

BIOGRAPHICAL SKETCH

NAME Beatriz Martínez López	POSITION TITLE Associate Professor, AES (20%) and Director of the Center for Animal Disease Modeling and Surveillance (CADMS)		
eRA COMMONS USER NAME: BEAMARTINEZLOPEZ			
EDUCATION/TRAINING <i>(Begin with baccalaureate or other initial professional education, such as nursing, include postdoctoral training and residency training if applicable.)</i>			
INSTITUTION AND LOCATION	DEGREE	MM/YY	FIELD OF STUDY
School of Veterinary Medicine, University Complutense of Madrid (UCM), Spain	DVM	09/04	Veterinary Medicine
School of Information Sciences, UCM, Spain	“Expert”	06/05	Communication and social networks
University of California, Davis	MPVM	09/07	Veterinary Epidemiology
School of Veterinary Medicine, UCM, Spain	PhD	01/09	Veterinary Epidemiology
VISAVET, School of Veterinary Medicine, UCM, Spain	Post-Doc	12/11	Veterinary Epidemiology
IREC-CSIC-University of Castilla-La Mancha	Post-Doc	07/13	Veterinary Epidemiology
University of California, Davis	Post-Doc	09/13	Veterinary Epidemiology

A. Personal Statement.

Dr. Martínez López research is focused on the development and application of epidemiological tools for better understanding the evolution of infectious diseases and supporting a more cost-effective and risk-based disease surveillance and control. She has been primarily working on epidemiological modeling and risk assessment for the evaluation of the potential introduction and/or spread of emerging and exotic diseases, such as Foot-and-Mouth Disease, African Swine Fever, Classical Swine Fever, Avian Influenza, Rift Valley Fever, Bluetongue, etc. Many of those diseases are considered to be emerging or re-emerging due to globalization, climate and land use changes. Currently she is also actively working in PRRS, PED and other diseases at the wildlife-domestic interface such as bovine tuberculosis and those affecting aquatic animals, mainly those related with shrimp and salmon farming industry. Since 2013, she has assumed the direction of CADMS to participate in the continuing development of new near-real time surveillance and modeling tools, including Big Data analytics and their integration into operational platforms such as the Disease BioPortal™, a secure web-based platform system intended for real time routing, sharing, and analyzing infectious diseases data and information (<http://bioportal.ucdavis.edu/>). She currently mentors more than 12 PhD students and post-doctoral scholars and teaches and coordinates numerous training courses and technology transfer activities related with quantitative epidemiology, risk assessment and modeling.

Specialty Focus: Quantitative Epidemiology: Spatial analysis, Risk analysis, Disease spread models, social network analysis, statistical analysis (Frequentists and Bayesian), data mining.

Related tools: R-language; @Risk; GIS (ArcGIS, QGIS); SatScan; Pajek; WinBUGS/OpenBUGS; Disease BioPortal; SPSS; SAS; STATA; Win EpiScope; Epi Info; EpiTools; InterSpread Plus; MLwiN

B. Member of scientific committees

- 2009-cont.** Scientific Committee of the Research Centre for the Management of Agricultural and Environmental Risks (CEIGRAM).
- 2014-cont.** Regional Representative, Central and North America, Executive Committee of the Iberoamerican Society of Veterinary Epidemiology and Preventive Medicine (SIEVMP)
- 2009-2011** Regional Representative, Europe, Executive Committee of the Iberoamerican Society of Veterinary Epidemiology and Preventive Medicine (SIEVMP)

- 2010** Organizing Committee of the workshop “New generation researchers in pig viral diseases: building bridges from labs to policy and the farms”. Vet. School, Complutense University of Madrid, 12-14 Jul.
- 2010-2012** Evaluation Committee for Grant adjudication for final projects (TFC), degree dissertation (TES), Master Thesis (TM) and ending of PhD about management of Agricultural, livestock or environmental risks.
- 2011-2012** Organizing and Scientific Committee of the IX International Congress of Veterinary Virology. 4-7 Sept.
- 2012-2013** Organizing Committee of the Annual Meeting of the Society for Veterinary Epidemiology and Preventive Medicine (SVEPM).

C. Member of Scientific Societies

- 2014-cont.** Association for Veterinary Epidemiology and Preventive Medicine (AVEPM).
- 2013-cont.** United States Animal Health Association (USAHA).
- 2012-cont.** Society of Veterinary Epidemiology and Preventive Medicine (SVEPM).
- 2009-cont.** Iberoamerican Society of Veterinary Epidemiology and Preventive Medicine (SIEVMP)
- 2009-cont.** European Society of Veterinary Virology (ESVV)
- 2009-2012** Spanish Society of Epidemiology (SEE)

D. Recent awards

- 2013** Award for the Organization of the SVEPM Annual Meeting. VI Recognition Night (City Hall of Madrid, Spain).
- 2015** PRRS Research Award. Announced at the AASV Conference, Orlando, US.

E. Service

Administrative Activities

- 2013-Current Director, Center for Animal Disease Modeling and Surveillance (CADMS).

Editorial and Advisory Boards

- 2011-Current Associate Editor, BMC Veterinary Research.
- 2014-Current Associate Editor, Frontiers in Veterinary Science
- 2015-Current Study Design and Data Analysis Board Member, Equine Veterinary Journal

F. Relevant current research support (National and International Research Projects)

1. Project Title: **Network analysis to identify important actors for managing zones.** Funding Entity: SINTEF (Norway). 2015–2017.
2. Project Title: **Development of an early-warning system based on real-time risk assessment, producers self-assessment of biosecurity practices for the prevention, early detection and rapid control of AI outbreaks in the CA poultry industry.** Funding Entity: USDA-NIFA-CARE. 2016-2018.
3. Project Title: Workshop: **Next generation of real-time surveillance and risk assessment platforms.** Funding Entity: UCD-Virginia Perry Wilson. 2016 – 2017.
4. Project Title: **Real-time risk assessment platform for evaluating the risk of African Swine Fever (ASF) introduction into the United States).** Funding Entity: Subcontract from CEEZAD/KBA (Kansas State University). 2016 – 2017.
5. Project Title: **Evaluation of the interface between feral pigs and pasture-raised pigs, a multi-agency epidemiological approach: Implications for infectious disease transmission and surveillance.** Funding Entity: UCD-Academic Federation. 2016 – 2018.
6. Project Title: **Network Analysis of Livestock Movements (Including Poultry and Hatching Eggs) Introduced in California from 2004 to 2014: Implications for Potential Introduction and Spread of Infectious Diseases.** Funding Entity: CFAH (Animal Health funds). 2017.

7. Project Title: **Spatio-temporal dynamics of condemnation cases in cattle slaughter plants in California and other US states from 2004-2015**. Funding Entity: CFAH (Animal Health funds). 2017.
8. Project Title: **Needs assessment to characterize the use of soil amendments and microbial food safety best practices in organic and sustainable agriculture**. USDA. 2016-2019.

G. Selected peer-reviewed publications

*Complete list of 52 peer-reviewed publications are accessible through MyBibliography [NCBI]:

<http://www.ncbi.nlm.nih.gov/sites/myncbi/beatriz.martinez-lopez.1/bibliography/48736719/public/?sort=date&direction=descending>

1. Kyuyoung Lee, Dale Polson, Erin Lowe, Rodger Main, Derald Holtkamp, **Beatriz Martínez-López**, Unraveling the contact patterns and network structure of pig shipments in the United States and its association with porcine reproductive and respiratory syndrome virus (PRRSV) outbreaks, *Prev Vet Med*, 138, 113-123, <http://dx.doi.org/10.1016/j.prevetmed.2017.02.001>.
2. Belkhiria J, Alkhamis MA, **Martínez-López B**. Application of Species Distribution Modeling for Avian Influenza surveillance in the United States considering the North America Migratory Flyways. *Sci Rep*. 2016 Sep 14;6:33161.
3. Berrian AM, van Rooyen J, **Martínez-López B**, Knobel D, Simpson GJ, Wilkes MS, Conrad PA. One Health profile of a community at the wildlife-domestic animal interface, Mpumalanga, South Africa. *Prev Vet Med*. 2016 Aug 1;130:119-28.
4. LaHue NP, Baños JV, Acevedo P, Gortázar C, **Martínez-López B**. Spatially explicit modeling of animal tuberculosis at the wildlife-livestock interface in Ciudad Real province, Spain. *Prev Vet Med*. 2016 Jun 1;128:101-11.
5. Kukielka EA, Jori F, **Martínez-López B**, Chenais E, Masembe C, Chavernac D, Ståhl K. Wild and Domestic Pig Interactions at the Wildlife-Livestock Interface of Murchison Falls National Park, Uganda, and the Potential Association with African Swine Fever Outbreaks. *Front Vet Sci*. 2016 Apr 14;3:31. doi: 10.3389/fvets.2016.00031.
6. Relun A, Grosbois V, Sánchez-Vizcaíno JM, Alexandrov T, Feliziani F, Waret-Szkuta A, Molia S, Etter EMC, **Martínez-López B**, 2016. Spatial and functional organization of pig trade in different European production systems: implications for disease prevention and control. *Front Vet Sci*. 2016 Feb 4;3:4.
7. Fernández-Carrión E, Ivorra B, **Martínez-López B**, Ramos AM, Sánchez-Vizcaíno JM. 2016. Implementation and validation of an economic module in the Be-FAST model to predict costs generated by livestock disease epidemics: Application to classical swine fever epidemics in Spain. *Preventive Veterinary Medicine*. *Prev Vet Med*. 2016 Apr 1;126:66-73
8. Grayzel S, **Martínez-López B**, Sykes J, 2016. Risk factors and spatial distribution of canine coccidioidomycosis in California, 2005-2013. *Transboundary and Emerging Diseases*. In press.
9. Yatabe T, More SJ, Geoghegan F, McManus C, Hill AE, **Martínez-López B**. Characterization of the live salmonid movement network in Ireland: Implications for disease prevention and control. *Prev Vet Med*. In press, doi:10.1016/j.prevetmed.2015.09.005.
10. **Martínez-López B**, Alexandrov T, Mur L, Sánchez-Vizcaíno F, Sánchez-Vizcaíno JM. Evaluation of the spatial patterns and risk factors, including backyard pigs, for classical swine fever occurrence in Bulgaria using a Bayesian model. *Geospat Health*. 2014 May;8(2):489-501.
11. **Martínez-López B**, Ivorra B, Fernández-Carrión E, Perez AM, Medel-Herrero A, Sánchez-Vizcaíno F, Gortázar C, Ramos AM, Sánchez-Vizcaíno JM. A multi-analysis approach for space-time and economic evaluation of risks related with livestock diseases: the example of FMD in Peru. *Prev Vet Med*. 2014 Apr 1;114(1):47-63. doi: 10.1016/j.prevetmed.2014.01.013. Epub 2014 Jan 16. PubMed PMID: 24485278.
12. **Martínez-López B**, Ivorra B, Ramos AM, Fernández-Carrión E, Alexandrov T, Sánchez-Vizcaíno JM. Evaluation of the risk of classical swine fever (CSF) spread from backyard pigs to other domestic pigs by using the spatial stochastic disease spread model Be-FAST: the example of Bulgaria. *Vet Microbiol*. 2013 Jul 26;165(1-2):79-85.

- 13. Martínez-López B**, Perez AM, Sánchez-Vizcaíno JM. Identifying equine premises at high risk of introduction of vector-borne diseases using geo-statistical and space-time analyses. *Prev Vet Med.* 2011 Jun 15;100(2):100-8.
- 14. Martínez-López B**, Ivorra B, Ramos AM, Sánchez-Vizcaíno JM. A novel spatial and stochastic model to evaluate the within- and between-farm transmission of classical swine fever virus. I. General concepts and description of the model. *Vet Microbiol.* 2011 Jan 27;147(3-4):300-9.
- 15. Martínez-López B**, Perez AM, Sánchez-Vizcaíno JM. A simulation model for the potential spread of foot-and-mouth disease in the Castile and Leon region of Spain. *Prev Vet Med.* 2010 Aug 1;96(1-2):19-29.
- 16. Martínez-López B**, Perez AM, Sánchez-Vizcaíno JM. Combined application of social network and cluster detection analyses for temporal-spatial characterization of animal movements in Salamanca, Spain. *Prev Vet Med.* 2009 Sep 1;91(1):29-38.