Luis E. Escobar, PhD

Research Interests:
Global Change,
Biogeography,
Biodiversity,
Disease Ecology,
Fish & Wildlife Epidemiology.

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Assistant Professor
Department of Fisheries and Wildlife Conservation
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Education

2014 **PhD,** Universidad Andres Bello, College of Ecology and Natural Resources, Chile
Doctor of Philosophy in Conservation Medicine (*Summa Cum Laude*)

2012 **MVS,** Universidad Andres Bello, College of Ecology and Natural Resources, Chile
Master of Veterinary Sciences

2011 **MSc,** Universidad de San Carlos, Guatemala City, Guatemala
Master of Science in Wildlife Management

2009 **DVM,** Universidad de San Carlos, Guatemala City, Guatemala
Doctor of Veterinary Medicine

Professional appointments

2017 – **Assistant Professor**, Department of Fish and Wildlife Conservation, College of Natural Resources and Environment, Virginia Tech, Blacksburg, VA, USA.

2015 – 2017 **Postdoc**, College of Veterinary Medicine and College of Food, Agricultural and Natural Resource Sciences, University of Minnesota, Saint Paul, MN, USA.

2014 **Postdoc**, Center for Global Health and Translational Science, Department of Microbiology and Immunology, State University of New York, Upstate Medical University, NY, USA.

Other affiliations

2020 – **Affiliated Faculty**, Center for Emerging, Zoonotic and Arthropod-borne Pathogens, Virginia Tech, Blacksburg, VA, USA.

2020 – **External Research Associate**, Minnesota Center for Prion Research and Outreach, College of Veterinary Medicine, University of Minnesota, Saint Paul, MN, USA.

2017 – **Affiliated Faculty**, Global Change Center, Virginia Tech, Blacksburg, VA, USA.

2018 – **Affiliated Faculty**, Ph.D. Program on Translational Biology, Medicine, and Health. Virginia Tech, Blacksburg, VA, USA.

2018 – 2021 **Associate Graduate Faculty** (Guest), Graduate Faculty. Minnesota State University, Mankato, MN, USA.

2019 – **Adjunct Faculty**, PhD Program in Agrosciences, Universidad de La Salle, Bogota, Colombia.

Honors and awards

07/2018 **Fellow**. International Network of Science, Technology and Innovation of Guatemala. National Secretary of Science and Technology, Guatemala City, Guatemala.

2017-2019 **Vice President**. Faculty Association. College of Natural Resources and Environment, Virginia Tech, Blacksburg, Virginia, United States.

10/2016 **Honorable Mention**. 2016 Points of Pride Research Day, College of Veterinary Medicine, University of Minnesota, United States.

04/2016 **MAISRC Spirit Award**. Minnesota Aquatic Invasive Species Research Center, Minnesota, United States.

05/2015 **Bronze Award. Forecasting Chikungunya DARPA Challenge**. Defense Advanced Research Projects Agency U.S. Department of Defense. Washington, United States US$50,000 cash award.
11/2014 **Alumni Award in Research**. Andres Bello University. Santiago, Chile.
11/2014 **Student Conference in Conservation Science**, travel award, Peking University, Beijing.
10/2013 **George M. Baer Latin American Investigator Award**. Rabies in the Americas Conference (RITA), Ontario, Canada.
03/2013 **Student Conference in Conservation Science**, travel award, University of Cambridge.

Publications

Book chapters (6)

6. **Escobar LE.** (2021). Ecological Niche Modeling: An Introduction for Veterinarians and Epidemiologists. Eds: S. Dürr, V. J. Brookes, & A. M. Perez. In *Principles and Challenges of Fundamental Methods in Veterinary Epidemiology and Economics*. Lausanne, Frontiers.
5. Castaneda D, **Escobar LE**, Astorga F. 2021. *Sarcoptic Mange: Impacts in Wildlife and Livestock*. In: *Las Agrociencias Como Soporte a una Producción Agropecuaria Sostenible.* Chacon Jaramillo L. (ed). Bogota: Ediciones Unisalle. (Spanish)
4. Garcia V, **Escobar LE**. 2019. *Impacts, Vulnerability, and Adaptation.* In: *First Report of the Assessment of Knowledge of Climate Change in Guatemala*. Castellanos, E.; Paiz-Estévez, A.; Escribá, J.; Rosales-Alconero, M. y Santizo, A. (eds). *SGCCC*. Guatemala City: Editorial Universitaria UVG. (Spanish)
3. **Escobar LE** & Craft ME (2017) *Advances and Limitations of Disease Biogeography Using Ecological Niche Modeling*. In J. Alvarez & A. M. Perez (Eds.), Applications of STEM (Science, Technology, Engineering and Mathematics) Tools in Microbiology of Infectious Diseases. Lausanne, Frontiers.
2. **Escobar LE**. (2013) *Conservation from Heaven: Remote Sensing and Open Access Tools to Guide Biodiversity Conservation*. In: *New Hope for Conservation*. Beijing: Beijing Forum-Peking University.
1. **Escobar LE**, Rodríguez YV & Medina-Vogel G (2012) *Emerging Diseases and Biodiversity Conservation in Chile*. In: *Actas de las VI Jornadas de Derecho Ambiental*. (ed. by J Aranda, X Insunza, S Montenegro, P Moraga & AL Uriarte), Santiago: Thomsom Reuters. (Spanish)

Manuscripts in review (2)

2. Castaneda JP & **Escobar LE**. Natural capital accounting of ecosystem regulation of infectious diseases: An overview. In review. *Ecological Economics*. (IF: 5.389)
1. Di Napoli C, McGushin A, Romanello M, Ayeb-Karlsson S, Cai W, Chambers J, Dasgupta S, **Escobar LE**, Kelman I, Kjellstrom T, Kniveton D, Liu Y, Liu Z, Lowe R. Martinez-Urtaza J, McMichael C, Moradi-Lakeh M, Murray KA, Rabbaniha M, Semenza JC, Shi L, Tabatabaei M, Trinanes JA, Vu BN, Brimicombe C, Robinson EJ. Tracking the impacts of climate change on human health via indicators: Lessons from the Lancet Countdown. In review. *BMC Public Health*. (IF: 3.295)

Manuscripts published (91) https://scholar.google.com/citations?user=okcZNYoAAAAJ&hl=en

>3,300 citations, h-index: 27 (*corresponding author, Student, IF: impact factor)

2021

91. Urushadze K, Babuadze GG, Shi M, **Escobar LE**, Mauldin MR, Natradeze I, Machablishvili A, Kutateladze T, Imnadze P, Nakazawa Y, Velasco-Villa A. Detection of novel coronaviruses in bats of Georgia. In press. *Viruses*. **14**, 72. (IF: 5.048)
90. Van de Vuurst P, Díaz MM, Rodríguez-San Pedro A, Allendes JL, Brown N, Gutierrez JD, Zarza H, de Oliveira SV, Cárdenas-Canales E, Barquez RM, **Escobar LE***. A dataset of common vampire bats reports. *Scientific Data*. Accepted. (IF: 5.541)
89. **Escobar LE*** & Serge Moran. Disease Ecology and Biogeography. *Frontiers in Veterinary Sciences*. **8**, 765825 (IF 3.412)
88. Castaneda-Guzman M, Mantilla Santos G, Murray K, Settlage R, **Escobar LE***. (2021) A Database of global coastal conditions. *Scientific Data*. **8**, 304. (IF 5.541)

87. Browne E, Driessen MM, Cross PC, **Escobar LE**, Foley J, López-Olvera JR, Niedringhaus KD, Rossi L, Carver S. (2021) Sustaining transmission in different host species: The emblematic case of *Sarcoptes scabiei*. *BioScience*. In press. (IF 8.282)

Featured in the journal's podcast: "BioScience Talks: Disease Transmission: The Case of Sarcoptes Scabiei". https://share.transistor.fm/s/08424d99

86. Romanello M, McGushin A, Di Napoli C, Drummond P, Hughes N, Jamart L, Kennard H, Lampard P, Solano Rodriguez B, Arnell N, Ayeb-Karlsson S, Belesova K, Cai W, Campbell-Lendrum D, Capstick S, Chambers J, Chu L, Ciampi L, Dalin C, Dasandi N, Dasgupta S, Davies M, Dominguez-Salas P, Dubrow R, Ebi KL, Eckelman M, Ekins P, **Escobar LE**, Georgeson L, Grace d, Graham H, Gunther SH, Hartinger S, He K, Heaviside C, Hess J, Hsu SC, Jankin S, Jimenez MP, Kelman I, Kiesewetter G, Kinney P, Kjellstrom T, Kniveton D, Lee JKW, Lemke B, Liu Y, Liu Z, Lott M, Lowe R, Martinez-Urtaza J, Maslin M, McAllister L, McMichael C, Mi Z, Milner J, Minor K, Mohajeri N, Moradi-Lakeh M, Morrissey K, Munzert S, Murray KA, Neville T, Nilsson M, Obradovich N, Odhiambo Sewe M, Oreszczyn T, Otto M, Owfi F, Pearman O, Pencheon D, Rabbaniha M, Robinson E, Rocklöv J, Salas RN, Semenza JC, Sherman J, Shi L, Springmann M, Tabatabaei M, Taylor J, Trinanes J, Shumake-Guillemot J, Vu B, Wagner F, Wilkinson P, Winning M, Yglesias M, Zhang Peng Gong S, Montgomery H, Costello A, Hamilton I. (2021) The 2021 Report of The Lancet Countdown on Health and Climate Change. Accepted. *The Lancet*. **398**, 1619-1662. (IF 60.392)
85. Oliveira-Santos GR, Moore SA, Severud WJ, Forester JD, Isaac EJ, Chenaux-Ibrahim Y, Garwood T, **Escobar LE**, Wolf TM. Spatial compartmentalization: a nonlethal predator mechanism to reduce parasite transmission between prey species. *Science Advances*. In press. (IF: 14.14)
84. Van de Vuurst P, Moore SA, Wolf TM, Isaac EJ, Ibrahim YC, and **Escobar LE***. (2021). Reconstructing landscapes of ungulate predation. Current Zoology. zoab058. (IF 2.686)
83. Worsley-Tonks K, Gehrt SD, Anchor C, **Escobar LE**, Craft M. Infection risk varies within urbanized landscapes – the case of coyotes and heartworm. Parasites & Vectors. **14**, 464. (IF 3.234, #9 journal of Parasitology)
82. Binkley L, Deressa A, Shi M, Mauldin MR, Jara M, **Escobar LE**, O'Quin J, Matheny A, Shiferaw M, Pieracci EG, Kling C, Hartloge C, Reynolds M, Gebreyes W, Yimer G, Abate E, Belay E, Nakazawa N, Velasco-Villa A. (2021) Use of partial N-gene sequences as a tool to monitor progress on rabies control and elimination efforts in Ethiopia. *Acta Tropica*. **221**, 106022. (IF 2.555)
81. Kao SY, Enns EA, Tomamichel M, Doll A, **Escobar LE**, Qiao H, Craft ME, Phelps NBD. (2021) Network connectivity patterns of Minnesota waterbodies and implications for aquatic invasive species prevention. *Biological Invasions.* **23**, 3231–3242. (IF 3.087)
80. **Escobar LE***, Carver S, Cross P, Rossi L, Almberg ES, Yabsley MJ, Niedringhaus KD, Van Wick P, Dominguez-Villegas E, Gakuya F, Xie Y, Angelone S, Gortázar C, Astorga F. Sarcoptic mange: An Emerging Panzootic in Wildlife. In press. *Transboundary Emerging Diseases*. (IF: 3.585, #4 Journal of Veterinary Sciences)
79. Winter SN, Kirchgessner M, Frimpong E, **Escobar LE***. 2021. A landscape epidemiological approach for chronic wasting disease: A case study in Virginia, US. *Frontiers in Veterinary Sciences*. **8**, 698767. (IF 3.412)

<u>2020</u>

78. Barillas-Mury C, **Escobar LE**, Molina-Cruz A. (2020) Complex pandemic dynamics and effect of bacillus Calmette-Guérin vaccination on COVID-19 prevalence and mortality. *PNAS*. **117**, 25207-25208. (IF 9.58, second most cited scientific journal worldwide)
77. Watts N, Amann M, Arnell N, Ayeb-Karlsson S, Beagley J, Belesova K, Boykoff M, Byass P, Cai W, Campbell-Lendrum D, Capstick S, Chambers J, Coleman S, Dalin C, Daly M, Dasandi N, Dasgupta S, Davies M, Di Napoli C, Dominguez-Salas C, Drummond P, Dubrow R, Ebi KL, Eckelman, Ekins P, **Escobar LE**, Georgeson L, Golder S, Gong P, Grace D, Graham H, Haggar P, Hamilton I, Hartinger S, Hess J, Hughes N, Jiminez M, Kelman I, Kennard H, Kiesewetter G, Kinney P, Kjellstrom T, Kniveton D, Lampard P, Lemke B, Liu Y, Liu Z, Lott M, Lowe R, Sewe M, Martinez Urtaza J, Maslin M, McAllister L, McGushin A, Mikhaylov SJ, McMichael C, Milner J, Montgomery H, Moradi-Lakeh M, Morrissey K, Murray K, Munzert S, Nilsson M, Neville T, Oreszczyn T, Otto M, Owfi F, Pearman O, Pencheon D, Quinn R, Rabbaniha M,

Robinson E, Rocklov J, Semenza J, Sherman J, Shi L, Springmann M, Shumake-Guillemot J, Tabatabei M, Taylor J, Trinanes J, Vu B, Wilkinson P, Winning M., Gong P, Montgomery H, Costello A. (2020) The 2020 Report of The Lancet Countdown on Health and Climate Change. **397**, 129-170. (IF 60.392, #4 journal all categories)

Featured in 1.2k+ media stories featuring the key messages on health & climate from the publication, including publications in the New York Times, The Economist, BBC Radio 4, El Pais & AFP, across 44 countries worldwide & every continent, reaching more than 1 billion people according to consortium estimates.

76. **Escobar LE***. (2020) Ecological Niche Modeling: An Introduction for Veterinarians and Epidemiologists. *Frontiers in Veterinary Science*. **7**, 519059. (IF 3.412)
75. Murray KA, **Escobar LE**, Lowe R, Rocklöv J, Semenza JC, Watts W. (2020). Tracking infectious diseases in a warming world. *BMJ*. **371**, m3086. (IF 30.223, #4 journal in medicine)
74. Castillo Signor LC, Edwards T, Matope A, Castaneda-Guzman M, **Escobar LE,** Donis E, Adams ER, Cuevas LE. (2020) Epidemiology of Dengue in Guatemala. *PLoS Neglected Tropical Diseases.* **14**, e0008535. (IF 4.487, #1 journal in tropical medicine)
73. **Escobar LE***, Molina-Cruz A, Barillas-Mury C. (2020) BCG Vaccine Protection from Severe Coronavirus Disease 2019 (COVID19). *PNAS*. **117**, 17720-17726. (IF 9.58, second most cited scientific journal worldwide)

    Featured in the domestic and international media New York Times, Science Magazine, EurekAlert, Augusta Free Press, Bioengineer, BrightSurf.com, Corona Stocks, Medical Xpress, News-Medical.Net, Style News, Big Think, Fortune, Infobae, News Medical, Science Daily, Science Times, South China Morning Post, Sputnik International Russia, Trial Site News, , and several international (non-English) outlets in Spain (1 TV), France (1, 2), Germany (1, 2), Italy (1, 2, 3, 4), Russia (1, 2), Japan (1), Korea (1), South Africa (1), Indonesia (1), Arabia (1, 2, 3), Brazil (1, 2, 3, 4) MExico (1), India (1, 2), Bulgary (1), Turkey (1), Tunisia (1).

72. Chaiyes A, **Escobar LE**, Willcox E, Duengkae P, Watcharaanantapong P, Pongpattananurak N, Wacharapluesadee S, Hemachudna T. (2020) An Assessment of the Niche Centroid Hypothesis: *Pteropus lylei*. *Ecosphere*. **11**, e03134. (IF 2.671)
71. Worsley-Tonks K, **Escobar LE**, Biek R, Castaneda-Guzman M, Craft ME, Streiker DG, White LA, Fountain-Jones NM. (2020) Using host traits to identify currently unrecognized and future candidate bat and carnivore reservoirs of rabies virus. *PLoS Neglected Tropical Diseases.* **14**, e0008940 (IF 4.487, #1 in tropical medicine)
70. Van de Vuurst P and **Escobar LE***. (2020) Climate Change and the Relocation of Indonesia's Capital to Borneo. *Frontiers in Earth Science*. **8**, 5. (IF 2.892).
    Van de Vuurst P. and Escobar LE*. (2020) Corregidum: Climate Change and the Relocation of Indonesia's Capital to Borneo. *Frontiers in Earth Science*. 8, 71.
69. Chandrasegaran K, Lahndere C, **Escobar LE**, Vinauger C. (2020) Linking mosquito ecology, traits, behavior, and disease transmission. *Trends in Parasitology*. **36**, 393-403. (IF 8.020, #3 parasitology).
68 Winter SN, **Escobar LE*.** (2020) Chronic wasting disease modeling: An overview. *Journal of Wildlife Diseases*. **56**, 741-758. (IF 1.355)
67. Evans TS, Shi Z, Boots M, Liu W, Olival KJ, Xiao X, Vandewoude S, Brown H, Chen JL, Civitello DJ, **Escobar LE**, Grohn Y, Li H, Lips K, Liu Q, Lu J, Martínez-López B, Shi J, Shi X, Xu B, Yuan L, Zhu G, Getz WM. (2020) Synergistic China-US ecological research is essential for global emerging infectious disease preparedness. *EcoHealth.* **17**, 160-173. (IF 2.225)

2019

66. **Escobar LE*,** Pritzkow S, Winter SN, Grear DA, Kirchgessner MS, Dominguez-Villegas E, Machado G, Peterson AT, Soto C. (2019) Ecology of Chronic Wasting Disease in Wildlife. *Biological Reviews.* **95**, 393-408. (IF 11, #3 in zoology)

65. Frias de Diego A. Jara M, **Escobar LE***. (2019) Papillomavirus in wildlife. *Frontiers in Ecology and Evolution.* **7**, 406. (IF 2.686)
64. Del Pilar Sanchez M, Sanchez OAD, Sanmiguel RA, Ramirez AA, **Escobar LE**. Rabies in the Americas, various challenges and «One Health»: Review article. **30**, 1361-1381. (IF 0.233)
63. Watts N, Amann M, Arnell N, Ayeb-Karlsson S, Belesova K, Boykoff M, Byass P, Cai W, Campbell-Lendrum D, Capstick S, Chambers J, Dalin C, Daly M, Dasandi N, Davies M, Drummond P, Dubrow R, Ebi KL, Eckelman M, Ekins P, **Escobar LE**, Fernandez Montoya L, Georgeson L, Graham H, Haggar P, Hamilton I, Hartinger S, Hess J, Kelman I, Kiesewetter G, Kjellstrom T, Kniveton D, Lemke B, Liu Y, Lott M, Lowe R, Sewe MO, Martinez-Urtaza J, Maslin M, McAllister L, McGushin A, Mikhaylov SJ, Milner J, Moradi-Lakeh M, Morrissey K, Murray K, Munzert S, Nilsson M, Neville T, Oreszczyn T, Owfi F, Pearman O, Pencheon D, Phung D, Quinn R, Rabbaniha M, Robinson E, Rocklov J, Semenza J, Sherman J, Shumake-Guillemot J, Tabatabei M, Taylor J, Trinanes J, Wilkinson P, Costello A, Gong P, Montgomery H. (2019) The 2019 Report of The Lancet Countdown on health and climate change. *The Lancet*. **394**, 1836-1878. (IF 60.392, #4 journal all categories)

    Featured in 2,200 media pieces from every major global outlet including: The New York Times, Time, CBBC, The Economist, New Scientist, The Guardian, Daily Mail, The Telegraph, BBC, CNN, USA Today, Sky News, Daily Mirror (front cover), New Scientist, Financial Times, CNBC, El Pais, The Independent, Times of India, Vox, Wired, 7 News, Folha de S.Paulo, The Globe and Mail, NBC News, AP News, Le Monde, France 24, Clarin, China Global Television Network, Corriere della Sera, Al Jazeera, Reuters, La Repubblica, Evening Standard, South China Morning Post, Yahoo, Jamaica Observer, Deutsche Welle, Huffpost, Scientific American, ABC and El Espectador. Additionally, study findings have been shared by Hillary Clinton, renowned environmentalist Leonardo Di Caprio, Leader of the UK Labour Party Jeremy Corbyn, Director-General of the World Health Organization Tedros Adhanom Ghebreyesus, UNDP Administrator Achim Steiner, and Green Party UK MP Caroline Lucas. Forums to discuss this publication have been attended by high-level policymakers including Dag-Inge Ulstein (Minister of International Development, Norway) speaking at our launch event in Oslo, and Chairwoman of the US House Committee on Science, Space and Technology, Rep Eddie Bernice Johnson, Washington DC. https://www.lancetcountdown.org/2019-report-launch-round-up-global-media-coverage-engagement-activities-and-events/

62. Jara M, **Escobar LE**, Rodriges RO, Frias A, Sanhueza J, Machado G. (2019) Spatial distribution and spread potential of *Leptospira* serovars in Brazil. *Transboundary Emerging Diseases*. **66**, 2482-2495. (IF: 3.5; #2 in veterinary science)
61. **Escobar LE***, Moen R, Craft ME, VanderWaal KL. (2019) Mapping potential parasite spillover from white-tailed deer (*Odocoileus virginianus*) to moose (*Alces americanus*). *European Journal of Wildlife Research.* **60**, 1-11. (IF 1.264)
60. Peterson AT, Anderson RP, Cobos ME, Cuahutle M, Cuervo Robayo AP, **Escobar LE**, Fernandez M, Jimenez Garcia D, Lira-Noriega A, Lobo JM, Machado-Stredel F, Martinez-Meyer E, Nunez-Penichet C, Nori J, Osorio-Olvera L, Rodriguez MT, Rojas Soto O, Romero-Alvarez D, Soberon J, Varela S, Yanez-Arenas C. (2019) Curso Modelado De Nicho Ecológico, Versión 1.0. *Biodiversity Informatics*, **14**, 1-7
59. Jara M, García-Roa R, **Escobar LE**, Torres-Carvajal O, Pincheira-Donoso D. (2019) Alternative reproductive adaptations predict asymmetric responses to climate change in lizards. *Scientific Reports*. **9**, 5093 (IF 5.5, #10 journal in multidisciplinary sciences)
58. Johnson EE, **Escobar LE**, Zambrana-Torrelio C. (2019) An ecological framework for modeling the geography of disease transmission. *Trends in Ecology and Evolution*. **34**, 655-668. (IF 15.268, #1 in ecology)
57. Rodriguez YV, Poo-Muñoz DA, **Escobar LE***, Astorga F, Medina-Vogel G. (2019) Carnivore-livestock conflicts in Chile: Evidence and methods for mitigation. *Human-Wildlife Interactions.* **13**, 50-62. (IF: 0.704)

    Featured in *El Mercurio* national circulation newspaper in Chile. (https://merreader.emol.cl/2019/07/11/content/pages/img/pdf/2B3KIJ1J.pdf?gt=050001)

56. Phelps NBD, Bueno I, Poo-Munoz DA, Knowles SJ, Massarani S, Rettkowski R, Shen L, Rantala H, Phelps PLF, **Escobar LE***. (2019) Retrospective and predictive investigation of fish kill events. *Journal of Aquatic Animal Health*. **31**, 61-70. (IF 0.906)
55. Peterson AT, Anderson RP, Beger M, Bolliger J, Brotons L, Burridge CP, Cobos ME, Cuervo-Robayo AP, Di Minin E, Diez J, Elith J, Embling CB, **Escobar LE**, Essl F, Feeley KJ, Hawkes L, Jiménez-García D, Jimenez L, Green DM, Knop E, Kühn I, Lahoz-Monfort JJ, Lira-Noriega A, Lobo JM, Loyola R, Mac Nally R, Machado-Stredel F, Martínez-Meyer E, McCarthy M, Merow C, Nori J, Nuñez-Penichet C, Osorio-Olvera L, Pyšek P, Rejmánek M, Ricciardi A, Robertson M, Rojas Soto O, Romero-Alvarez D, Roura-Pascual N, Santini L, Schoeman DS, Schröder B, Soberon J, Strubbe D, Thuiller W, Traveset A, Treml EA, Václavík T, Varela S, Watson JEM, Wiersma Y, Wintle B, Yanez-Arenas C and Zurell, D. (2019) Open access solution for biodiversity journals: Don't replace one problem with another. *Diversity and Distributions*. **25**, 5-8. (IF 4.614 #7 journal in Biodiversity Conservation) (Authors in alphabetical order)

    Featured in *Retraction Watch* February 2019 (https://retractionwatch.com/2018/11/28/majority-of-journals-editorial-board-resigns-after-publishers-handling-of-letter-about-move-to-open-access/)

54. Qiao H, Feng X, **Escobar LE**, Peterson AT, Soberón J, Zhu G, Papeş M. (2019) An evaluation of transferability of ecological niche models. *Ecography*. **42**, 521-534. (IF: 6.455, #3 in biodiversity conservation)
53. **Escobar LE***, Romero-Alvarez D, Larkin DJ, Phelps NBD. (2019) Network analysis to inform invasive species spread among lakes. *Journal of Oceanology and Limnology*. **37**, 1037–1041. (IF 0.688)
52. Astorga F, Carver S, Almberg ES, Sousa G, Wingfield K, Niedringhaus KD, Van Wick P, Rossi L, Xie Y, Cross P, Angelone S, Gortázar C, **Escobar LE***. (2018) International meeting on sarcoptic mange in wildlife. Parasites and Vectors. **11**, 449. (IF 3.5)

    Featured in *Virginia Tech News* August 2018 (https://vtnews.vt.edu/articles/2018/08/82318-Fralin-Escobar-sarcoptic-mange.html)

2018

51. **Escobar LE***, Escobar-Dodero J, Phelps NBD. (2018) Infectious disease in fish: global risk of viral hemorrhagic septicemia virus. *Reviews in Fish Biology and Fisheries*. **28**, 637-65. (IF 3.575, #3 journal in Fisheries, #5 journal in marine & freshwater biology)
50. Barros M, Cabezon O, Dubey JP, Almeria S, Ribas M, **Escobar LE**, Medina-Vogel G. *Toxoplasma gondii* in the terrestrial/aquatic interface, Southern Chile. *PLoS ONE*. **13**, e0199085. (IF 3.234)
49. Astorga F, **Escobar LE**, Poo-Muñoz DA, Escobar-Dodero J, Rojas-Hucks S, Alvarado-Ryback M, Duclos M, Romero-Alvarez D, Estela-Molina B, Peñafiel A, Toro F, Peña-Gomez, FT, Peterson AT. (2018) Distributional ecology of Andes Hantavirus: A macroecological approach. *International Journal of Health Geographics*. **17**, 22. (IF: 3.282)
48. Del Valle SY, McMahon BH, Asher J, Hatchett R, Cheever AE, Fang DZ, Lega J, Leany M, Pantazis I, Roberts D, Moore S, **Escobar LE**, Qiao H, Peterson AT, Hengartner NW, Mukundan H. Summary results of the 2014-2015 DARPA Chikungunya Challenge. *BMC Infectious Diseases*. **18**, 245. (IF 2.690)
47. Machado G, Wiblen C, **Escobar LE**. (2018) Potential distribution of *Pythium insidiosum* in Rio Grande do Sul, Brazil, and projections to neighbor countries. *Transboundary Emerging Diseases*. **65**, 1671-1679 (IF: 3.585, #2 journal of veterinary sciences)
46. **Escobar LE**, Qiao H, Cabello J, Peterson AT. (2018) Ecological niche modeling methods re-examined. A case study with the Darwin's fox. *Ecology and Evolution*. **8**, 4757-4770. (IF 2.537)
45. Lepe-López M, García-Anleu R, Fountain-Jones N, Craft ME, Ponce G, Gonzalez M, **Escobar LE**. (2018) Domestic horses within the Maya biosphere reserve: A possible threat to the Central American tapir (*Tapirus bairdii*). *Caldasia*. **40**, 188-191. (IF 0.266)
44. Ryan SJ, Stewart-Ibarra AM, Ordoñez E, Chu W, Finkelstein JL, King CA, **Escobar LE**, Lupone C, Heras F, Enriquez C, Tauzer E, Waggoner E, James TG, Cardenas W, Polhemus M. (2018). Spatiotemporal variation in environmental *Vibrio cholerae* in an estuary in southern coastal Ecuador. *International Journal of Environmental Research and Public Health*. **15**, 486. (IF 2.540)

43. Romero-Alvarez D, **Escobar LE**. (2018) Oropouche fever, emergent disease for the Americas. *Microbes and Infection*. **20**, 135-146. (IF 2.152)

2017

42. **Escobar LE***, Mallez S, McCartney M, Lee C, Zielinski DP, Ghosal R, Sorensen PW, Bajer PG, Wagner C, Nash B, Tomamichel M, Venturelli P, Mathai P, Kokotovich A, Escobar-Dodero J, Phelps N. (2017) Aquatic invasive species in the Great Lakes region: An overview. *Reviews in Fisheries Science and Aquaculture*. **26**, 121-138. (IF 2.032, #9 journal in fisheries)
41. de Oliveira SV, Romero-Alvarez D, Rernandes Martins T, Pereira dos Santos J, Labruna MB, Salles Gazeta G, **Escobar LE**, Gurgel-Gonçalves R. (2017) *Amblyomma* ticks: Range constriction due to climate change. *Acta Tropica*. **176**, 340-348. (IF 2.2, #7 journal in tropical medicine)
40. **Escobar LE***, Carver S, Romero-Alvarez D, VandeWoude S, Crooks KR, Lappin MR, Craft ME. (2017) Inferring the niche of environmentally transmitted pathogens: *Toxoplasma gondii* and *Bartonella* spp. In wild felids. *Frontiers in Veterinary Science*. **4**, 172. (IF 3.412)
39. Velasco-Villa A, **Escobar LE**, Sanchez A, Gallard N, Vargas-Pino F, Gutierrez-Cedillo V, Damon I, Emerson G. (2017) Successful strategies implemented towards the elimination of canine rabies in the Western Hemisphere. *Antiviral Research*. **143**, 1-12. (IF 4.909, #7 journal of virology)
38. Qiao H, **Escobar LE***, Peterson AT. (2017) Accessible areas in ecological niche comparisons of invasive species: Recognized but still overlooked. *Scientific Reports*. **7**, 1213. (IF 5.228)
37. Velasco-Villa A, Mauldin M, Shi M, **Escobar LE**, Gallardo N, Damon I, Olson V, Streicker D, Emerson G. (2017) The history of rabies in the Western Hemisphere. *Antiviral Research*. **146**, 221-232. (IF 4.909, #7 journal of virology)
36. Romero-Alvarez D, **Escobar LE**. (2017) Vegetation loss and the 2016 Oropouche fever outbreak in Peru. *Memorias do Instituto Oswaldo Cruz*. **112**, 292-298. (IF 1.789, #4 in Tropical Medicine)
35. **Escobar LE***, Kurath G, Escobar-Dodero J, Craft ME & Phelps NBD (2017) Potential distribution of the Viral Haemorrhagic Septicaemia virus in the Great Lakes region. *Journal of Fish Diseases*. **40**, 11-28. (IF 2.053)

    Featured in *Great Lakes Echo*. "*Great Lakes vulnerable to outbreak of fish virus*" (http://greatlakesecho.org/2017/04/13/great-lakes-vulnerable-to-outbreak-of-fish-virus/)

34. Lepe-López M, Davila M, Canet M, López Y, Flores E, Davila A, **Escobar LE**. (2017) Occurrence of *Aedes aegypti* and *Aedes albopictus* in Guatemala. *Ciencia y Tecnologia*. **4**, 45-57.
33. Fountain-Jones NM, Pearse WD, **Escobar LE**, Alba-Calas A, Carver S, Davies TJ, Kraberger S, Papes M, Vandergrift K, Worsley-Tonks K, Craft ME. Towards an eco-phylogenetic framework for infectious disease ecology. *Biological Reviews*. **93**, 950-970. (IF 9, #1 journal in biology)
32. Romero-Alvarez D, Reyes J, Villacis JE, Sata C, **Escobar LE**, Quezada V. (2017) First case of New Delhi metallo-β-lactamase in *Klebsiella pneumoniae* from Ecuador: An update for South America. *International Journal of Infectious Diseases*. **65**, 119-121. (IF 2.5)
31. Qiao H, **Escobar LE***, Saupe EE, Ji J, Soberon J. (2017). Using KDE method to model ecological niches: a response to Blonder et al. (2017) *Global Ecology and Biogeography*. **26**, 1076-1077. (IF 5.84, #1 journal of physical geography)
30. Cuervo-Robayo AP, **Escobar LE***, Osorio-Olvera LA, Nori J, Varela S, Martínez-Meyer E, Velásquez-Tibatá J, Rodríguez-Soto C, Munguía M, Castañeda-Álvarez NP, Lira-Noriega A, Soley-Guardia M, Serra-Díaz JM, Peterson AT. Introducción a los análisis espaciales con énfasis en modelos de nicho ecológico. *Biodiversity Informatics*. **12**, 45-57.
29. Romero-Alvarez D, **Escobar LE***, Varela S, Larkin D.J. & Phelps N.B.D. Forecasting distributions of an aquatic invasive species (*Nitellopsis obtusa*) under future climate scenarios. *PLoS ONE*. **12**, e0180930. (IF 2.806)
28. **Escobar LE**, Qiao H, Lee C, Phelps NBD. 2017 Novel methods in disease biogeography: A case study with heterosporosis. *Frontiers in Veterinary Science*. **4**, 105. (IF 3.412)

2016

27. Qiao H, **Escobar LE***, Saupe EE, Ji L & Soberón J (2016) A cautionary note on the use of hypervolume kernel density estimators in ecological niche modelling. *Global Ecology and Biogeography*. **26**, 1066-1070. (IF 5.84, #1 journal of Physical Geography, #10 in ecology)
26. Romero-Alvarez D, Peterson AT, **Escobar LE***. (2016) Surveillance fatigue (*fatigatio vigilantiae*) during epidemics. *Chilean Journal of Infectology*. **4**, 289-29. (IF 0.34)
25. **Escobar LE*** (2016) Ecological niche modeling: Five crucial questions. *Pan American Journal of Public Health.* **40**, 98. (IF 0.762)
24. **Escobar LE*** & Craft ME (2016) Advances and limitations of disease biogeography using ecological niche modeling. *Frontiers in Microbiology.* **7**, 1174. (IF 4.165)
23. Poo-Muñoz D.A, Elizondo-Patrone C, **Escobar LE**, Astorga F, Martinez C, Abarca K & Medina-Vogel G (2016) Fleas and ticks in carnivores from a domestic-wildlife interface: Implications for public health and wildlife. *Journal of Medical Entomology* **53**, 1433-1443. (IF 1.712)
22. **Escobar LE***, Qiao H, Phelps NBD, Wagner CK & Larkin DJ (2016) Realized niche shift associated with the Eurasian charophyte *Nitellopsis obtusa* becoming invasive in North America. *Scientific Reports.* **6**, 29037. (IF 5.228)
21. **Escobar LE***, Romero-Alvarez D, Leon R, Lepe-López MA, Craft ME, Borbor-Cordova MJ, Svenning JC (2016) Declining prevalence of disease vectors under climate change. *Scientific Reports.* **6**, 39150. (IF 5.228)
20. Peterson AT, Osorio J.E, Qiao H & **Escobar LE** (2016) Zika virus, elevation, and transmission risk. *PLoS Currents Outbreaks.* **1**, 1–9.
19. **Escobar LE**, Qiao H & Peterson AT (2016) Forecasting Chikungunya spread in the Americas via data-driven, empirical approaches. *Parasites & Vectors.* **9**, 112. (IF 3.234, #9 journal of Parasitology)
18. Qiao H, Peterson AT, Campbell LP, Soberón J, Ji L & **Escobar LE*** (2016) NicheA: Creating virtual species and ecological niches in multivariate environmental scenarios. *Ecography.* **39**: 805–813. (IF 6.455, #3 journal of biodiversity conservation)

2015

17. **Escobar LE**, Peterson AT, Favi M, Yung V & Medina-Vogel G (2015) Bat-borne rabies in Latin America. *Revista do Instituto de Medicina Tropical de São Paulo.* **57**, 63–72. (IF 1.052)
16. **Escobar LE**, Restif O, Yung V, Favi M, Pons DJ & Medina-Vogel G (2015) Spatial and temporal trends of bat-borne rabies in Chile. *Epidemiology and Infection.* **143**, 1486–1494. (IF 2.075)
15. Astorga F, **Escobar LE**, Poo-Munoz DA & Medina-Vogel G (2015) Dog ownership, abundance and potential for bat-borne rabies spillover in Chile. *Preventive Veterinary Medicine.* **118**, 397–405. (IF 2.05)
14. **Escobar LE**, Ryan SJ, Stewart-Ibarra AM, Finkelstein JL, King CA, Qiao H & Polhemus ME (2015) A global map of suitability for coastal *Vibrio cholerae* under current and future climate conditions. *Acta Tropica.* **149**, 202–211. (IF 2.380, #7 journal in tropical medicine)

    Featured in *Popular Science* June 2015 (https://www.popsci.com/looming-8th-pandemic-climate-change-and-cholera)

13. **Escobar LE**, Juarez C, Medina-Vogel G & Gonzales CM (2015) First report on bat mortalities on wind farms in Chile. *Gayana.* **79**, 11–17. (IF 0.553)
12. **Escobar LE**, Yung V, Vargas-Rodríguez R, Medina-Vogel G & Favi M (2015) Wildlife veterinarians rabies vaccination in Chile: A survey. *Revista Chilena de Infectología.* **32**, 289–293. (IF 0.34)
11. **Escobar LE**, Awan MN & Qiao H (2015) Anthropogenic disturbance and habitat loss for the red-listed Asiatic black bear (*Ursus thibetanus*): Using ecological niche modeling and nighttime light satellite imagery. *Biological Conservation.* **191**, 400–407. (IF 4.022, #8 journal in biodiversity conservation)
10. **Escobar LE**, Peterson AT, Papeş M, Favi M, Yung V, Restif O, Qiao H & Medina-Vogel G (2015) Ecological approaches in veterinary epidemiology: Mapping the risk of bat-borne rabies using vegetation indices and night-time light satellite imagery. *Veterinary Research.* **46**, 92. (IF 2.928, #5 journal of veterinary sciences)
9. Astorga F, Poo-Muñoz DA, **Escobar LE** & Medina-Vogel G (2015) In response to: "Increased dog population and potential for bat-borne rabies spillover in Chile in response to 'Dog management, abundance and potential for bat-borne rabies spillover in Chile' by Astorga et al. [Prev. Vet. Med. 118:397–405]." *Preventive Veterinary Medicine.* **120**, 248–249. (IF 2.05)

2014

8. Tocchio L.J, Gurgel-Gonçalves R, **Escobar LE** & Peterson AT (2014) Niche similarities among white-eared opossums (Mammalia, Didelphidae): Is ecological niche modelling relevant to setting species limits? *Zoologica Scripta.* **44**, 1–10. (IF 2.837, #9 journal in Zoology)
7. Poo-Muñoz D.A, **Escobar LE**, Peterson AT, Astorga F, Organ JF & Medina-Vogel G (2014) *Galictis cuja* (Mammalia): An update of current knowledge and geographic distribution. *Iheringia. Série Zoologia.* **104**, 341–346. (IF 0.403)
6. **Escobar LE**, Lira-Noriega A, Medina-Vogel G & Peterson AT (2014) Potential for spread of White-nose fungus (*Pseudogymnoascus destructans*) in the Americas: Using Maxent and NicheA to assure strict model transference. *Geospatial Health.* **11**, 221–229. (IF 1.812)

2013

5. **Escobar LE**, Peterson AT, Favi M, Yung V, Pons DJ & Medina-Vogel G (2013) Ecology and geography of transmission of two bat-borne rabies lineages in Chile. *PLoS Neglected Tropical Diseases* **7**, e2577. (IF 3.948, #1 journal in tropical medicine)
4. de Oliveira SV, **Escobar LE**, Peterson AT & Gurgel-Gonçalves R (2013) Potential geographic distribution of hantavirus reservoirs in Brazil. *PLoS ONE.* **8**, e85137. (IF 3.234)
3. **Escobar LE*** & Peterson AT (2013) Spatial epidemiology of bat-borne rabies in Colombia. *Pan American Journal of Public Health.* **34**, 135–136. (IF 0.762)

2011

2. **Escobar LE*** (2011) Avian flu and Newcastle antibodies in Great-tailed Grackles (*Quiscalus mexicanus*) in Guatemala City. *REDVET.* **12**, 1–8.
1. **Escobar LE***, Álvarez D, Villatoro FJ, Morán D. & Estévez A (2011) Two new flea records from Guatemala: *Pulex simulans* and *Echidnophaga gallinacea* (Siphonaptera: Pulicidae), and their host-parasite relationship. *Journal of Parasitology and Vector Biology.* **3**, 40–43.

Abstracts published (1)

1. Lepe-López M, Canet M, Davila M, Flores E, López Y, Davila A, **Escobar LE**. (2017) *Aedes aegypti* and *Aedes albopictus* Occurrences in Guatemala. *Open Forum Infectious Diseases*. **4**, S116-S117, doi: 10.1093/ofid/ofx163.138

Software (1)

Qiao H, **Escobar LE**, Soberón J, Campbell LP, Peterson AT (2016) NicheA. Version 3.0.1 Available: http://nichea.sourceforge.net/. Novel software for the field of biogeography that generates, imports, analyzes, visualizes, and projects ecological niche models in environmental spaces.

Presentations

Inveted Keynote Speaker (5)

5. **Escobar LE**. (2021) "Infectious Diseases and Climate Change." Iran Launch of the 2021 The Lancet Couintdown Report on Climate Change and Health. Iran University of Medical Sciences, Tehran, Iran. 11/15/21.
4. **Escobar LE**. (2021) "Biogeography of Zoonotic Wildlife Diseases." Ecology and Evolutionary Biology Symposium. Ecology and Evolutionary Biology Society of Turkey. Istambul, Turkey. 08/20/21.
3. **Escobar LE**. (2020) "Ecoinformatics in Times of COVID-19" XI Congress of Biochemistry and Microbiology, University del Valle, Guatemala City, Guatemala. 24-28/08/20.
2. **Escobar LE**. (2019) "Global Change and Infectious Diseases in Latin America." V Meeting of Agrosciences and Graduate Studies, La Salle University, Bogota, Colombia. 7/19/19.
1. **Escobar LE**. (2014) "Rabies in Latin America." International Meeting for Research on Infectious Disease, Pontific Catholic University of Ecuador. Quito, Ecuador.

Invited Seminar Speaker (48)

48. **Escobar LE**. (2022) "Climate change and human health in the Mid-Atlantic region" Climate Forum, District of Columbia Commission on Climate Change & Resiliency. Washington D.C. 1/8/22

47. **Escobar LE**. (2021) "Wildlife Diseases of Human Risk " Virginia Forest Summit. Harrisonburg, VA. 9/29/21
46. **Escobar LE**. (2021) "Ecology of Wildlife Diseases: A Career Path" Public Veterinary Practice Club, Virginia Tech. Blacksburg, VA. 9/23/21
45. **Escobar LE**. (2020) "Macroecology to Trace Emerging Infectious Disease" Odum School of Ecology, University of Georgia. 10/20/20 [via Zoom] (Seminar speaker, lunch meeting with students, one in one meeting with faculty)
44. **Escobar LE**. (2020) "Tuberculosis vaccination and COVID-19 cross-protection" 51st Union World Conference on Lung Health. 20-24 October 2020. Invitations to serve as a Presenter and and in the Meet the Expert session. Other speaker included Dr. Antony Fauci. Declined to prioritize other academic activities interrupted due to COVID-19.
43. **Escobar LE**. (2020) "Assessment of Student Learning" Course Design Clinic, Virginia Polytechnic Institute and State University, Blacksburg, VA. 08/11/20 [via Zoom]
42. **Escobar LE**. (2020) "Induced Immunity and COVID-19" Seminar Series, School of Veterinary Medicine, University Mariano Galvez, Guatemala City, Guatemala. 08/14/20 [via Zoom] (Seminar speaker, lunch meeting with students, one in one meeting with faculty)
41. **Escobar LE**. (2020) "Bat-borne Diseases" Seminar Series, Bats Conservation Program, Santiago, Chile. 08/07/20 [via Zoom]
40. **Escobar LE**. (2020) "Induced Immunity and COVID-19" Seminar Series, College of Veterinary Medicine, University of San Carlos, Guatemala City, Guatemala. 06/16/20 [via Zoom]
39. **Escobar LE**. (2020) "Assessment of Student Learning" Course Design Clinic, Virginia Polytechnic Institute and State University, Blacksburg, VA. 06/18/20 [via Zoom]
38. **Escobar LE**. (2020) "The Origins of Pandemics, a One Health Approach" Seminar Series, College of Veterinary Medicine and Agriculture, Universidad de Las Americas, Santiago, Chile. 05/13/20
37. **Escobar LE**. (2020) "The Role of Parasites in Ecosystems" Seminar Series, School of Veterinary Medicine, Universidad Mayor, Temuco, Chile. 05/18/20
36. **Escobar LE**. (2020) "COVID-19 and Veterinary Medicine" Symposium: Challenges of Veterinary Sciences in the XXI Century. College of Veterinary Medicine, Universidad Cooperative, Ibague, Colombia. 11/26/20 [via Zoom] (Seminar speaker)
35. **Escobar LE**. (2020) "Macroecology to Trace Emerging Infectious Disease" Center for Emerging, Zoonotic and Arthropod-borne Pathogens, Virginia Tech, Blacksburg, VA 10/20/20 [via Zoom] (inaugural seminar speaker)
35. **Escobar LE**. (2020) "An Ecological Framework for Modeling the Geography of Disease Transmission" Population Health and Pathobiology Forum, College of Veterinary Medicine, North Carolina State University, Raleigh, NC. 1/27/20
34. **Escobar LE**. (2020) "The Origin of Pandemic, a One Health Approach" Symposium, College of Veterinary Medicine, Universidad de los Andes, Santiago, Chile. Online due to COVID-19.
33. **Escobar LE**. (2020) "No Epidemic Makes Sense Except in the Light of Evolution" Inagural Lecturer Series, Biology Department, Radford University, Radford, VA. Cancelled due to COVID-19.
32. **Escobar LE**. (2020) "Climate Change and Health." Virginia Tech for Climate Justice, Virginia Polytechnic Institute and State University, Blacksburg, VA. Online due to COVID-19.
https://www.facebook.com/watch/VTforClimateJustice/586258368673362/
31. **Escobar LE**. (2019) "Modeling Water-borne Diseases Under Future Climate Conditions" Seminar Series, Department of Mathematics, Virginia Polytechnic Institute and State University, Blacksburg, VA. 10/02/19
30. **Escobar LE**. (2019) "Vector-borne Diseeases and Climate Change" Seminar Series, Department of Entomology, Virginia Polytechnic Institute and State University, Blacksburg, VA. 10/12/19 (Seminar speaker, lunch meeting with students, one in one meeting with faculty)
29. **Escobar LE**. (2019) "The Mange Pandemic." Converciencia, San Carlos University, Guatemala City, Guatemala. 7/23/19
28. **Escobar LE**. (2019) "The Mange Pandemic in Wildlife." V Meeting of Agrosciences and Graduate Studies, La Salle University, Bogota, Colombia. 7/19/19
27. **Escobar LE**. (2019) "Health, Microbiology, and Biotechnology." Converciencia, Del Valle University, Guatemala City, Guatemala. 7/24/19

26. **Escobar LE**. (2019) "Water-sensitive infectious diseases and climate change." 2019 Microbiology at the Nexus of Food, Energy, Water, and Health Systems (MicroFEWHS) Mini-symposium, Virginia Tech. Blacksburg, VA. 5/6/19
25. **Escobar LE**. (2019) "Parasite Spillover Between Invasive and Native Species." Global Change Center Annual Retreat, Virginia Tech. Blacksburg, VA. 3/1/19
24. **Escobar LE**. (2019) "The Mange Pandemic in Wildlife." Converciencia, University Mariano Galvez, Guatemala City, Guatemala. 7/25/19
23. **Escobar LE**. (2018) "Biogeography of Infectious Diseases." Faculty of Biology and Pharmacy, University of San Carlos, Converciencia 2018, Guatemala City, Guatemala. 7/25/19
22. **Escobar LE**. 2018. "Ecology and Geography of Infectious Diseases" University Del Valle and Converciencia 2018. Guatemala City, Guatemala. 7/24/19
21. **Escobar LE**. (2018) "Disease Biogeography." National Science Foundation-National Science Foundation China (NSF-NSFC) Workshop on Frontiers of Ecology and Evolution of Infectious Diseases. UC Berkeley, CA, USA.
20. **Escobar LE**. (2018) "The Macroecology of Infectious Diseases." DIMACS Center for Discrete Mathematics and Theoretical Computer Science, NSF, Mapping Emerging Infectious Diseases. Fairfax, VA.
19. **Escobar LE**, Machado G, Peterson AT, Qiao H. (2018) "Vector-borne diseases spillover." PREventing Emerging Pathogenic Threats (PREEMPT). DARPA, Department of Defense. Arlington, Virginia.
18. **Escobar LE**. 2018. "Disease Biogeography" Center for Health Studies, Seminar Series. University Del Valle, Guatemala City, Guatemala.
17. **Escobar LE**. (2018) "Mathematics vs. biology: Limitations to predict the effects of climate change" Third International Symposium of Research and Innovation. International University SEK. Quito, Ecuador.
16. **Escobar LE**. (2018) "Disease Ecology and Biogeography" The Wildlife Society, Virginia Tech Student Chapter. Blacksburg, VA.
15. **Escobar LE**. (2018) "One Health, Examples from Latin America" Seminar Series. International Lecturers. University of San Carlos. Zacapa, Guatemala.
14. **Escobar LE**. (2018) "Disease Biogeography. " University Del Valle. Guatemala City, Guatemala.
13. **Escobar LE**, Romero-Alvarez D, Phelps N. (2016). "Aquatic Invasive Species: Nitellopsis obtusa." University of Minnesota Spatial Forum. University of Minnesota. Minneapolis, USA.
12. **Escobar LE**. (2018) "Mapping Infectious Diseases." Metropolitan University Center, University of San Carlos and ConverCiencia, Guatemala City, Guatemala.7/26/19
11. **Escobar LE**. (2016) "Vector Borne Diseases in the Americas." International Meeting for Research on Infectious Disease. Quito, Ecuador.
10. **Escobar LE**. (2016) "Reconstructing the Spread of Chikungunya in the Americas." Congress of Transmissible Diseases. Quito, Ecuador.
9. **Escobar LE**, Phelps N. (2016) "Network Analysis in Biological Invasions" Minnesota Aquatic Invasive Species Research Center. University of Minnesota. Saint Paul, USA.
8. **Escobar LE**, Phelps N. (2015) "Modeling Aquatic Invasive Species." Minnesota Aquatic Invasive Species Research Center. University of Minnesota. Saint Paul, USA.
7. **Escobar LE**. (2015) "Advances in Epidemiological Research." Annual Meeting of the Guatemalan Veterinary Society. Guatemala City, Guatemala.
6. **Escobar LE**. (2015) "Climate Change and Water Sensitive Diseases." Escuela Superior Politecnica del Litoral. Guayaquil, Ecuador.
5. **Escobar LE**, Medina-Vogel G. (2013) "Bat-borne Rabies in Chile." Universidad Iberoamericana, Chile.
4. **Escobar LE**, Peterson AT, Favi M, Yung V, Pons DJ, Medina-Vogel G. (2013) "Bat-borne Rabies in Chile." Institute of Public Health. Santiago, Chile.
3. **Escobar LE**. (2012) "Bat-borne Rabies in Chile." Universidad de Chile. Santiago, Chile.
2. **Escobar LE**. (2011) "Bat-borne Rabies in Chile." Institute of Public Health. Santiago, Chile.
1. **Escobar LE**. (2011) "An Introduction to Mendeley." Mendeley Webinar. Central and South America.

Oral Presentations (29)

29. Van de Vuurst P, Qiao H, **Escobar LE**. (2021) "Resolving the Distributional Ecology of *Desmodus rotundus*

Under Cliamte Change." Rabies in the Americas Conference. Brasil. Online.
28. **Escobar LE**. (2019) "The Risks of Modeling the Potential Distribution of Ticks Under Future Climate. " Tick Summit VIII. Center for Zoonotic and Vector-borne Diseases. Maryland Department of Health. Laurel, MD.
27. Machado G, Peterson AT, Qiao H, **Escobar LE**. (2018) "Machine learning to find hotspots of vector-borne diseases. " PREventing Emerging Pathogenic Threats (PREEMPT). DARPA, Department of Defense. Arlington, Virginia.
26. Oubre M, **Escobar LE**, Larson P. (2018). "Habitat Suitability for Four Species of Invasive Carp in the Minnesota River, South-Central, Minnesota. " USA. American Fisheries Society. Atlantic City, NJ.
25. **Escobar LE**, Qiao H. (2018) "A theoretical framework to forecast biological invasions. " International Biogeography Society, Climate Change Biogeography. Evora, Portugal.
24. Qiao H, **Escobar LE**. (2018) "Ecological niche modeling design and interpretation." International Biogeography Society, Climate Change Biogeography. Evora, Portugal.
23. **Escobar LE**, Escobar-Dodero J, Phelps N. (2017). 8th Biennial Conference of the International Biogeography Society. Tucson, AZ, USA.
22. Oubre M, **Escobar LE**, Larson P. (2017) American Fisheries Society 147th Annual Meeting. Tampa, Florida.
21. Feng X, Qiao H, **Escobar LE**, et al. (2017). 8th Biennial Conference of the International Biogeography Society. Tucson, AZ, USA.
20. Borbor-Córdoba MJ, **Escobar LE** *et al*. (2016) 17th International Conference of Harmful Algal Blooms. Florianopolis, Brazil.
19. Lepe-López MA, Escobar LE et al. (2016) I International Congress of Veterinary Sciences and Zootechny. Olancho, Honduras.
18. **Escobar LE**, *et al*. (2016) Ecological Society of America. Florida, USA.
17. **Escobar LE**, *et al*. (2016) International Meeting for Research on Infectious Disease. Quito, Ecuador.
16. Romero-Alvarez D, **Escobar LE**, *et al*. (2016) International Meeting for Research on Infectious Disease. Quito, Ecuador.
15. **Escobar LE**, *et al*. (2016) Western Fish Disease Workshop and AFS Fish Health. Wyoming, USA.
14. **Escobar LE**, Phelps N. (2015) Western Fish Disease Workshop and AFS Fish Health. Wyoming, USA.
13. Lepe-López MA, *et al*., **Escobar LE**. (2015) Peking Forum. Beijing, China.
12. **Escobar LE**, Qiao H (2014) Peking Forum. Beijing, China.
11. Velasco-Villa A, *et al*., **Escobar LE**, Hanlon C. (2014) Rabies in the Americas (RITA). Cancun, Mexico.
10. **Escobar LE**, *et al*. (2014) Latin-American Network of Molecular Epidemiology and Evolutionary Genetics of Infectious Diseases (LAN MEEGID). Quito, Ecuador.
9. Poo-Muñoz DA, **Escobar LE**, *et al*. (2014) Latin-American Network of Molecular Epidemiology and Evolutionary Genetics of Infectious Diseases (LAN MEEGID). Quito, Ecuador.
8. **Escobar LE**. (2013) Peking Forum. Beijing, China.
7. **Escobar LE**, *et al*. (2013) Rabies in the Americas (RITA). Toronto, Canada.
6. **Escobar LE**, *et al*. (2013) Wildlife Disease Association. São Paulo, Brazil.
5. **Escobar LE**, *et al*. (2013) Student Conference in Conservation Science. Cambridge, United Kingdom.
4. **Escobar LE**, *et al*. (2013) Conservation Medicine Symposium. Santiago, Chile.
3. **Escobar LE**, *et al*. (2012) Latin America Congress in Mastozoology. Buenos Aires, Argentina.
2. **Escobar LE**, *et al*. (2012) Universidad de Chile. Santiago, Chile.
1. **Escobar LE**, Medina-Vogel G (2012) "Zoonosis in Chile." Catholic University of Temuco. Temuco, Chile.

Poster Presentations (32) Student
32. Van de Vuurst P, Moore SA, Isaac EJ, Ibrahim YC, Castaneda-Guzman M, Wolf TM, **Escobar LE**. Reconstructing landscapes of ungulate depredation. The Wildlife Society, Annual Meeting, 10/01/2020. Awarded Second Place in the GIS and Telemetry in Wildlife poster session
31. Catalan VJ, Van de Vuurst P, **Escobar LE**. (2021) Reviewing Taxa: Scoping Research Trends of the Effects of Climate Change on Infectious. Undergraduate Research Expo. May 5th, Virginia Tech.
30. Gaspar-García M, Salarzar R, Lepe M, Cáceres-Cortez RM, **Escobar LE**, Buch M, Ignowh J. (2021) Inclusion and Representation of Women in Agricultural Education in Guatemala. Women and Gender in Development Virtual Conference, Virginia Tech.

29. Van de Vursst P, **Escobar LE**. (2019) Sinking Cities: Translocation of Indonesia's Capital to Borneo. Virginia tech Hazard Rsearch Day, Virginia Tech. Blacksburg, VA. (VThRD19).
28. Flowers JG, Worsley-Tonks KEL, Fountain-Jones NM, **Escobar LE**. (2019) Global Geography and Ecology of Rabies Reservoirs. The Wildlife Society, Virginia.
27. Winter SN, Kirchgessner M, Frimpong E, **Escobar LE**. (2019) Landscape Ecology of Chronic Wasting. Transdisciplinary Communities Research Symposium, Virginia Tech. Blacksburg, VA.
26. Storment C, Dominguez E, Van Wick P, Kirchgessner M, **Escobar LE**. Sarcoptic Mange is an Emerging Threat to Wildlife and Human Welfare. First Annual Fish and Wildlife Research Expo, FiWC, Virginia Tech. Blacksburg, VA.
25. Flowers JG, Worsley-Tonks KEL, Fountain-Jones NM, **Escobar LE**. (2018) Global Geography and Ecology of Rabies Reservoirs. First Annual Fish and Wildlife Research Expo, FiWC, Virginia Tech.
24. Oubre M, **Escobar LE**, Larson P. (2018) Assessing Habitat Availability for Invasive Bighead Carp in the Minnesota River. Midwest Fish and Wildlife Conference. January 28-31 2018 Blacksburg, VA.
23. Oubre M, **Escobar LE**, Larson P. (2017) American Fisheries Society 147th Annual Meeting. Tampa, Florida.
22**.** Ryan SJ, *et al.* (2016) American Society of Tropical Medicine and Hygiene. Georgia, USA
21. **Escobar LE**, *et al* (2016) Research Day, University of Minnesota. Minnesota, USA.
20. Vilges de Oliveira S, *et al.* (2016) XIX International Congress for Tropical Medicine and Malaria. Brisbane, Australia.
19. **Escobar LE**, *et al*. (2016) Ecology and Evolution of Infection & Diseases. New York, USA.
18. **Escobar LE**, *et al*. (2016) International Conference on One Medicine One Science. Minneapolis, USA.
17. **Escobar LE**, *et al*. (2016) Congress of Transmissible Diseases. Quito, Ecuador.
16. Borbor-Cordova MJ, *et al*. (2016) American Society of Tropical Medicine and Hygiene. Philadelphia, USA.
15. de Oliveira Goncalves Ferreira GM, *et al*. (2015) Congresso da Sociedade Basileira de Medicina Tropical. Fortaleza, Brazil.
14. **Escobar LE**, *et al* (2015) Research Day, University of Minnesota. Minnesota, USA.
13. **Escobar LE**, *et al* (2015) American Society of Tropical Medicine and Hygiene, Latin America Section. Lima, Peru.
12. Canto G, *et al*. (2014) Chilean Congress of Veterinary Medicine. Santiago, Chile.
11. **Escobar LE**, *et al.* (2014) American Society of Tropical Medicine and Hygiene. New Orleans, USA.
10. Rodriguez-Alvarado YV, *et al.* (2014) Student Conference in Conservation Science. Cambridge, United Kingdom.
9. Fuentes-Hurtado M, *et al.* (2013) Congreso de la Sociedad Chilena de Evolucion. Lican Ray, Chile.
8. **Escobar LE**, *et al.* (2012) Chilean Congress of Veterinary Medicine. Valdivia, Chile.
7. **Escobar LE**, *et al*. (2012) Reunion Anual de la Sociedad de Botanica de Chile. Concepcion, Chile.
6. Astorga F, *et al*. (2012). Chilean Congress of Veterinary Medicine. Valdivia, Chile.
5. Poo-Munoz DA, *et al*. (2012) Annual Meeting of the Chilean Society of Ecology. Concepcion, Chile.
4. Astorga F, *et al*. (2012) Annual Meeting of the Chilean Society of Ecology. Concepcion, Chile.
3. **Escobar LE**, *et al*. (2011) Conservation Medicine Symposium. Santiago, Chile.
2. Uribe D, *et al*. (2011) Conservation Medicine Symposium. Santiago, Chile.
1. Estevez A, *et al*. (2010) Center for Disease Control and Prevention, Atlanta, USA.

Research awards (25)

25. Bog turtle VA Statewide Distribution Modeling, Virginia Department of Wildlife Resources, Amount Awarded: **$318,359**, Principal Investigator: Escobar, 2022-2025

24. Examining the Geography of Pathogen Spillover, NSF 2116748, Amount Awarded: **$357,749**, Principal Investigator, Escobar, 2021-2024.
23. Health Effects of Coastal Ecosystems Degradation in Indonesia, World Bank 6236090, Amount Awarded: **$2,000**, Principal Investigator, Escobar, CoPI Van der Vuust, 2021
22. The Effect of Forest Degradation on Mosquito Arboviruses, CeZAP, Frailin Institute, Amount Awarded: **$20,000**, Principal Investigator, Eastwood, CoPI Escobar, 2020
21. Relationship between Lyme disease and land-form variables, CeZAP, Frailin Institute, Amount Awarded: **$20,000**, Principal Investigator, Escobar, 2020
20. Risk of Emerging Infections from Insectivorous Bats in Ukraine and Georgia, Department of Defense, DTRA, (recommended), Amount to be Awarded: **$3,154,519**, Principal Investigators: A. Velasco-Villa, D. Muzyka, L. Urushadze, 2021-2024.
19. Eco-epidemiological Model to Assess CWD Management in Virginia, Virginia Department of Wildlife Resources, Amount Awarded to Date: **$48,000**, Principal Investigator: Escobar, 2020-2021
18. Next Steps in Helping Minnesota's Moose: Understanding Brainworm Transmission to Find Solutions, Environment and Natural Resources Trust Fund 018-A - 2019, Amount Awarded to Date: **$400,000**, Principal Investigator: Wolf, CoPIs: Forester, Escobar, Fountain-Jones, 2019-2021.
17. Climate Change and the Dynamics of Mosquito Populations in Virginia, Global Change Center, Amount Awarded to Date: **$ 17,300**, Principal Investigator: Lahondere, 2018.
16. Principal Investigator, Parasites spillover from invasive to native populations. (**$19,450**). Source: Global Change Center Seed Grant 177219, Principal Invesigator: Escobar, 2017-2018.
15. Technology transference for modeling climate change impacts on biodiversity and disease. (**$3,000**). Source: Institute of the Environment, University of Minnesota MS-0001-17. Principal Investigator: Escobar, 2017.
14. Co-Investigator, An assessment of domestic cats and land use changes as drivers of pathogen pollution into rivers and the sea. *Toxoplasma gondii* as a model zoonotic pathogen and otters (*Lontra feline, Lontra provocax*) as indicator species of ecosystem health. (**$54,000**). Source: FONDECYT, CONICYT-Government of Chile 1171417. Principal Investigator: G. Medina-Vogel]. 2017/2019
13. Eco-epidemiological model to forecast aquatic invasive species. Minnesota Aquatic Invasive Species Grants. (**$225,000**). Source: MAISRC, University of Minnesota M.L. 2013 Ch. 52, Sec. 2, Subd. 06a. Principal Investigator: N. Phelps, Co-Principal Investigator: Escobar, 2015-2018
12 Grants for Professional Development. (**$500**). Source: College of Food, Agricultural and Natural Resource Sciences, University of Minnesota. Principal Investigator: Escobar, 2016.
11. Disease Modeling in Aquatic Ecosystems. (**$3,250).** Source: UMII MnDRIVE Updraft Grant, University of Minnesota. Principal Investigator: Escobar, 2015.
10. Community Ecology of Avian Influenza. (**$3,000**). Source: Institute of the Environment, University of Minnesota. Co-Investigator: Escobar, 2015.
9. Disease Modeling in Aquatic Ecosystems. (**$3,000**). Source: Institute of the Environment, University of Minnesota MF-0010-15. Principal Investigator: Escobar, 2015.
8. Climate change and dengue vectors distribution in Guatemala: Modeling current and future climate scenarios for epidemiological decisions. (**$8,000**). Source: Direccion General de Investigacion-Facultad de Veterinaria, Universidad de San Carlos de Guatemala. Principal INviestigator: Lepe-Lopez, Co-Investigator: Escobar, 2015-2016.
7. Climate vulnerability of the health sector in Quito: Making technical data accessible to policy makers. Universidad San Francisco de Quito, Quito, Ecuador. (**$150,000**). Source: PriceWaterhouseCoopers Services CDKN project (RSLA-0023). Principal Investigator: Leon, 2015-2016
6. Interaction between climatic variability and algal blooms and their impacts on human health in Guayaquil and Santa Elena, Upstate Medical University, SUNY / Escuela Politecnica del Litoral, Guayaquil, Ecuador, (**$100,000**). Source: Escuela Politecnica del Litoral (ESPOL). Principal Investigator: Borbor, 2014.
5. Proyecto de Extension Academica, Universidad Andres Bello, (**$3,000**). Source: Universidad Andres Bello. Principal Investigator: Escobar, 2013.
4. PhD. project, Andres Bello University, *Assessing habitat suitability of bats and bat-borne rabies in Chile* (**$6,000**). Source: Universidad Andres Bello. Principal Investigator: Escobar, 2012.

3. International Internship, University of Kansas, Universidad Andres Bello, (**$3,000**). Source: Universidad Andres Bello. Principal Investigator: Escobar, 2012.
2. Managing human-carnivore conflicts, Andres Bello University, Agriculture Ministry of Chile, (**$16,000**). Source: Chilean Ministry of Agriculture. Principal Investigator: Medina-Vogel, 2012.
1. Travel awards to present in conferences in Argentina (1), Brazil (2), United Kingdom (1), China (2), Swiss (1), Canada (1), Panama (1), Ecuador (2), Florida/USA (1), and Costa Rica (1) (**$~25,000**).

Teaching experience

Instructor, Virginia Tech (4)

1. FiW 4244 Applied Epidemiology of Fish & Wildlife Diseases, BS level (Fall 2022)
2. FiW 5984 Advanced Biogeography and Macroecology in the Anthropocene, Graduate level (Fall 2020).
3. FiW 4984 Foundations of Fish and Wildlife Diseases, BS level (Fall 2019, 2020)
4. FiW 3414 Disease Ecology & Ecosystem Management, BS level (Fall 2018)

Guest Lecturer, Virginia Tech (10)

1. BIOL 3454 **Introductory Parasitology**, College of Science. (2021)
2. PHS 5344 **Neglected & Emerging Infectious Diseases**, VA-MD College Vet. Med. (2019, 2021)
3. GEOG 4044 **Biogeography**, Department of Geography, CNRE (2019, 2021)
4. BSE 4394/UAP 5324 **Water and Sanitation in Developing Countries**, Department of Biological Systems Engineering, College of Engineering, (2021)
5. PHS 4054 **Concepts in One Health**, Department of Population Health Sciences, VA-MD College Vet. Med. (2021)
6. NR 2234 **First Year Experience for Transfer Students**, Dept. Fish and Wildlife Conservation, CNRE (2017, 2018, 2019, 2020, 2021)
7. ENT6004 **Field Entomology Skills**, Department of Entomology, College of Agriculture and Life Sciences (2019)
8. VM 8485 **Developing the Public Veterinary Practitioner**, VA-MD College Vet. Med. (2018)
9. FiW 5004 **Graduate Seminar**, Department of Fish and Wildlife Conservation, CNRE (2017, 2018, 2019, 2020)
10. FiW 211 **Principles of Fish and Wildlife**, Department of Fish and Wildlife Conservation, CNRE (2018, 2019)

Guest Lecturer, external (10)

1. Successful Scientific Writing for Non-native English Speakers. Universidad Nacional de Colombia, Bogota, Colombia. (2019)
2. Conservation Medicine and Wildlife Diseases. Universidad Mayor, Temuco, Chile. (2019)
3. Ecological Niche Model Transference, Universidad Estatal Amazonica, Ecuador (2019)
4. Entomology Course, University of San Carlos Zacapa, (2018)
5. Career Paths, Ecology and Evolutionary Biology, University of Kansas, (2018)
6. VMED 5442 Quantitative Methods for Analysis of Food Animal Disease Data, PhD level, UMN (2017)
7. VPM2400 Managed Captive Wildlife, BS level, UMN (2017)
8. CMB8202 Mechanisms of Animal Health and Disease, PhD level UMN (2015-2016)
9. CVM6512 Zoo and Wildlife, DVM level UMN (2015)
10. VMED 3850W Health and Biodiversity, DVM level UMN (2015)

Teaching Assistant, Andres Bello University, Chile (7)

1. Pathology MVT 190, Andres Bello University (2011)
2. Clinical Pathology MVT 210, Andres Bello University (2011)
3. Zoonoses and Emergent Diseases MVT 370, Andres Bello University (2011)
4. Ecology and Wildlife Management MVT 220, Andres Bello University (2011)
5. Wildlife Medicine MVY 416, Andres Bello University (2012)

6. Natural Resource Evaluation for Ecotourism ETU 336, Andres Bello University (2012)
7. Ecotourism and Community Development ETU 335, Andres Bello University (2012)

International Teaching (Instructor)

1. Ecological Niche Modeling, English, 6 months, Biodiversity Informatics Training Curriculum. (~1000 students, Online https://www.youtube.com/watch?v=vj8qTo56rPA) (2020)
2. Ecological Niche Modeling, Spanish, 6 months, Biodiversity Informatics Training Curriculum. (~500 students, Online http://biodiversity-informatics-training.org/bi-curriculum/curso-modelado-de-nicho-ecologico-2018/) (2018)

Student Mentoring

Graduate Student Advisor *(9)*

1. (Ph.D. Thesis) Victoria "Paige" Van de Vuurst. Ecology and Geography of Bat-borne Pathogens in Georgia and Ukraine. Translational Biology, Medicine, and Health - Virginia Tech. Expected 2024. Advisor: Luis E. Escobar.
2. (Ph.D. Thesis) Shariful Islam. Biogeography of Bat-borne Rabies in Latin America. Department of Fish and Wildlife Conservation, Virginia Tech. Expected 2025. Advisor: Luis E. Escobar.
3. (MSc. Thesis) Mariana Castaneda-Guzman. Assessing Two Hypervolume Methods for Modeling Species Distributions. Department of Fish and Wildlife Conservation, Virginia Tech. Expected 2022. Advisor: Luis E. Escobar.
4. (MSc. Thesis) Victoria "Paige" Van de Vuurst. Effects of Land cover Change on Wildlife Diseases. Department of Fish and Wildlife Conservation, Virginia Tech. Completed 2021. Oustading Student Award Department level. Advisor: Luis E. Escobar.
5. (MSc. Thesis) Steven Winter. Landscape Ecology of Wildlife Diseases. Department of Fish and Wildlife Conservation, Virginia Tech. Completed 2020. Oustading Student Award College level. Advisor: Luis E. Escobar.
6. (Ph.D Thesis.) Diego Soler-Tovar. Biogeography of Vampire Bat-borne Rabies in Latin America. University La Salle. Expected 2022. Adviser: Luis E. Escobar. (Underrepresented group in STEM, Hispanic)
7. (MPH) Kimberly Wingfield. Rabies in Virginia. College of Veterinary Medicine, VT. Thesis related to rabies in wildlife. Graduation 2019. (Underrepresented group in STEM, woman, Afro-American)
8. (DVM Thesis) Natalie A. Sanchez-Olivera. Predisposing factors of domestic dog stereotypies. Faculty of Veterinary, Andres Bello University. Graduation 2013. Advisor: Luis E. Escobar. (Underrepresented group in STEM, woman, Hispanic)
9. (DVM Thesis) Paola Reinoso-Valdes. Organic and behavior pathologies of dogs living in apartments. Faculty of Veterinary, Andres Bello University. Graduation 2013. Advisor: Luis E. Escobar. (Underrepresented group in STEM, woman, Hispanic)

Graduate student Committee Member *(5)*

1. (M.Sc.) Katherine Louise Slack. The Influence of Environmental, Pathogenic, and Behavioral Factors on Red Blood Cell Physiology in Eastern Hellbenders (*Cryptobranchus alleganiensis*). Advisor: William Hopkins. Started: 2020. (Underrepresented group in STEM, woman).
2. (Ph.D.) Krisangel Lopez. Host-Parasite Ecology and Evolution of Bird-Arbovirus Systems. Advisor: Jonathan Auguste. Started: 2019. (Underrepresented group in STEM, woman, Hispanic).
3. (Ph.D.) Jack Leitch. Network Analysis in Disease Ecology. Department of Fish and Wildlife Conservation, Virginia Tech. Advisor: Kathleen Alexander. Started: 2018.
4. (M.Sc.) Samuel Richard Freeze. Post white-nose syndrome Bat Community of Marine Corps Base Quantico and Prince William Forest Park. Department of Fish and Wildlife Cosnervation, Virginia Tech. Advisor: Mark Ford. Started: 2017
5. (MSc) Melissa J. Oubre. Forecasting the potential for carp invasion in Minnesota. State University of Minnesota. Advisor: Dr. Phillips H. Larson. Graduation 2018. (Underrepresented group in STEM, woman).

***Undergraduate Research Advisor** (22)*

1. Marie Constanzo (Undergraduate student, FiW, Virginia Tech), Fall 2021. Data collection and analysis, manuscript preparation, wildlife diseases. (Underrepresented group in STEM, woman)
2. Caroline S. Ilse (Undergraduate student, FiW, Virginia Tech), Spring 2021. Data collection and analysis, manuscript preparation, wildlife diseases. (Underrepresented group in STEM, woman)
3. Abigail Parch (Undergraduate student, FiW, Virginia Tech), Spring 2021. Data collection and analysis, manuscript preparation, wildlife diseases. (Underrepresented group in STEM, woman)
4. Tabatha Gentry (Undergraduate student, FiW, Virginia Tech), Spring 2021. Data collection and analysis, manuscript preparation, wildlife diseases. (Underrepresented group in STEM, woman)
5. Victor J. Catalan (Undergraduate student, FiW, Virginia Tech), Summer 2020-Spring 2021. Data collection and analysis, manuscript preparation, wildlife diseases. (Supported by the MAOP Summer Research Internship Program 2020 FiW, Virginia Tech Undergraduate Award, Hispanic)
6. Catherine Schumacher. (Undergraduate student, FiW, Virginia Tech), Summerv2020. Data collection and analysis, manuscript preparation, wildlife diseases. (Supported by the MAOP Summer Research Internship Program 2020 FiW, Virginia Tech Undergraduate Award, Women)
7. David Treanor. (Undergraduate student, FiW, Virginia Tech), Spring-Summer2020. Data collection and analysis, manuscript preparation, wildlife diseases. (Supported by the 2020 FiW, Virginia Tech Undergraduate Award)
8. Alma Talcott. (Undergraduate student, FiW, Virginia Tech), Fall 2020 – present. Data collection and analysis, manuscript preparation, wildlife diseases. (Underrepresented group in STEM, woman)
9. Juhi Seth. (Undergraduate student, DBioSic, Virginia Tech), Summer 2019 – Fall 2019. Data collection and analysis, manuscript preparation, wildlife diseases. (Underrepresented group in STEM, woman)
10. Sami Livingston. (Undergraduate student, FiW, Virginia Tech), Summer 2019 – present. Manuscript preparation, wildlife diseases. (Underrepresented group in STEM, woman)
11. Rosaline Goude. (Undergraduate student, DFiWC, Virginia Tech), Fall 2018 – present. Data collection and analysis, manuscript preparation, wildlife diseases. (Underrepresented group in STEM, woman)
12. Caitlin Storment. (Undergraduate student, DFiWC, Virginia Tech), Fall 2018 – present. Data collection and analysis, manuscript preparation, wildlife diseases. (Underrepresented group in STEM, woman)
13. Dina Coutu. (Graduate student, DFiWC, Virginia Tech), Fall 2018 – present. Data collection and analysis, manuscript preparation, manuscript submission, wildlife diseases. (Underrepresented group in STEM, woman)
14. Joy Flowers. (Undergraduate student, DFiWC, Virginia Tech), Fall 2018 – present. Data collection and analysis, manuscript preparation, wildlife diseases. (Underrepresented group in STEM, woman)
15. Stephen Stang (Undergrad, DFWC-VT), Experiential Learning at MOTE Marine Laboratory in Sarasota, Florida in their marine aquaculture and immunology program.
16. Alex Grimaudo (Undergrad, DFWC-VT), data collection, manuscript preparation.
17. Kayla Keith (Summer scholar), data collection and storage, scoping study. (Underrepresented group in STEM, woman)
18. Leah Keith (Summer scholar), data collection and storage, scoping study. (Underrepresented group in STEM, woman)
19. Abigail Morrison (Research Assistant; Upstate Medical University, NY), data collection and storage, basic GIS analysis, and scientific writing. (Underrepresented group in STEM, woman)
20. Maxwell Norris (Summer Scholar; Upstate Medical University, NY), data collection, biostatistics.
21. Rebecca Rettkowski (Summer Scholar; University of Minnesota, MN), data collection, biostatistics. (Underrepresented group in STEM, woman)
22. Alyssa Gohr (Summer Scholar; University of Minnesota, MN), data collection, data curation. (Underrepresented group in STEM, woman)

***Graduate Students Informally Mentored** (7)*

1. Paulina Bravo Romo (DVM Student VA-MD College of Veterinary Medicine, VT), Fall 2021. Data collection and analysis, manuscript preparation, manuscript submission, wildlife diseases. (Underrepresented group in STEM, woman)
2. Natalie Brown (DVM Student VA-MD College of Veterinary Medicine, VT), Spring 2020-2021. Data

collection and analysis, manuscript preparation, manuscript submission, wildlife diseases. (Underrepresented group in STEM, woman)
3. Taylor Williams (DVM Student VA-MD College of Veterinary Medicine, VT), Spring 2021. Data collection and analysis, manuscript preparation, manuscript submission, wildlife diseases. (Underrepresented group in STEM, woman)
4. Kimberly Wingfield (DVM Student VA-MD College of Veterinary Medicine, VT), Summer 2018 DVM Clerkship. Data collection and analysis, manuscript preparation, manuscript submission, wildlife diseases. (Underrepresented group in STEM, woman, Afro-American)
5. Kimberly Wingfield (DVM Student VA-MD College of Veterinary Medicine, VT), Master in Public Health, Practicum Learning. One Health, infectious diseases, zoonotic diseases. Completed 2019. (Underrepresented group in STEM, woman Afro-American)
6. (Licentiate) Robinson J Herrera-Feijo. Potential distribution of *Swietenia macrophylla* King (Caoba) under present and future climate conditions. Amazonia State University, Puyo, Ecuador. Completed 2019. Advisor: Dr. Bolier Torres-Navarrete.
7. (Ph.D.) Stefan Vilges de Oliveira. Infectious disease modeling. University of Brasilia, Brazil. Ongoing. Completed 2018. Adviser: Dr. Rodrigo Gurgel Goncalves.

Supervisor of Visiting Scholars (13)

1. Lecturer. Analorena Cifuentes. Universidad Cooperativa (Colombia, 2021). Disease ecology.
2. PhD(c) Whitney Mgbara. University of California, Berkeley (CA, 2019). Spatial epidemiology.
3. PhD student. Oscar Lopez, Colegio de la Frontera Sur, ECOSUR, San Cristobal (Mexico 2019). Biogeography of bumblebees in kuenm and NicheA.
4. BSc. Mariana Castaneda, George Mason University, Fairfax (VA, 2018-2019). Coding in R and data analysis in ArcGIS 10.5.
5. PhD Aigorn Chaiyes, Kasetsart University, Bangkok (Thailand, 2018). Conducted research on Nipah virus risk in Thailand. Completed 2019.
6. Consultant. Francisca Astorga, Universidad Mayor (Chile, 2018). Conducted research on mange in Latin America.
7. Professor. Manuel Barrios-Izas, Universidad San Carlos (Guatemala, 2018). Conducted research on webilds in Mesoamerica.
8. BSc. student. Yamilet Cabrera, Universidad San Carlos (Guatemala, 2018). Conducted research on fleas across the Americas.
9. PhD(c) Daniel A. Romero-Álvarez, Universidad Central (Ecuador, 2016). Conducted research on Oropouche fever in South America.
10. PhD (c) Joaquin Escobar-Dodero, Universidad Andres Bello (Chile, 2016). Conducted research on VHS virus in fish globally.
11. Assistant Professor. Daniela Poo-Muñoz, Universidad Santo Tomas (Chile, 2016). Conducted research on fishkills in lakes in Minnesota.
12. Associate Professor. Huijie Qiao, Chinese Academy of Sciences (China, 2016-2017). Conducted research on disease and aquatic invasive species spread among lakes in Minnesota.
13. Associate Professor. Luciano La Sala, Universidad Nacional del Sur (Argentina, 2017). Conducted research on wild boards in Argentina.

Workshop instructor (13)

1. **Virtual Ecology Using NicheA Software.** July 15-16 2021. (20 participant students). https://www.youtube.com/watch?v=vj8qTo56rPA
2. **Online Ecological Niche Modeling 2020 course.** January –August 2020. (>1,000 participant students). https://www.youtube.com/watch?v=vj8qTo56rPA
3. **NIMBioS Applications of Spatial Data. Ecological Niche Modeling**. December 3-5, 2018. NIMBioS at the University of Tennessee, Knoxville. http://www.nimbios.org/tutorials/TT_SpatialData2
4. **Applications of NicheA for Research in Biogeography.** December 20 2018. University of Evora – Evora, Portugal. (1 full day)

5. **Introductory Ecological Niche Modeling.** Tianjing Normal University- Tianjin, China. (1 week, 2017)
6. **Advanced Ecological Niche Modeling.** Instituto de Ecología –INECOL- Xalapa, Veracruz, Mexico. (2 weeks, 2017)
7. **Biodiversity Informatics: Applications in Public Health**. Pontificia Universidad Católica del Ecuador, Quito, Ecuador. (3 days) 2016.
8. **Disease Modeling in Aquatic Ecosystems**. University of Minnesota. (3 days) 2016.
9. **Spatial Modeling and Remote Sensing to Forecast Species Distributions in Terrestrial and Marine Ecosystems**. Guayaquil, Ecuador. (5 days) 2015.
10. **Public Health Applications of Biodiversity Informatics**. Biodiversity Informatics Training Curriculum. Global coverage (online). (5 days) 2014.
11. **Using Ecological Niche Modeling for Epidemiology**. Escuela Superior Politecnica del Litoral. Guayaquil, Ecuador. (3 days) 2014.
12. **Introduction to the Geographic Information Systems for Public Health Applications**. Universidad Andres Bello. Santiago, Chile. (5 days) 2014.
13. **Ecological Niche Modeling for Animal Disease Epidemiology**. Servicio Nacional de Sanidad Agraria, Ministerio de Agricultura. Lima, Peru (3 days) 2013.

Service

Virginia Tech

- Committee Member. Graduate Studenties Program, Department of Fish and Wildilfe Conservation.
- Host and organizer: Virginia Tech Ecology and Evolutionary Biology Seminar "Changing Elevational Patterns of Biological Diversity in the Face of Climate Change and What It Means for Biodiversity Conservation" by Dr. Townsend Peterson, a Distinguished University Professor at the University of Kansas. 09/16/2021.
- Host and organizer: Virginia Tech Life Science Seminar "Climate, Oceans, and Human Health: What Cholera can Teach us About COVID-19" by Dr. Rita Colwell, a Distinguished University Professor both at the University of Maryland at College Park and at Johns Hopkins University Bloomberg School of Public Health, (VTLSS). 02/ 26/2021.
- Husher. Virginia Tech Commencement 2019. Blacksburg, VA. May 2019
- Working group: Microbiology at the Nexus of Food, Energy, Water, and Health Systems (MicroFEWHS).
- 2019 Hokie Focus: Majors Breakout Sessions, Virginia Tech, Blacksburg, April 2019. Discussion with students and parents to increase the recruitment of new student in our Department.
- Search Committee. Collegiate Assistant Professor of Wildlife Management and Collection Curation. 2018-2019.
- One Health Student Competition. Judge. VA-MD College of Veterinary Medicine, Virginia Tech, Blacksburg, VA. November 4, 2017.

External

- Contributing Author, IPCC AR6, Chapter-3 on Ocean and Coastal Ecosystems, 2021.
- National Science Foundation-National Science Foundation China (NSF-NSFC) Workshop on Frontiers of Ecology and Evolution of Infectious Diseases. June 27-29, 2018. UC Berkeley, CA, USA.
- National Science Foundation-National Science Foundation China Workshop on the Frontiers of Ecology and Evolution of Infectious Diseases. Panel member. Shenzhen Center for Disease Control and Prevention, Shenzhen, China, April 9-13, 2018.
- 2018 - One Health Appalachian Working Group. Lead by the Virginia Department of Health.
- 2017 - Lyme Disease Working Group, Virginia Tech, Blacksburg, VA.

Reviewer

Grant Proposal Reviewer (10)

1. National Science Foundation. BIO/DBI. Panel Reviewer. February 2022.
2. National Science Foundation. BIO/DBI. Panel Reviewer. January 2022.
3. Swedish Environmental Protection Agency. *Ad Hoc* reviewer. Scientific Committee for Wildlife Research. October 2021.
4. National Science Foundation. BIO/DBI. Panel Reviewer. March 2021.
5. National Institutes of Health. Panel Reviewer. October 2020.
6. National Science Foundation. BIO/DBI. Panel Reviewer. May 2019.
7. National Science Centre, Poland. *Ad Hoc* reviewer. September 2020.
8. National Science Foundation. BIO/DBI. *Ad Hoc* reviewer. January 2020.
9. Minnesota Aquatic Invasive Species Research Center. *Ad Hoc* reviewer. University of Minnesota. March 2019.
10. National Science Foundation. BIO/DBI. *Ad Hoc* reviewer. October 2018.

Journal Reviewer (>100 reviews for 48 journals, summary in https://publons.com/author/1268403/luis-e-escobar)

Acta Ecologica Sinica;
Acta Tropica;
American Journal of Botany;
Animal Conservation;
Biodiversity Informatics;
Biological Invasions
Biomedica;
BMC Evolutionary Biology;
BMC Infectious Diseases;
BMC Veterinary Research;
BMJ Evidence-Based Medicine;
Diversity and Distributions;
EcoHealth;
Ecology and Evolution;
Ecosphere;
Emerging Infectious Diseases;
Evolutionary Biology;
Frontiers in Microbiology;
Global Change Biology;
Global Ecology and Biogeography;
International Journal of Health Geographics;
Journal of Animal Ecology;
Journal of Applied Ecology
Journal of Biogeography;
Journal of Public Health and Epidemiology;
Journal of the Great Lakes Research;
Journal of Vector Ecology;
Journal of Veterinary Entomology;
MEEGID Infection, Genetics and Evolution;
Nature Ecology and Evolution;
Nature Heredity;
Nature Scientific Reports;
Nature Scientific Data;
PeerJ;
PLoS Neglected Tropical Diseases;
PLoS ONE;
Preventive Veterinary Medicine;
Proceedings of the National Academy of Sciences USA.
Research Opinions in Animal & Veterinary Science;
Science Advances;
Spatial and Spatio-temporal Epidemiology;
Transactions of the Royal Society of Tropical Medicine and Hygiene;
Transboundary and Emerging Diseases;
Tropical Medicine & International Health;
Vector-Borne and Zoonotic Diseases;
Zoologica Scripta;
Zoonoses and Public Health;
Remote Sensing of Environment.

Journal Editor (3)

Fall 2017 - Spring 2021

Biodiversity Informatics. Editorial Board. This electronic journal focuses on the emerging field of biodiversity informatics - the creation, integration, analysis, and understanding of massive information regarding biological diversity. https://journals.ku.edu/jbi/about/editorialTeam.

Spring 2019 - Spring 2020

Frontiers in Veterinary Sciences. Guest Editor. Special Issue: Disease Ecology and Biogeography. https://www.frontiersin.org/journals/veterinary-science From 2019 to 2020.

Spring 2019 - Spring 2021
Scientific Data Springer Nature. Editorial Board. Peer-reviewed, open-access journal for descriptions of scientifically valuable datasets, and research that advances the sharing and reuse of data. The journal is open to content from a wide range of scientific disciplines. http://www.nature.com/scientificdata/.

Panel member (17)

1. Founding Research Collaborator. The New England Journal of Medicine (NEJM) Group on Climate Crisis, Health, & Equity Cooperative (NEJM Climate Cooperative). The NEJM Climate Cooperative will address the critical need of integrating climate change, health, and equity recognizing that climate change is, first and foremost, a health crisis. The NEJM Climate Cooperative formally partnered with the National Academy of Medicine and their Grand Challenge on Climate Change, Human Health, and Equity.
2. Infectious Disease Expert. Simposium on Climate Change and Animal Welfare. Municipal Institute for Animal Protection and Welfare, Alcadia Mayor de Bogota, Colombia 9/23/21 [Online]
3. Infectious Disease Expert. The Lancet Countdown on Health and Climate Change. Plicy Brief for the United States of America. 2021.
4. Infectious Disease Expert. Lancet Cutdown on Climate Change and Health 2019-2021. Collaborator/Coauthor. http://www.lancetcountdown.org/ Researcher on water-sensitive infectious diseases and climate change.
5. Infectious Disease Expert. International Cooperation. International Network of Science and Technology and National Secretary of Science and Technology. Government of Guatemala, Guatemala City, Guatemala, July 23, 2019.
6. Infectious Disease Expert. MPE 2013 Workshop on Global Change and Vector-borne Diseases: Mapping Emerging Infectious Diseases. George Mason University, Fairfax, VA, USA, Aug 13-15, 2018.
7. National Council of Science and Technology (CONICYT). Discussion Panel with Congressman Ovidio Monzon, Vice-chair of the Commission for Education, Science and Technology of the Congress of Guatemala. National Palace, Guatemala City, Guatemala. Guatemala, July 25, 2018.
8. National Council of Science and Technology (CONICYT). Comisión Técnica Sectorial de Salud, INTECAP. Guatemala City, Guatemala, July 25, 2018.
9. PREventing Emerging Pathogenic Threats (PREEMPT), DARPA. Panel member. Arlington, Virginia, January 30, 2018.
10. *Parelaphostrongylus tenuis* in Moose. Panel member. College of Veterinary Medicine, University of Minnesota, December 4-6, 2017.
11. Perspectives of Conservation of the Red Parrot (*Ara macao*) in Guatemala. College of Veterinarians of Guatemala, National Council of Protected Areas, Guatemala City, Guatemala, May 15, 2015.
12. Open Access Week: International Impact of Open Access. Marianne Reed moderator, University of Kansas Watson Library, Lawrence Kansas, United States, October 25, 2012.
13. First Meeting for Leaders in Agriculture in Guatemala. Instituto Interamericano de Cooperación para la Agricultura (IICA). Guatemala. Young veterinary delegate, November 13-14th 2008.
14. United Nations World Youth Assembly for Road Safety. Chair for the Americas/Conference Vice-chair. Geneva, Swiss, April 23-24th 2007.
15. First International Meeting of Ecoclubs. Guatemala, November 2007.
16. Meeting of Ecoclubs Leadership. Cartago, Costa Rica, March 16-20th 2004.
17. III International Assembly of Ecoclubs, Panama, 2003.

Organizing committee (6)

1. 2018. International Workshop on Mange in Wildlife. Virginia Tech, Blacksburg, VA.
2. 2016. Workshop on the Ecology of Avian Influenza. University of Minnesota, Saint Paul.
3. 2016. Minnesota Aquatic Invasive Species Showcase. University of Minnesota, Saint Paul.
4. 2013. III Conservation Medicine Symposium. Universidad Andres Bello. Santiago de Chile.
5. 2011. II Conservation Medicine Symposium. Universidad Andres Bello. Santiago de Chile.
6. 2006. IV International Ecoclubs Assembly. Antigua Guatemala, Guatemala.

Active Society Member (3)

1. Wildlife Disease Association
2. International Network of Science and Technology
3. The International Biogeography Society

Community Advisory Service (4)

1. 2019-2022. Mentor, Student Chapter Wildlife Disease Association, Virginia Tech.
2. 2011-2014. Program for Bats Conservation (environmental education/research). Chile.
3. 2002-2003. Natural History Museum, Birds Collection. Guatemala.
4. 2003-2007. Ecoclubs (NGO for environmental education). Guatemala

Additional Training/Skills

Training to improve teaching and research

09/21	**Jupyter Notebooks and GitHub** Department of Geosciences, Virginia Tech Dr. Susanna Werth, Dr. D. Sarah Stamps
08/21	**Genomics of Wildlife Disease** Colorado State University, Boulder, Colorado Dr. Jill Pecon-Slattery, Dr. Sue VandeWoude
06/21	**Working with the IACUC** AALAS Learning Library
02/21	**Inclusive Pedagogy: How Student Identities Matter** Technology-enhanced Learning and Online Strategies, Virginia Tech
11/19	**QPR (Question-Persuade-Refer) Suicide Prevention Training** College of Natural Re-sources and Environment's Diversity Committee and Cook Counseling Center.
5/19	**Virginia's Incomplete History: Race and Miseducation in Virginia** Virginia Tech, 5. Peter Wallenstein, Ph.D.
4/19	**Metaphors on Transdisciplinarity and Disparities of the Urban Rural Continuum.** Destination Areas, Virginia Tech. Dr. Anne Khademian.
3/19	**Social & Behavioral Research.** Collaborative Institutional Training Initiative. Requirement set by Virginia Tech, IRB Basic Stage.
2/19	**Undergraduate Mentoring Discussions.** College of Natural Resources and Environment, Virginia Tech. Keith W. Goyne, Ph.D.
1/19	**OID Inclusive Pedagogy training.** Taking student data and turning it into powerful inclusive pedagogy. Virginia Tech. Dr. Tiffany Drape.
9-10/18	**Change Detection for Land Cover Mapping.** NASA's Applied Remote Sensing Training Program (ARSET). PhDs. Cindy Schmidt, Amber McCullum
2-7/18	**PDI Mentoring Program.** Course to learn how to prepare and assess NSF proposals. Virginia Tech.
1-5/18	**NIH New Investigator R01 Proposal Preparation Program**. Course to learn how to prepare and assess NIH proposals. Virginia Tech.

12/18	**New Principal Investigator (PI) Orientation**. Training to understand the Pre-Award system at Virginia Tech. Office of Sponsored Programs
8/16	**Work with Spatial Raster Data & Raster Time Series in R** Ecological Society of America, Florida, PhDs Leah Wasser, Megan A. Jones
7/16	**Network Analysis: From Description to Inference in R** University of California in Berkeley, PhD Skyler Canmer
6/16	**Landscape Ecology and Modeling in Fish Health** 57 th Western Fish Disease Workshop and AFS Fish Health, PhDs Gael Kurath, Kerry Naish, Maureen Purcell, Marine Brieuc, Rachel Breyta, Paige Ferguson, Russell Perry
5/16	**Mathematical Modeling of Infection Dynamics** Iowa State University, PhDs Andrea Wilson and Osvaldo Anacleto
1/14	**Global Climate Change and Diseases** San Diego State University and University Andres Bello, PhD Stanley Maloy
1/14	**Epidemics - the Dynamics of Infectious Diseases** Pennsylvania State University/Coursera Marcel Salathe, Peter Hudson, Matthew Ferrari, Rachel Smith, David Hughes, Ottar Bjornstad, Mary Poss
11/13	**Epidemiology Using Remote Sensing Data** Andres Bello University / Oklahoma State University Santiago, Chile, PhD Monica Papeş
03/13 - 04/13	**Modeling Techniques in Epidemiology** (internship) Veterinary College, University of Cambridge Cambridge, United Kingdom, PhD Olivier Restif
03/13	**Using Geographic Information System Software** University of Cambridge, Department of Zoology Cambridge, United Kingdom, PhD Ian Edwards
12/13	**Biosafety in the laboratory** University Del Valle, Center for Disease Control, Guatemala City, Guatemala
10/12 - 12/12	**Ecological Niche Modeling for Epidemiology** (internship) Natural History Museum, University of Kansas Lawrence, Kansas, PhD Townsend Peterson
08/12	**Coexistence Between Humans and Large Carnivores** Universidad de Wisconsin / Pontificia Universidad Católica de Chile, Santiago, Chile PhD Adrian Treves
07/12	**Remote Sensing Use** Comite Oceanografico Nacional / Universidad Andres Bello , Viña del Mar, Chile PhD Roberto Richardson
07/12	**Phylogenetic Comparative Methods** University of Chile, Santiago, Chile, PhD Marco A. Mendez
06/12	**Biological Bases and Methods for Research on Bats** Instituto de Filosofia y Ciencias de la Complejidad Santiago, Chile, PhD Luis F. Aguirre
04/12	**Risk Assessment and Wildlife Pathology** Buin Zoo, Santiago, Chile, PhD Richard Jakob-Hoff and PhD. Fernando Esperon
09/11	**Estimating the Geographic Distribution of a Species Using Presence-only Records** USGS & University of Florida; Gainesville, Florida, PhD Robert M. Dorazio (online)
07/10	**Management of Programs for Surveillance and control of Infectious Diseases in Latin America and the Caribbean** Panamerican Health Organization, World Health Organization
09/10	**Training Course in Rapid Immunohistochemistry for the Detection of Rabies** Center for Disease Control and Prevention, Guatemala, PhD Chrales Rupprecht
07/10	**Experiences of Mexico in the Control of Bovine Rabies**

Ministry of Agriculture, Livestock, and Food, Guatemala City, Guatemala, Dr. Byron Tomae, Dr. Julio Meza, Dr. Guillermo Benitez

09/10 **Geographic Information Systems in Public Health**
Center for Disease Control and Prevention/Universidad del Valle Guatemala, Guatemala, PhD Karl Kinkaede

07/10 **Capture, Preparation, and Preservation of Mammals and Parasites for Museum Collections**
Texas Tech University, Guatemala, Esquipulas, Trifinio Natural Reserve, PhD Ralph Eckerlin, PhD Nicte Ordoñez

11/09 **Capture, Preparation, and Preservation of Ticks and Fleas for Museum Collections**
University of Costa Rica, Costa Rica, San Jose, PhD Adriana Troyo

Language skills

Primary Language:	Spanish	
Secondary Languages:	English	(Reads: Excellent; Writes: Excellent; Speaks: Excellent)
	Portuguese	(Reads: Good; Write: Poor; Speak: Fair)

Computer Software

- *Geographic Information Systems*: ArcGIS vs. 9.2-10.5, Quantum GIS, R (sp, rgdal, raster, rasterVis), Geomatica, DIVA-GIS.
- *Remote sensing*: MODIS R TOOL, SeaDAS.
- *Ecological Niche Modeling*: GARP, Maxent, NicheA, OpenModeller, ENMTools, Partial ROC, NicheToolBox, ExDetTool, R (raster, kuenm, enmeval, dismo, letsR, nichevo, Wallace, hypervolume), Excel.
- *Reference manager*: Mendeley.
- *Field sampling & surveillance*: FAST, Distance, PDA.

Data Management

- >1,000,000,000 geographic locations from GBIF, speciesLink, FishNet2, and BISON to use in studies of biodiversity and epidemiology. E.g., (1) ~20,000 geographic occurrences of zebra mussels are currently in use to model the species entire distribution. (2) Thousands of records of vectors occurrence globally to anticipate effects of climate change on the burden of infectious diseases in Latin America. (3) Comprehensive dataset of *Desmodus rotundus* occurrence.
- ~500,000 surveys of boater movement across Minnesota 2015-2016 (Minnesota Department of Natural Resources).
- Data of connectivity between ~12,000 lakes in Minnesota based on rivers.
- Geospatial data of pathogens and parasites in plants, wildlife, fish, and people from HealthMap.
- Chikungunya epidemiological reports for the Americas 2014 – 2017 (PAHO).
- Global air passenger flow and air traffic in the form of 65,247 air travel routes among 2,632 airports in 114 countries.
- Active and passive surveillance of rabies in Chile between 1985-2012, >60,000 samples.
- *Geomyces destructans* occurrences across North America according to the USGS 2006-2012.
- Spatial distribution of hantavirus cases in rodents and humans in Brazil/Chile.
- Parasite richness and abundance, data from a vector-borne diseases project in Guatemala.
- Annual, monthly, and weekly remote sense imagery from MODIS (vegetation indices, sea surface temperature, marine chlorophyll-*a*) 2002-present at global and local scales.
- Global climate datasets of past, current, and future scenarios inland and ocean

(Worldclim/CliMod/Ecoclimate/Bio-Oracle/WorldGrids/MERRAClim/CRU).
- Disease locations from HealthMap infectious disease intelligence database and EMPRES-i Global Animal Disease Information System for modeling the ecology of animal and zoonotic diseases (e.g., rabies, FMD, cholera).

Acting as a Visiting Scholar

- Department of Bioscience - Ecoinformatics and Biodiversity, Aarhus University, Aarhus, Denmark. Host: Prof. Jens-Christian Svenning (2019).
- Institute of Zoology, Chinese Academy of Sciences, Beijing, China. Host: Dr. Huijie Qiao (2013).
- Department of Veterinary Medicine, Cambridge University, Cambridge, UK. Host: Dr. Olivier Restif (2013).
- Biodiversity Institute and Natural History Museum, the University of Kansas, Lawrence, USA. Host: Prof. A. Townsend Peterson (2012).

Selected Media

- Fox 5 News, Virus causing COVID-19 reported in deer in the US. December 2021, https://www.fox5dc.com/video/1006474?utm_source=cmpgn_news&utm_medium=email&utm_campaign=vtUnirelNewsDailyCMP_121321-fs
- Voice of America (largest and oldest US-funded international broadcaster), Deer and COVID-19. December 2021, https://www.voanews.com/a/latest-potential-incubator-for-pandemic-bambi/6349000.html?utm_source=cmpgn_news&utm_medium=email&utm_campaign=vtAdvUnirelClipReportsCMP_weekly12%2F10
- El Espectador (2nd biggest newspaper in Colombia). Climate change and Global Human Health. October 2021. https://www.elespectador.com/ambiente/las-345-mil-muertes-y-otros-43-problemas-de-salud-que-trae-el-cambio-climatico-the-lancet-countdown/
- El Espectador (2nd biggest newspaper in Colombia). Climate change and *Vibrio* bacteria. October 2021. https://www.elespectador.com/ambiente/que-es-la-vibrio-la-bacteria-indicadora-del-cambio-climatico-que-esta-en-aumento/
- Critically Speaking. Podcast. Climate Change and Infectious Diseases. June 2021. https://podcasts.apple.com/us/podcast/a-warming-world-expands-the-range-of-deadly-disease/id1463016517?i=1000527330875
- WTOP News Radios. COVID-19. April 2020. (https://wtop.com/coronavirus/2020/04/its-possible-for-domestic-pets-to-get-spread-coronavirus-officials-say/)
- WVTF / RADIO IQ / Virginia Public Radio. Coronoavirus epidemic. February 2020. (https://www.wvtf.org/post/coronavirus-and-climate-change#stream/0)
- Associated Press. Linkages of the novel Coronavirus 2019 with wildlife.
- VTNews. Wuhan coronavirus links origin to wild animals. January 2020 (https://vtnews.vt.edu/articles/2020/01/coronavirus_expert.html)
- VTNews. Health and climate. January 2020 (https://vtnews.vt.edu/articles/2020/01/cnre-escobar-lancet-report.html)
- RetractionWatch. Open-access fees in the study of biodiversity. February 2019 (https://retractionwatch.com/2018/11/28/majority-of-journals-editorial-board-resigns-after-publishers-handling-of-letter-about-move-to-open-access/)
- VTNews. Mange in wildlife. August 2018 (https://vtnews.vt.edu/articles/2018/08/82318-Fralin-Escobar-sarcoptic-mange.html)
- GreatLakes Echo. Virus in fish. April 2017 (http://greatlakesecho.org/2017/04/13/great-

lakes-vulnerable-to-outbreak-of-fish-virus/)

- Cholera and climate change. June 2015 (https://www.popsci.com/looming-8th-pandemic-climate-change-and-cholera)
- Telemundo, nation-wide TV chanel in the US for Hispanic populations. Declined three invitations due to unavailability (e.g., paternity leave).