and **Maria D. Esteve-Gassent**. (Fall 2012) Standardization of a Pan-Specific test for the diagnostics of Lyme Disease in Veterinary Medicine. Explorations, TAMU

Publications Submitted

1. **Esteve-Gassent, MD**, Thomas, D. and Seshu, J. Absence of *sodA* increases oxidation of key metabolic determinants in *Borrelia burgdorferi*. (2013) PLoSOne (Submitted, REVIEWS RECEIVED AND ADDRESSING COMMENTS)
2. Teresa P. Feria, Guadalupe Gordillo-Perez, Margarita Vargas-Sandova, Abha Grover**, Javier Torres, Raul Medina, Ivan Castro-Arellano, Adalberto Pérez de Leon, **Maria D. Esteve-Gassent**. (2014) Spatial and Temporal Distribution of Lyme Disease Infected Ticks in the Texas-Mexico Border Region. *Parasites and Vectors*
3. B. Szonyi, I. Srinath, **M. Esteve-Gassent**, B. Lupiani, R. Ivanek. (2013) Exploratory spatial data analysis of human Lyme disease cases in Texas. *Journal Vector borne and Zoonotic diseases*.

Publications in Preparation

1. Erin McGregor*, Alexandra Brown*, Juang A. Pavey*, May Boggess and **Maria D. Esteve-Gassent**. Can dogs be sentinels for Lyme disease in Southern US. *Target Journal Emerging Infectious Diseases* (2013) AWAITING REVIEW OF STATISTICAL ANALYSIS BY DR. MAY BOGGES BEFORE FINALIZING THE FIRST DRAFT

RESEARCH CONFERENCES

Poster Presentations

- 32nd Annual meeting of the Texas Society of Mammalogist, Texas Tech University Center Junction, TX *Local* Feb 2014

 - Tick prevalence from rodent assemblages at peridomestic and sylvan sites across Texas. Troy J. Maikis**, Matthew T. Milholland, **Maria Esteve-Gassent** and Iván Castro-Arellano. (oral presentation by student)

- Gordon Research Conference: Biology of the Spirochetes. Unique features of the spirochetes-host environment interactions. Ventura Beach, CA. Poster presentation: *International* Jan 2014

 - “Adherence of BB0173, a VWFA domain containing protein of *B. burgdorferi* to Human Extracellular matrix components” Christina Small***, Manuel Bano, Ismael Mingarro and **Maria Esteve-Gassent**.

- 3^{er} Congreso Internacional en Ecología de Enfermedades (3rd International Conference on Disease Ecology) Merida Yucatán, Mexico: *International (Mexico)* Nov 2013

 - “Spatial and Temporal distribution of *Borrelia burgdorferi*, the agent for Lyme disease, across Texas” Alexandra Brown*, Abha Grover**, Juang M. Pavey*, Srikanth Kanameni, May Boggles, Raul F. Medina, **M. D. Esteve-Gassent**.
 - “Current and future distribution of Lyme disease vector ticks in the Texas-Mexico region” Teresa P. Feria, Guadalupe Gordillo-Perez, Alexandra Brown*, Abha Grover**, Raul Medina, Ivan Castro-Arellano, Adalberto Pérez de Leon, **Maria D. Esteve-Gassent**

- XLIX Reunión Nacional de Investigación Pecuaria, Veracruz, Mexico *National (Mexico)* Sept 2013

 - Babesiosis in Cattle and Water Buffalo in three herds of Veracruz Central, Mexico. V.N.A. Oritiz, S.D. Romero, S.V.T. Pardo, V.Z. García, P.F. Montiel, P.N. Ibarra, **M.D. Esteve-Gassent**, I. Castro-Arellano, A. Pérez de León
 - Seroprevalence and risk factors associated with Bovine Rhinotracheitis in Water Buffalo (*Bubalus bubalis*) of Veracruz, México. S.D. Romero, R.A. Cruz, P.F. Montiel, V.Z. García, P.N. Ibarra, D.M. Aguilar, T.M. Valdovinos, **M.D. Esteve-Gassent**, I. Castro-Arellano, A. Pérez de León
 - Seroprevalence and risk factors associated with Leptospirosis in Water Buffalo (*Bubalus bubalis*) in Veracruz Mexico. S.D. Romero, R.A. Cruz, V.Z. García, P.F. Montiel, S.F. Velazquez, A.G. Dominguez, **M.D. Esteve-Gassent**, I. Castro-Arellano, A. Pérez de León

- 13th International Conference on Lyme Borreliosis and other Tick Borne Diseases: *International* Aug. 2013

 - “Temporal and spatial distribution of Lyme Borreliosis in Southern US”. Abha Gorver, Erin McGregor, Alexandra Brown, Srikanth Kanameni, May Boggles, Raul F. Medina

- and **Maria D. Esteve-Gassent**.
- “Distribution of *Borrelia burgdorferi* in humans, dogs and ticks in Southern US”. Ivan Castro-Arellano, Abha Gorver, Erin McGregor, Alexandra Brown, May Boggues, and **Maria D. Esteve-Gassent**
 - “Spatial and Temporal Distribution of Lyme Disease Infected Ticks in the Texas-Mexico Border Region” Teresa P. Feria, Guadalupe Gordillo-Perez, Alexandra Brown*, Abha Grover**, Raul Medina, Ivan Castro-Arellano, Adalberto Pérez de Leon, **Maria D. Esteve-Gassent**
 - Genotypes of *Borrelia burgdorferi* in ticks of the Northeast and Central Mexico. Guadalupe Gordillo-Perez, Margarita Vargas-Sandoval, Javier Torres, Alexandra Brown*, Abha Grover**, **Maria D. Esteve-Gassent**.
- 113th General Meeting of the American Society for Microbiology, Denver, CO. “Distribution of *Borrelia burgdorferi*, the causative agent of Lyme disease in ticks across Texas”. Alexandra Brown*, Abha Grover**, Juang M. Pavay*, Srikanth Kanameni, May Bogges, Raul F. Medina, **M. D. Esteve-Gassent**. *International* May 2013
 - 62nd Disease in Nature transmissible to humans. San Antonio, TX. “Canine Lyme Disease in Texas: Optimizing diagnostics in Veterinary Medicine” Erin McGregor*, May Boggess, Sandy Rodgers, and **Maria D. Esteve-Gassent**. *Local* June 2012
 - 112th General meeting of the American Society for Microbiology, San Francisco, CA.
 - “New Vaccine Targets to Prevent Lyme Disease”. **Maria D. Esteve-Gassent**, Waithaka Mwangi
 - “Lyme disease Seroprevalence in Texas dogs: comparison of three diagnostic tools”. Erin McGregor*, May Boggess, Sandy Rodgers, and **Maria D. Esteve-Gassent**
 - “Adherence of VWFA-domain Containing Proteins of *Borrelia burgdorferi* to Extracellular Matrix Components”. Elaine Wood*, Silvia Tamborero, Ismael Mingarro and **Maria D. Esteve-Gassent**. *International* June 2012
 - 61st Diseases in Nature transmissible to man. Corpus Christi, TX. “Surviving the tick gut is essential for Lyme disease transmission” Pam Ferro, Juan Gomez, Elaine Wood, J. Seshu and **Maria D. Esteve-Gassent**. *Local* June 2011
 - Gordon Research Conference “Biology of Spirochetes” Ventura Beach CA:
 - “Topological analysis of VWFA-domain containing proteins of *Borrelia burgdorferi*”. **Maria D. Esteve-Gassent**, S. Tamborero, I. Mingarro and J. Seshu. *International* Feb. 2010
 - “Role of CsrA in the patho-biology of *Borrelia burgdorferi*”. Eva Sanjuan-Caro, **Maria D. Esteve-Gassent**, S-L Rajasekhar Karna and J. Seshu.
 - “Role of BosR in the infectivity of *Borrelia burgdorferi* in the C3H/HeN model of Lyme disease” S-L Rajasekhar Karna, **Maria D. Esteve-Gassent**, M. Maruskova E. Sanjuan-Caro and J. Seshu.

- 109th General ASM Meeting, Philadelphia, Pennsylvania. *International* May 2009
 “Characterization of *Borrelia burgdorferi* protein damage under oxidative stress” **M.D. Esteve-Gassent** and J. Seshu
- 107th General ASM Meeting, Toronto, Canada. “Characterization of a Superoxide Dismutase A (SodA) negative mutant of *Borrelia burgdorferi*” **Maria D. Esteve-Gassent**, Nathan E. Elliott & J. Seshu *International* May 2007
- The changing landscape of vaccine development: vaccines for global health, held at the Moody Garden Galveston conference center, sponsored by UTMB Sealy Center for Vaccine Development: “Expression of lipidated *Coxiella burnetii* antigens” **Maria D. Esteve-Gassent** and J. Seshu. *National* Nov. 2006
- Gordon Research Conference “Biology of Spirochetes”, Il Ciocco, Lucca, Italy: “Characterization of the role of the RGD domain in BBA34” **Maria D. Esteve-Gassent** and J. Seshu *International* April 2006
- III International Symposium on Fish Vaccinology, Bergen, Norway. “How can disease caused by *Vibrio vulnificus* be controlled in intensive eel culture facilities?” Belen Fouz, **Maria D. Esteve-Gassent**, Jan L. Larsen and Carmen Amaro *International* April 2003
- IX International Conference “Diseases of Fish and Shellfish”, Rhodes, Greece (European Association of Fish Pathologists –EAFP): *International* Sept. 2009
 - “Immune response and protection in eel (*Anguilla anguilla*) against *Vibrio vulnificus* biotype 2 (serovarE): Results of vaccination in field trials”. Belen Fouz, **Maria D. Esteve-Gassent**, Elena Alcaide, Rodolfo Barrera, Carmen Amaro.
 - “Cellular and Humoral immune response of European sea bass (*Dicentrarchus labrax* L.) immunised with *Sphaerospora dicentrarchi* (Myxosporea : Bivalvulida)”. Institute of Aquaculture Torre de la Sal (CSIC) (Spain) Pilar Muñoz, Lucia Rojo-Iranzo, **Maria D. Esteve-Gassent**, Ariadna Sitjà-Bobadilla, Pilar Alvarez-Pellitero.

Oral presentations

- 63rd James Steele Conference on Disease in Nature “ Temporal and Spatial distribution of Lyme Borreliosis in the Southern U.S.” (30 min) *Local* June 2013
- National Foundation for Infectious Diseases 15th Annual Conference on Vaccine Research, Baltimore, MD. “New vaccine targets to prevent Lyme disease” (20 min). *International* May 2012
- College of Science Conference at UTSA, San Antonio, Texas. “Physiological adaptation of *Borrelia burgdorferi* to stress”(30 min) *Local* Aug. 2009
- Local ASM meeting, Huntsville, Texas: Invited speaker. “Role of superoxide dismutaseA (SodA) in oxidative stress in *B. burgdorferi*” (30 min). *Local* Nov. 2007
- Abildgaard Symposium in collaboration with SCOFDA: The genus *Vibrio* and its importance for fish health. “Responses in eel against *Vibrio vulnificus*” (1hr) *International* May 2005
- 6th International Symposium on Fish Immunology “Immune response of eels against *Vibrio vulnificus*: Application of vaccination in *International* May 2004

anguilliculture” (30 min)

- IX National Congress on Aquaculture: *National (Spain)* May 2003
 - Poster selected for an Oral presentation in the round-table discussion “Pathology in Aquaculture”: “Oral vaccination against *V. vulnificus* in eel farming” (30 min).
 - Invited speaker: “Oral vaccination against bacterial infectious diseases in Aquaculture” (15 min)

Research Conferences attended with no presentation

- Gordon Research Conference in Biology of Spirochetes. Ventura Beach, CA *International* Jan. 2008
- 105th General ASM Meeting in Atlanta (GA) *International* June 2005
- CIVA 2003 II Virtual Iberoamerican Congress of Aquaculture. *International* Nov. 2003
- “I International Symposium on Type Culture Collections”, Botanical Garden, University of Valencia, organised by “Spanish Type Culture Collection” and the “Ramón Areces Foundation” *International* Oct. 2002

Workshops

- Application of molecular methods in fish disease research”, in the program “Suitable Control of Fish Diseases in Aquaculture” (SCOFDA), Frederiksberg (Denmark) *International* April 2003
- “Research school on viral, bacterial and parasitic diseases in fish”, in the program “Suitable Control of Fish Diseases in Aquaculture” (SCOFDA), under the direction of M.E. Nilsen PhD, and K. Burchmann PhD, Frederiksberg (Denmark) *International* April 2002
- “Fish Immunology.” By the “Cell Biology and Immunology Group”, Wageningen University, The Netherlands. *International* April 2001
- Postgraduate course “Detection of Environmental Pollution (II): Biological Methods. 6th Edition” by UIMP (Universidad Internacional Menendez Pelayo), “Universitat de València” and ADIT (Fundación Universidad Empresa) *Local (Spain)* Jan. 1998
- “Basic Course about Electron Microscopy in Biology” at the “Fundación Valenciana de Investigaciones Biomédicas” (FVIB) *Local (Spain)* July 1996

Colloquia and Seminar Talks

1. Universidad de Yucatan, Centro de Investigaciones Regionales “Dr. Hideyo Noguchi”, Merida, Yucatán México. Workshop “La Borreliosis en la Península de Yucatan. Estado actual”:
 - Situación Epidemiológica actual de las Borreliosis (30 min)
 - Opciones de diagnostic actuales y su eficacia (30 min)*Mexico* Jan. 2013
2. Universidade Federal de Pernambuco, Recife, Brazil. “New vaccine targets to prevent Lyme disease”. *Brazil* Nov. 2011
3. USDA Knippling-Bushland U.S. Livestock Insects Research Laboratory, KERRVILLE, TX. “Virulence factors and target for Vaccines against *B. microti*”. *Local (US)* Oct. 2011

- Borrelia burgdorferi*, the Lyme disease Agent”.
4. XX Foro Nacional de Investigación en Salud. Oaxtepec, Morelos Mexico. “Virulence factors and target of Vaccine from *Borrelia burgdorferi*; Lyme disease Agent” during the section Vector transmitted emergent zoonosis. Mexico Sept. 2011
 5. Instituto Medico Nacional SXXI, Mexico City Mexico Feb. 2011
 6. Seminar at the Department of Biology, Texas A&M University. Local (US) July 2009
“Physiological adaptation of *Borrelia burgdorferi* to stress”
 7. Seminar at the Department of Medical Microbiology and Immunology, Texas A&M University HSC “Vaccination against *Vibrio vulnificus*, applications in Aquaculture”. Local (US) Sept. 2004

Awards and Honors

- Winners for the most accessed article in the Journal of Fish Diseases in 2007: “The eel immune system: present knowledge and the need for research” vol. 29 Feb. 2008
- Outstanding Ph.D. thesis Special Award in Biological Sciences by the University of Valencia with the Thesis entitled “Vaccination against the vibriosis caused by *V. vulnificus*: development and validation of a protocol applicable to intensive eel farming and study of the immune response”. June 2005
- 2nd place on Scientific Divulgarion competition: “Science, Life and Society” sponsored by the Rotary Club and the University of Valencia, with the poster entitled: “Vaccine development against infectious diseases in Aquaculture” Nov. 2002
- **II JACUMAR** award by the **Spanish Ministry for Food, Fisheries and Agriculture** to the Research Group “Bacterial Pathogens with importance in Aquaculture” at the Department of Microbiology and Ecology, Faculty of Biology, University of Valencia for the work entitled: “Design and development of a vaccine against eel vibriosis caused by *Vibrio vulnificus* serovar E (or biotype 2) applied to intensive culture facilities”. 2001

FUNDING

Current Grants

- American Heart Association, “Study of the von Willebrand factor A containing proteins in *Borrelia burgdorferi*”, **Maria D. Esteve-Gassent (PI)** 75% effort. Scientist Developing Grant 10SDG2610017. \$280,000. Direct cost plus 7% IDC 2011-2014
- AgriLife-TVMDL, “Molecular Ecology of vector borne zoonosis in the Gulf of Mexico: A One Health approach”, **Maria D. Esteve-Gassent (PI)**, Adalberto Pérez de León (Co-PI, TAMU-USDA), Pamela Ferro (TVMDL, Co-PI), Pat Holman (TAMU Collaborator) 2013-2015

Pending Grants

- NIH R21 “Population Genetic Structure of *Ixodes scapularis* and disease transmission” 2014-2016

Maria D. Esteve-Gassent (Lead PI), Dr. Raul Medina (PI) and Dr. Ivan Castro-Arellano (PI). \$250,000 plus IDC

- NIH R21 “Tick microbiomes as surveillance tools for emergence of tick-borne pathogens” **Maria D. Esteve-Gassent (Lead PI)**, Dr. Ivan Castro-Arellano, Dr. Felix Guerrero, and Dr. Teresa P Feria, \$250,000 plus IDC. 2014-2016
- TAMU-CONACYT 2013 Collaborative research grant “Molecular Ecology of vector borne zoonosis in the Gulf of Mexico: A One Health approach”. TAMU team: Dr. Bhanu Chowdhary (PI) and Dr. Maria Esteve-Gassent, Dr. Adalberto Pérez de León and Dr. Patricia Holman as co-PIs). Mexico team: Dr. Ivan Rodríguez-Vivas (PI) and Dr. Dora Romero, Guadalupe Gordillo-Perez as co-PIs. \$75,000. 2013-2014

Previous Grants

- TAMU-CONACYT 2011 Collaborative research grant: “Typing virulent isolates of Lyme disease agents in central Mexico” Albert Mulenga (PI) **Maria D. Esteve-Gassent (Co-PI)**, Guadalupe Gordillo Pérez (co-PI) and Javier Torres (PI) 15% effort. \$24,000 Direct cost, no IDC. 2011-2013
- TAMU International Research Travel Assistance Grant (IRTAG) “Topological study of *Borrelia burgdorferi* membrane proteins and their interaction with the tick vector and the mammalian host” Maria D. Esteve-Gassent, PI. Total cost \$3,469 direct costs, no IDC. 2011
- Texas AgriLife/TVMDL Seed grant, “Improving diagnostic methods for Lyme disease, and epidemiology of human and animal infections in TX”, Blanca Lupiani (PI), **Maria D. Esteve-Gassent (Co-PI)** and Barbara Zsonyi (Co-PI). \$110,000 direct costs, no IDC. 2011-2013
- Texas AgriLife/TAGS Seed grant, “Next generation sequencing analysis of the Lyme disease agent in the tick vector”, Raul Medina, (PI), **Maria D. Esteve-Gassent**, Albert Mulenga and Ivan Ivanov as Co-PI’s Direct Costs: \$35,000, no IDC 2011-20112
- College of Veterinary Medicine Travel Funds. \$3,400, **Maria D. Esteve-Gassent (PI)** 2012-2013

Fellowships

- American Heart Association (South Central Affiliate Research Committee) **Postdoctoral Fellowship** to the project entitled: “Genetic analysis of the superoxide dismutase A (*sodA*) mutant in *Borrelia burgdorferi*”. AHA identification number 0825175F. 2008-2010
- **Pre-doctoral fellowship** form MCYT (Ministry for Sciences and Technology) Type: “MIT Modality” to carry out the PhD research in the private enterprise Valenciana de Acuicultura S.A 1999-2003
- Research Fellowship from the “Spanish Ministry of Foreign Affairs” (MAE) for an internship in Denmark, under the supervision of Dr. J.L. Larsen. *Institution*: The 1999-2000

Royal Veterinary and Agricultural University (KVL) (Copenhagen) Department of
Veterinary Microbiology”

- Fellowship under the *Leonardo Da Vinci European Program*, for training in Denmark, 1999
at **Ensted Fiskefarm A/S**. Supervisor: H. Støjberg
- **Undergraduate research fellowship** “Introduction to Scientific Research” by 1998
Consejo Superior de Investigaciones Científicas (CSIC) (National Council for
Scientific Research), in the Aquaculture Institute “Torre de la Sal” in Castellón
(Spain). Supervisor: Dr. Pilar Alvarez Pellitero and Dr. Ariadna Sitjà Bobadilla

Patents

- “BB0172 pepB as a protective antigen against Lyme disease”. Disclosure of invention 2012
in place with the Office of Technology commercialization at TAMU.

TEACHING

(* Undergraduate, ** Master, *** Graduate student and ^Postdoctoral trainees mentored)

Teaching Experience

- VTPB405-503 504, Microbiology for Biomedical Sciences Fall 2013
- VTPB285-507, Directed research studies Spring 2011, Fall 2012
- VTPB485-507, Directed research studies Fall 2011, Spring 2012
- VTPB491W Directed studies Spring 2012, 2013
- Guest lecturer: UBM NSF program for undergraduate research in Math and Biology, College of Sciences, Texas A&M University September 2012
- Guest lecturer: UBM NSF program for undergraduate research in Math and Biology, College of Sciences, Texas A&M University September 2011
- Guest lecturer: Parasitology, Biology Department UTSA Fall 2010

Course Development

- Currently developing a Summer Study abroad program in Barcelona Spain, to address shadowing experience for Pre-Med and Pre-Vet students in a country with public Universal Health services. This will provide students not only with a vision of how Medicine and Biomedical Sciences happen in other countries, but also will provide the students the opportunity to develop their Spanish skills and international relations. May 2014

Professional Development

- Seminar “Write winning NIH Grant Proposals”, sponsored by Texas A&M University, VPR’s office Feb 2014
- Centre for Teaching Excellence, Texas A&M University Summer 2012
 - Writing Syllabi that Engage and Motivate Students (2hrs)
 - Course Design Series Session I (2hrs)
 - Course Design Series Session III (2hrs)
- ASM Kadner Institute for Career Development in Microbiology. Held at University of Colorado at Boulder July 2007

Undergraduate Thesis

- **Gabrielle Castellanos** “Borrelia burgdorferi Seroprevalence in Deer across TraviCounty, Texas: Relevance for Lyme Disease Ecology” (BIMS major) Spring 2014
- **Juang M. Pavey**, “The Frequency and Occurrence of Lyme disease in Texas” Spring 2013

(Mathematics Major)

- **Alexandra Brown**, “Distribution of *Borrelia burgdorferi*, the causative agent of Lyme disease in ticks across Texas” (BIMS Major) Spring 2013
- **Erin McGregor**, “Standardization of a pan-specific test for the diagnosis of Lyme disease in veterinary medicine” (BIMS Major) Spring 2012
- **Elaine C. Wood**, “Characterization of adherence properties of the VWFA-domain containing proteins of the causative agent of Lyme Disease” (Biology Major) Spring 2012
- **Joseph Modarelli**, “Expression analysis of *bb0174*, a membrane protein of *Borrelia burgdorferi*, the causative agent of Lyme disease” (BIMS Major) Spring 2012

Graduate Thesis

PhD. Candidates:	Function	Year Graduation
<ul style="list-style-type: none"> • Carolina Guadalupe Sosa-Gutierrez DVM “Frecuencia de los agentes Rickettsiales transmitidos por garrapatas en vector, hoppedero y pacientes con la enfermedad adquirida en la República Mexicana”. Universidad Nacional Autónoma de México (UNAM) College of Veterinary Medicine, PhD in Health Sciences and Animal Production 	MENTORING COMMITTEE	2014
<ul style="list-style-type: none"> • Analalia Solís Herenández, M.S. “Estudio epidemiológico de <i>Borrelia burgdorferi</i> sensu lato en humanos, reservorios y garrapatas en Yucatán, México”. Universidad de Mérida, Yucatán, Mexico. 	CO-MENTOR	2015
<ul style="list-style-type: none"> • Lauren Lewis, Texas A & M University, College of Agriculture, Department of Entomology 	MENTORING COMMITTEE	2016
<ul style="list-style-type: none"> • Christina Marie Small, Texas A & M University, College of Veterinary Medicine and Biomedical Sciences, Veterinary Pathobiology 	MENTOR	2017
MS. Candidates:		
<ul style="list-style-type: none"> • Miriam Alva Trujillo. “Seroprevalencia y factores de riesgo asociados a la piroplasmosis en équidos de las regiones del Sotavento, Papaloapan y los Tuxtlas en el estado de Veracruz, México”. Veracruz, Mexico (CO-MENTOR) 	CO-MENTOR	2015
<ul style="list-style-type: none"> • Troy Maikis 	CO-MENTOR	

Student Symposia

- College of Veterinary Medicine Graduate student Research Week. *Local* Jan 2014
Texas A&M University:
 - “Adherence of BB0173, a VWFA domain containing protein of *B. burgdorferi* to Human Extracellular matrix components” Christina Small*** (oral presentation)
- Texas A&M University Student Research Week. Undergraduate research poster presentation *Local* March 2013
 - “Distribution of *Borrelia burgdorferi*, the causative agent of Lyme disease in ticks across Texas”. Alexandra Brown* and

- Maria D. Esteve-Gassent
- “The Frequency and occurrence of Lyme disease in Texas”.
Juang Pavay,* May Bogges and Maria D. Esteve-Gassent
 - Texas A&M University Student Research Week. Undergraduate research poster presentation *Local* March 2012
 - Characterization of adherence properties of the VWFA-domain containing proteins of the causative agent of Lyme Disease. Elaine C. Wood* and Maria D. Esteve-Gassent.
 - Standardization of a Pan-specific test for the diagnostics of Lyme disease in Veterinary medicine. Erin McGregor*, May Bogges and Maria D. Esteve-Gassent.
 - Expression analysis of BB0174, a membrane protein of *Borrelia burgdorferi*, the causative agent of Lyme Disease. Joseph Modarelli* and Maria D. Esteve-Gassent.

SERVICE

University

- Judge during the Texas A&M University, College of Veterinary Medicine, Graduate student research week Jan 2014
- First Year VM student mentor 2013-present
- Undergraduate Research Mentor 2011-present
- Seminar presentation to the CVM student chapter of the Wildlife Disease Association “ Lyme Disease Ecology in Texas: Are we going against the Dogma?” Feb. 2013
- Panelist to discuss international experience to the Undergraduate Honors Students at Texas A&M University. Jan 2013
- Judge during the TAMU Entomology Graduate Student Forum Aug. 2012
- Judge in the Annual Student Research Weak at Texas A&M University March 2012

Professional Societies

- 113th ASM General Meeting: May 2013
 - Volunteer mentor for students and postdocs during the lounge hours
 - Volunteer mentor for Student and postdoc “Careers in Academia” lunch
- 112th ASM General Meeting: Volunteer mentor for students and postdocs during the lounge hours June 2012
- *Ad Hoc* Reviewer for the scientific Journal of Bacteriology (American Society for Microbiology) 2013- present
- *Ad Hoc* Reviewer for the scientific Journal Vector-Borne and Zoonotic Diseases 2013-present
- *Ad Hoc* Reviewer for the scientific Journal Infection and Immunity 2012-present
- *Ad Hoc* Reviewer for the scientific journal FEBS Letters 2010-present
- *Ad Hoc* Reviewer for the scientific Journal of Fish Diseases (Blackwell Science) 2009-2011
- *Ad Hoc* Reviewer for the scientific journal Fish and Shellfish Immunology (Elsevier) 2008-2011
- *Ad Hoc* Reviewer for the scientific journal Aquaculture (Elsevier) 2007-2011

Outreach activities

- Participation in the publication: “Ticket. The Battle over Lyme disease in the South”. Discover Magazine In Depth. ISBN: 978-1-62700-115-1 September 2013
- Genome exhibit at the George Bush Library and Museum, College Station, Texas: Lyme Disease in Southern US Spring 2013
- Participating as Lyme disease expert during consulting meetings in Houston Nov. 2012
- 2nd Latinos in Agriculture Leaders Forum. San Antonio, TX. Acted as volunteer in recruiting undergraduate students to attend the meeting Oct. 2012
- Fox Channel 26 (Houston, TX) News at 5pm Report regarding the presence of Lyme disease in Texas. Awareness of Texans about the disease. June 2012
<http://www.myfoxboston.com/story/18699227/2012/06/04/lyme-disease>

Maria Esteve-Gassent, Ph.D.

- Judge in the ExxonMobil Texas Science and Engineering Fair, Senior Microbiology 2007, 2008
- Judge in the ExxonMobil Texas Science and Engineering Fair Junior Chemistry section 2006
- B.S. Student representative at the Department of Microbiology and Ecology Council 1996-1997
- Volunteer for the Environmental protection plan of the Natural Park “Peñón de Ifach” Calpe (Alicante- Spain) Summer 1997